Stantec

August 3, 2016
File: 203701065

Attention: Darrin Pampaian, P.E.
Permit Coordinator
1410 N Hilton Street
Boise, Idaho 83706

Dear Mr. Pampaian,

Reference: Champion Home Builders PTC Modification

Stantec Consulting Services (Stantec), on behalf of Champion Home Builders (Champion), is submitting a Permit to Construct (PTC) Permit Application for a modification of Tier II permits 087-00007 and 087-00008, issued December 19, 2000. This application has been developed to ensure all applicable state requirements as defined in IDAPA 58.01.01 are met. In addition, applicable federal requirements have been included. The intent of this application is to combine modified versions of the two Tier II permits stated above into one comprehensive PTC.

This submittal includes the PTC application, a detailed emissions inventory (both hardcopy and electronic) and modeling files (electronic only).

Pursuant to IDAPA.01.01.123, all information contained within this application has been certified to be true, accurate and complete by Kevin Bouvia of Champion.

As confirmed via phone call and follow-up email on August 1st, 2016, the initial application fee of $1,000 was previously submitted by Champion. Please see the attached letter for further details.

Should you have any questions please do not hesitate to call Kevin Bouvia at (208) 549-3151 or Andrew Wilkin or myself at the number below.

Regards,

Eric E. Clark

Eric Clark
Project Engineer
Phone: (208) 853-0883 x 102
Fax: (208) 853-0884
eric.clark@stantec.com

Attachment: PTC Application

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STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 NORTH HILTON, BOISE, ID 83706 · (208) 373-0502

C. L. "BUTCH" OTTER, GOVERNOR
JOHN H. TIPPETS, DIRECTOR

September 3, 2015

VIA EMAIL

Kevin Bouvia, General Manager
Champion Home Builders
1425 Sunnyside Road
Weiser, ID 83672

RE: Facility ID No. 087-00007, Champion Home Builders, Weiser
PTC Application Withdrawal Acknowledgement

Dear Mr. Bouvia:

On September 1, 2015, the Department of Environmental Quality (DEQ) received your request to withdraw the Permit to Construct (PTC) application received on August 17, 2015, from Champion Home Builders for its modular manufacturing facility located at 1425 Sunnyside Road, Weiser, Idaho.

Based on your request, DEQ hereby terminates the processing of PTC No. P.2015.0047, Project No. 61519. The application fee of $1,000 submitted for this project will be applied to your forthcoming PTC application.

If you have any questions about this project or the permitting process, please contact me at (208) 373-0502 or william.rogers@deq.idaho.gov.

Sincerely,

Permit Coordinator
Air Quality Division

Permit No. P-2015.0047 PROJ 61519
E-mail: kbouvia@championhomes.com

Permit-to-Construct
Modification Permit Application

Champion Home Builders
Weiser Facility

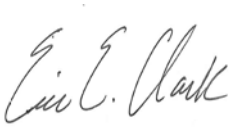
Prepared for:
Champion Home Builders
1425 Sunnyside Road
Weiser, ID 83672
Contact: Sam Nelson
Ph: 208-549-3151

Prepared by:
Stantec Consulting Services
7669 W. Riverside Drive, Suite 101
Boise, ID 83714
Contact: Eric Clark/Andrew Wilkin
Ph: 208-853-0883

August 3, 2016

Sign-off Sheet

This document entitled Permit-to-Construct Modification Permit Application was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of Champion Home Builders (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.



Prepared by _____

(signature)

Eric Clark

Reviewed by 

_____

(signature)

Andrew Wilkin

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1.0 INTRODUCTION

Champion Home Builders (Champion) is proposing to modify their current permits into a new Permit to Construct (PTC). Champion manufactures mobile homes and the facility is located at 1425 Sunnyside Road Weiser, Idaho. The facility has been operating at this location since 1998. Champion has two Tier II permits that were issued on December 19, 2000 (Champion Home Builders Permit number 087-00008 and Redman Homes Builders permit number 087-00007). The two facilities were initially separate entities, but Champion ultimately purchased Redman. Both Tier II permits expired on December 19, 2005. The Idaho Department of Environmentally Quality (DEQ) conducted an air quality inspection on June 16, 2015. During that inspection it was determined that the facility was out of compliance with some portions of their permit. Champion has conducted an overall evaluation of their past permits and current operations, which has led to the request to consolidate the two Tier II permits into a new PTC permit. While the permit request is a new PTC, the project is a modification of the two previous permits.

This permit application examined all emission sources that have changed since the issuance of the two previous permits. During the review process, several products have changed, some emission control operations have improved, and the overall desired manufactured throughput rate of housing units has increased. There is a net reduction of some criteria pollutants (particulate matter ($PM_{2.5}$ and PM_{10}) and volatile organic compounds). Due to product changes, there is a net increase of some toxic air pollutants (TAPs). As will be discussed in detail in Section 2.2, Champion has elected to request a TAPs compliance approach similar to other manufactured home facilities. In discussions with both permitting and modeling staff at DEQ, Champion is proposing to maintain compliance with all applicable TAPs by evaluation against the appropriate emissions screening level (EL) and acceptable concentrations, as identified in IDAPA 58.01.01.585-586.

Champion is proposing to construct up to a maximum of 10 floors per day. A work week consists of six, twelve-hour days, and Champion operates 313 days per year. This application assumes that there is a multitude of processes occurring simultaneously. However, many of said processes will not or cannot operate simultaneously. In addition, the usage rates of products described in Section 2.1.1 are extremely high. Typical operation is much less than the proposed rates, often 50% less. Therefore, the total emissions assumed in this application are extremely conservative.

2.0 PROCESS DESCRIPTION

Champion Home Builders in Weiser, Idaho fabricates modules (boxes) on an assembly line to create single family homes and light commercial projects such as office buildings, apartments and hotels. The modules are constructed in an enclosed 148,000 square foot facility. The assembly line is organized into 31 stations where the construction process takes place. The design of the plant allows two section or three section modules/homes to travel side by side until reaching the final stations where they are split apart for completion and close up.

The modules/homes are constructed from lumber with a steel chasse/undercarriage for support during transportation. A portion of the lumber arrives pre-cut (PT'ed) to fit the specific module design. Other lumber is cut within the factory mill to meet the specific needs of the project.

The floor department constructs the modular floor's frames utilizing wood, decks them with 4 foot x 8 foot sub-flooring, installs floor insulation and electrical wiring, installs necessary plumbing, installs HVAC ducting, and lays linoleum and or carpet flooring.

The cabinet shop assembles and installs cabinet doors into base and overhead cabinets. The countertops are manufactured and finished with laminates, granite and/or quartz. The completed cabinets are then placed and secured into the modules.

The wall department frames the walls with pre-cut lumber, white glue and/or two part foam adhesive and gypsum board. The roofing department uses pre-manufactured trusses and lumber with gypsum installed with two-part foam adhesive.

Electrical wiring is installed. Interior and exterior walls are prepped, textured and painted, where necessary. All interior painting is conducted with the units fully enclosed within the plant and encapsulated with plastic. Exterior painting occurs without the plastic covering, but enclosed within the manufacturing building.

Following the completion of a modular unit, electrical and water checks are performed. Lastly, all units are cleaned, prepped for shipping and moved into the yard via tractor.

2.1 EMISSIONS SOURCES

Emissions sources at the facility will include the following:

- Adhesives and Glues
- Caulking
- Paints, Lacquer and Thinners
- Welding
- Mill and Cabinet Shops
- Dust Collection (baghouse, cyclone)

Adhesives and Glues

The Champion facility utilizes a number of adhesives and glues throughout the construction process. All emissions are based on daily usage rates and applicable Safety Data Sheet (SDS) or other technical or environmental data sheet information. All usage rates are based on the assumption that maximum production rates are met (10 floors per day).

Caulking

Similar to adhesives, all caulking emissions are derived from applicable daily usage and SDS (or EDS or TDS) information. Again, maximum production rates were assumed. Annual usage assumes 12 hour work days, a 6 day work week and 313 total days of operation per year. This assumption is consistent for all materials.

Paints, Lacquers and Thinners

All interior painting is conducted inside the modular units. Each modular unit is completely encapsulated within a plastic covering in order to capture nearly all potential overspray. The application of exterior paints does not implement the use of plastic covering, but all interior and exterior painting is conducted inside of the plant. As is the case for all other material, emissions were estimated utilizing a daily usage rate and applicable SDS/EDS/TDS information.

Welding

Champion periodically performs some welding onsite within the Frame Shop. A Shielded Metal Arc Welding process and an E70S electrode are utilized. Total welding wire usage is not expected to exceed 240 lb/day. This assumes a maximum of 200 lb of welding wire with an additional 20% safety factor included. The previous Redman Homes permit accounted for welding, which included emissions of chromium, cobalt, manganese and nickel. The difference between the previous emissions and the new totals demonstrate that the net change for all four TAPs is below the applicable EL. Welding no only occurs within the Frame Shop.

Mill & Cabinet Shop

Raw lumber, used to construct each home, is cut to size in the mill. Each saw includes an enclosed vacuum system that collects and conveys PM to a baghouse. A fan, located at the baghouse (South building), induces the airflow for the vacuum system. Emissions from this

process are controlled. Previous permitting identifies that the baghouse controls PM at a rate of 99.8%. This permit assumes the same control rate to ensure consistency. Based on average weekly collection rates, the total weight assumed is 1200 lbs. This is consistent with Appendix C of the previous Statement of Basis (SOB) calculations. Based on "Scamper-N-Go" certified scale in Weiser, sawdust was weighed on March 27, 2000 for a total of 700 lbs. A 300 lb "add-on estimate" was assumed. An additional 20% was added to the add-on estimate for a total of 1200 lbs. of sawdust collected/disposed of per week.

The north building controls sawdust via cyclone. Per the SOB calculations from permit T-200072, the cyclone has a flow rate of 4,200 cubic feet per minute and a grain loading of 0.015gr/scf. After applying a conversion factor of 7000 grains per pound, the resulting controlled PM rate from the cyclone is 0.54 lb/hr.

The Cabinet Shop creates special cabinetry and soffit production. PM emissions from the cabinet shop were estimated using the capture efficiency of the dust collection system and the amount of sawdust and sander dust removed from the hopper. Per the previous permit SOB, the dust collection system's collection efficiency is 98% for particulate matter 3 microns or less. The average amount of sawdust and sander dust removed per month is approximately 600 lbs., which takes into account heavy production periods. In addition, a 20% safety factor is added. The 720 lb/month rate was based on current operation (1.86 floors) and is scaled up to the proposed 10 floors per day.

Natural Gas Heaters

Champion periodically utilizes natural gas heaters for comfort. The usage rates have not varied since the previous permitting action. Therefore, the associated emissions are not included in this modification application.

2.1.1 Maximum Proposed Emission Totals

All emissions were established by obtaining data through a records review at the facility, conducting a site visit, several interviews/discussions with facility and manufacturing personnel, and review of applicable EPA data. Emissions from the application and use of paints, lacquers, caulks, etc. are based upon Safety Data Sheet (SDS) information and usage rates (please refer to SDS information provided in Appendix E). The daily accumulation of dust was determined from the types of saws used, blade length, and width of cut and thickness of the boards. The total volume of sawdust was then calculated as the basis for the total particulate emissions.

Emissions were calculated assuming maximum operations of all sources. All emissions were assessed using usage rates based on each floor constructed. The per-floor rate is scaled up to 10 floors per day and allocated for 313 total days per year. The tables below illustrate the maximum potential tons-per-year for all criteria pollutants and hazardous air pollutants. The following three tables (Tables 2-1 through 2-3) illustrate the pre-project, post-project and difference of maximum emissions.

Table 2-1 Pre-Project Emission Estimates

Maximum tons per year Emissions							
Process	**PM_{10}**	**$PM_{2.5}$**	**NO_x**	**SO_2**	**CO**	**VOC**	**HAPs**
Redman Home Builders Permit # 087-00007 (South Facility)							
Frame Shop - Welding	0.21	0.21	--	--	--		1.28E-02
Frame Shop - Painting	6.55	6.55	--	--	--		--
Mill Shop	9.00E-02	9.00E-02	--	--	--		--
Cabinet Shop	0.13	0.13	--	--	--		--
Paint Products	14.0	14.0	--	--	--	6.63	--
Adhesives	--	--	--	--	--		--
Champion Home Builders Permit # 087-00008 (North Facility)							
Mill & Cabinet Shop Cyclone	2.36	2.36	--	--	--	--	--
Paint Products	28.9	28.9	--	--	--	13.5	--
Adhesives	--	--	--	--	--	--	--
Total	**52.25**	**52.25**	**0.00**	**0.00**	**0.00**	**20.13**	**1.28E-02**

Table 2-2 Post-Project Emission Estimates

Maximum tons per year Emissions							
Process	**PM_{10}**	**$PM_{2.5}$**	**NO_x**	**SO_2**	**CO**	**VOC**	**HAPs**
Champion Home Builders (South Facility)							
Frame Shop - Welding	0.195	0.195	--	--	--		1.21E-02
Frame Shop - Painting	2.69	2.69	--	--	--		--
Mill Shop	6.24E-02	6.24E-02	--	--	--		--
Cabinet Shop	0.496	0.496	--	--	--		--
Paint Products	17.3	17.3	--	--	--	6.73	--
Adhesives	--	--	--	--	--	2.18	--
Champion Home Builders (North Facility)							
Mill & Cabinet Shop Cyclone	1.01	1.01	--	--	--	--	--
Paint Products	17.3	17.3	--	--	--	6.73	--
Adhesives	--	--	--	--	--	2.18	--
Total	**39.03**	**39.03**	**0.00**	**0.00**	**0.00**	**17.83**	**1.21E-02**

Table 2-3 Net Project Emission Change

Maximum tons per year Emissions							
Process	**PM_{10}**	**$PM_{2.5}$**	**NO_x**	**SO_2**	**CO**	**VOC**	**HAPs**
Champion Home Builders (South Facility)							
Frame Shop - Welding	-1.47E-02	-1.47E-02	--	--	--	--	-7.2E-04
Frame Shop - Painting	-3.86	-3.86	--	--	--	--	--
Mill Shop	-2.76E-02	-2.76E-02	--	--	--	--	--
Cabinet Shop	0.366	0.366	--	--	--	--	--
Paint Products	3.30	3.30	--	--	--	0.104	--
Adhesives	--	--	--	--	--	2.18	--
Champion Home Builders (North Facility)							
Mill & Cabinet Shop Cyclone	0	0	--	--	--	--	--
Paint Products	-1.16	-1.16	--	--	--	-6.77	--
Adhesives	--	--	--	--	--	2.18	--
Total	**-13.22**	**-13.22**	**0.00**	**0.00**	**0.00**	**-2.30**	**-7.2E-04**

It should be noted that the total HAPs for the pre-project are very likely underestimated as the majority of old products likely contained some level of HAPs. However, the current proposed products do not contain any HAPs. The only HAPs that the facility may generate originate from welding processes. Thus, the net change will be even more negative than suggested in Table 2-3.

2.1.2 Proposed Usage Rates

Champion utilizes a variety of products during the home building process. The emissions determined for this application are based on usage rates that equate to the construction of ten floors per day. Please refer to the "Material List" identified in the emission inventory provided as Appendix C. All emission calculations are based on the material usage rates on a per-floor basis.

2.1.2.1 Emission Totals Development

The following assumptions were applied to obtain the estimates shown above and in the emission inventory:

- Adhesives, caulks, paints lacquers
  - 12 hr/day usage, and 6 day/week, 313 days/year operation
  - Applicable SDS, EDS, TDS
  - Simultaneous operation
  - Product Transfer Efficiency
    - Trowel, caulking gun or roll-on application = 95% transfer efficiency
    - Assisted airless gun application = 50% transfer efficiency

  - MDI calculations based on previous permit approach
  - 99.5% control of $PM_{2.5}/PM_{10}$ when applying materials on the interior of units. (Each unit is covered entirely in plastic)
    - Frame painting assumed to be 55% controlled, as there are 2 sides covered in 8 feet of plastic
- Welding – 240 lb/day;
  - E70S Electrode; AP-42 Table 12.19-1 and 2
- Mill Shop
  - South Building RDS collection system
    - 99.8% control – consistent with previous permit
    - 1200 lb/week collected
    - Assumes 3744 hr/yr operation
  - North Building Cyclone Collection
    - 4,200 CFM flow rate – consistent with previous permit
    - Grain loading of 0.015 gr/dscf – consistent with previous permit
- Cabinet Shop
  - Dusktek Dust System –Model 750
    - 98% control – consistent with previous permit
    - 288 hr/month operation
    - 3,816 lb/month collected assumed 720 from current operations and scaled to 10 floors per day

It should be noted that while operations are proposed to increase, overall particulate emissions and VOCs are estimated to decrease from the previous permits. This is because better control techniques, such as enclosing the housing unit in plastic while paining the interior, have been implemented. In addition, some older paints have been replaced with products that contain low or no VOCs.

2.2 TOXIC AIR POLLUTANT EVALUATION

Stantec has had numerous discussions with Dan Pitman of DEQ regarding the most effective way to permit flexibility in the facility's use of varying products, while ensuring that the products' use complies with all applicable TAP thresholds. In addition, Stantec has spoken to modeling coordinator, Kevin Schilling, about how best to identify methods to ensure compliance. As a result of these conversations, Champion and Stantec have outlined a recordkeeping approach that will allow for maximum flexibility in product usage while ensuring that all applicable TAPs standards are continuously maintained. The proposed plan is outlined, in detail, below.

2.2.1 Determination of Current Product TAPs Applicability

Step 1 of the process involved an evaluation of all current products used, the desired usage rate of those products, and whether specific TAPs exceeded associated ELs and/or required an ambient air modeling analysis. Step 1 was completed prior to submittal of this permit application.

All sources of TAP emissions, and their associated emissions rates, were determined and compared to the EL. If a TAP was found to exceed the applicable EL threshold, ambient modeling was conducted in order to determine whether or not the TAP was compliant with the

acceptable ambient concentrations for non-carcinogenic and carcinogenic substances (AAC or AACC). The State of Idaho evaluates TAPs on a lb/hr basis that is either averaged annually or on a 24-hr basis, depending on the pollutant. Those TAPs that are based upon an annual average are considered to be carcinogenic and, thus, have an associated AACC threshold. Similarly, the 24-hr average values are non-carcinogenic and their correlated concentrations are compared against the AAC threshold.

In the case of Champion, the majority of TAPs remained below the EL. However, a few products contained TAPs which exceeded the EL threshold and required modeling to demonstrate compliance with the associated AAC and/or AACC thresholds.

2.2.2 Determination of Future Product TAPs Applicability

Stantec and Champion envision a user-friendly spreadsheet that requests the following information from the user:

- Product Name
- Product Density
- Solids and VOC content
- Composition of all toxic material
- Hours of operation per day and year
- Desired usage rate in gallons (daily and annually)
- Whether or not the TAP is particulate based
- Transfer efficiency of application and assumed controls, if applicable

Those data are then compared to a comprehensive list of all Idaho regulated TAPs and associated EL values. The spreadsheet would do the evaluation "behind the scenes" and identify which TAPs are active within the desired product. The resulting calculated value is compared to the EL. If the results are less than the threshold, Champion would be permitted to utilize that product in a manner consistent with the desired rate. In other words, the usage rate will not exceed the gallons proposed within the spreadsheet. Conversely, if the EL is exceeded, Champion has three options: 1) change to a different product, 2) reduce the product usage rate, or 3) conduct ambient modeling to demonstrate compliance. All options would be maintained in their recordkeeping. Champion envisions maintaining daily records, on a per-gallon basis, for any new product. For example, if the maximum amount of product usage allowed, per the spreadsheet calculation, is 8 gallons per day, Champion will have records illustrating that their use of that product remained below that amount.

2.2.3 Chi/Q Values

It is possible that this recordkeeping approach could evolve, at some point in the future, into a determination of Chi/Q values and a percentage of the AAC or AACC in lieu of modeling any exceedances of the EL. It is likely that Champion would apply an assumed percentage in the

range of 80-90%. However, Champion would be in contact with DEQ modeling staff prior to implementing that procedure to discuss the methods and requirements.

2.3 STACK PARAMETERS

The stack parameters utilized in the previous modeling analysis conducted for the Redman Home Builders (South building) were the same parameters used in the PTC modification so as to ensure consistency between the two analyses. All parameters were confirmed by Champion personnel. The North building data is, in part, consistent with previous modeling. However, updates have been made to more-accurately simulate the impacts from the source. The South building contains eight stacks, each with identical flow rates and diameters. The North building consists of five similar fans and seven passive vents. All emissions are allocated evenly across each release point.

The passive, rectangular vents located atop the North building measure 8 feet by 1 foot. An equivalent diameter was calculated using the following equation:

$$d_e = \frac{1.30(a * b)^{0.625}}{(a + b)^{0.25}}$$

Where: a is the length of one side and b is the length of the other side

As a result, a calculated equivalent diameter of each of the seven passive vents, as used in the modeling analysis, is 2.75 ft. The velocity for each passive vent was set to 0.001 m/s, consistent with low-flow sources, DEQ modeling guidance/recommendations, and to ensure maximum conservatism. Also, the vents are at roof level. The five "fanned" exhaust points each had an exit diameter of 3.5 feet and a flowrate of 1,548 acfm, consistent with previous modeling. Stack heights for the elevated exhaust points were measured to be 1 foot above roof height (27 feet for the North building and 35 feet for the South building). The South building assumed the original modeled flow rates of 1,548 acfm per unit, and diameters of 3.5 feet. Lastly, all exhaust temperatures are assumed to be ambient.

2.3.1 Parameter Details

All stack parameters are either derived from the previous permitting actions or reflect updated information provided by the facility. Table 2-4, below, shows the parameters of each stack.

Table 2-4 Stack Parameters

Stack	Stack Height (ft)	Temperature (°F)[1]	Stack Diameter (ft)	Exit Flowrate (acfm)
SB_1	36	0	3.5	1548
SB_2	36	0	3.5	1548
SB_3	36	0	3.5	1548
SB_4	36	0	3.5	1548
SB_5	36	0	3.5	1548
SB_6	36	0	3.5	1548
SB_7	36	0	3.5	1548
SB_8	36	0	3.5	1548
NORTH1	28	0	3.5	1548
NORTH2	28	0	3.5	1548
NORTH3	28	0	3.5	1548
NORTH4	28	0	3.5	1548
NORTH5	28	0	3.5	1548
PASSIVE1	27	0	2.75	1.169
PASSIVE2	27	0	2.75	1.169
PASSIVE3	27	0	2.75	1.169
PASSIVE4	27	0	2.75	1.169
PASSIVE5	27	0	2.75	1.169
PASSIVE6	27	0	2.75	1.169
PASSIVE7	27	0	2.75	1.169

1. Where the temperature is identified as 0 equates to ambient temperature. These values are identified as 0 Kelvin within AERMOD. Met data temperatures will be used as representative of ambient conditions.

2.4 CRITERIA POLLUTANT NET REDUCTIONS

As shown in Section 2.1.1, all criteria pollutants, on a ton per year basis, showed a net reduction from the two previous permits. On an hourly basis, there is a slight increase of particulates (both $PM_{2.5}$ and PM_{10}). However, the estimated increase of 0.022 lb/hr does not exceed the Level I thresholds provided in Table 2 of the Idaho DEQ modeling guideline (0.22 lb/hr PM_{10} and 0.054 lb/hr $PM_{2.5}$).

2.5 TOXIC AIR POLLUTANTS

Due to the use of numerous paints, adhesives, lacquers and other product types, there are some TAPs that exceed the applicable emission screening level (EL). As a result, those pollutants were modeled to determine whether or not compliance with either the Acceptable Ambient Concentration (AAC) or the Acceptable Ambient Concentration for a Carcinogen (AACC) could be demonstrated. Table 2-5, below, identifies the pollutants that exceeded the

applicable TAPs screening EL, and whether they are applicable to either IDAPA 58.01.01.585 (non-carcinogenic TAP) or 586 (carcinogenic TAP). Please refer to Appendix D, Ambient Air Analysis, for more details.

Table 2-5 Modeled Toxic Air Pollutants

TAP	585/586[1]	Emission Estimate (lb/hr)	EL (lb/hr)
Formaldehyde	586	1.24E-02	5.10E-04
Acetaldehyde	586	7.50E-03	3.00E-03
Benzene	586	7.50E-03	8.00E-04
Acrylamide	586	2.44E-05	5.10E-06
Vinyl Chloride	586	4.87E-03	9.40E-04
Quartz	585	7.46E-03	6.70E-03

1. Note that 585 is a 24-hr lb/hr average and 586 is an annual lb/hr average.

3.0 REGULATORY APPLICABILITY

A review of applicable State and Federal Rules for each emissions unit is provided in Sections 3.1 and 3.2 below.

3.1 STATE REGULATORY APPLICABILITY

A review of applicable requirements of the Rules for the Control of Air Pollution in Idaho is provided in Table 3-1. Each regulation is described in the sections following the table.

Table 3-1 State Regulatory Applicability Summary

Section	Description	Regulatory Citation	Applicable?
3.1.1	Certification of Documents	IDAPA 58.01.01.123	Yes
3.1.2	Excess Emissions	IDAPA 58.01.01.130-136	Yes
3.1.3	Ambient Air Quality Standards for Specific Air Pollutants	IDAPA 58.01.01.577	Yes
3.1.4	Toxic Air Pollutants	IDAPA 58.01.01.585 and 586	Yes
3.1.5	New Source Performance Standards	IDAPA 58.01.01.590	Yes
3.1.6	National Emissions Standards for Hazardous Air Pollutants	IDAPA 58.01.01.591	Yes
3.1.7	Open Burning	IDAPA 58.01.01.600-616	Yes
3.1.8	Visible Emissions	IDAPA 58.01.01.625	Yes
3.1.9	Rules for Control of Fugitive Dust	IDAPA 58.01.01.650	Yes
3.1.10	Fuel Burning Equipment – Particulate Matter	IDAPA 58.01.01.675-681	No
3.1.11	Particulate Matter – Process Weight Limitations	IDAPA 58.01.01.701	No
3.1.12	Odors	IDAPA 58.01.01.775-776	Yes

3.1.1 Certification of Documents

IDAPA 58.01.01.123 requires that all documents, including application forms for permits to construct, records, and monitoring reports submitted to DEQ, contain a certification by a responsible official. Champion will comply with this requirement, and the appropriate certifications by a responsible official are being submitted with this application.

3.1.2 Excess Emissions

IDAPA 58.01.01.130-136 requires that any episode of excess emissions be reported to DEQ, where appropriate. Champion will abide by all excess emission requirements.

3.1.3 Ambient Air Quality Standards for Specific Air Pollutants

IDAPA 58.01.01.577 establishes ambient air quality standards for specific air pollutants, including $PM_{2.5/10}$, Sulfur Dioxide, Ozone, Nitrogen Oxide, Carbon Monoxide, and Lead. Facility-wide modeling was not conducted for criteria pollutants, as described in Section 2.4, due to the reduction of annual emissions and because hourly emissions were less than the applicable thresholds. Additionally, the screening levels (EL) of six toxics (TAPs) were exceeded. Specific details regarding the analysis and documentation of compliance is included in Appendix D of this application.

3.1.4 Toxic Air Pollutants

IDAPA 58.01.01.585 and 586 establishes requirements for compliance with toxic air pollutants. Champion evaluated all toxic air pollutants associated with the modification and have demonstrated compliance with the screening EL standards, or conducted appropriate modeling to demonstrate compliance with the AAC or AACC standards. Please refer to Appendix D of this document for details.

3.1.5 New Source Performance Standards

New Source Performance Standards (NSPS) in 40 CFR Part 60 are applicable to new, modified, or reconstructed stationary sources that meet or exceed specified applicability thresholds. There are no NSPS subparts applicable to the facility.

3.1.6 National Emission Standards for Hazardous Air Pollutants

Two sets of National Emissions Standards for Hazardous Air Pollutants (NESHAPs) may potentially apply to the Champion facility. The first NESHAP regulations were developed under the auspices of the original Clean Air Act. These standards are codified in 40 CFR Part 61, and address a limited number of pollutants and industries. The Champion facility does not fall under any of the industries or have the potential to emit any of the pollutants listed in 40 CFR Part 61, and therefore, 40 CFR Part 61 regulations do not apply to this facility.

Newer regulations are codified in 40 CFR Part 63 under the authority of the 1990 Clean Air Act Amendments (CAAA). These standards regulate HAP emissions from specific source categories. Part 63 regulations are frequently called Maximum Achievable Control Technology (MACT) standards. Champion is not subject to Subpart XXXXXX because they are not primarily engaged in any of the nine categories identified in the subpart. In addition, the SIC and NAICS codes do not match those in the Subpart either.

Champion is subject to Subpart HHHHHH, Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources, because spray coating is performed on mobile equipment. The subpart defines mobile equipment as any device that may be drawn and/or driven on a

roadway. However, Champion will commit to not spraying any of the target HAPs identified in the subpart, nor will they use methylene chloride (MeCl) to remove dried paint.

3.1.7 Open Burning

IDAPA 58.01.01.600 and 616 establishes requirements for open burning. Champion does not expect to conduct open burning at the facility; however, Champion will comply with the requirements under Section 600-616 if any allowable burning is to be conducted at the facility.

3.1.8 Visible Emissions

IDAPA 58.01.01.625 restricts discharge of air pollutants into the atmosphere which is greater than 20% opacity for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period. Champion will comply with this rule by conducting monthly facility-wide inspections of potential sources of visible emissions, during daylight hours and under normal operating conditions. The inspection will consist of a see/no see evaluation for each potential source. If any visible emissions are observed, Champion will take corrective action or perform a Method 9 or Method 22 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. Champion will keep records onsite, documenting the monthly visible emission inspection or Method 9/22 test conducted.

3.1.9 Rules for Control of Fugitive Dust

IDAPA 58.01.01.625 restricts discharge of air pollutants into the atmosphere which is greater than 20% opacity for a period or periods aggregating more than three (3) minutes in any sixty (60) minute period. Champion will comply with this rule by conducting monthly facility-wide inspections of potential sources of visible emissions, during daylight hours and under normal operating conditions. The inspection will consist of a see/no see evaluation for each potential source. If any visible emissions are observed, Champion will take corrective action or perform a Method 9/22 opacity test in accordance with the procedures outlined in IDAPA 58.01.01.625. Champion will keep records onsite documenting the monthly visible emission inspection and Method 9 test conducted.

IDAPA 58.01.01.650 requires that all reasonable precautions be taken to prevent the generation of fugitive dust. Champion will comply with fugitive particulate matter regulations.

3.1.10 Fuel Burning Equipment - Particulate Matter

IDAPA 58.01.01.676 restricts any fuel burning source of greater than 10 MMBtu to limit the PM released from combustion to 0.015 gr/dscf for gas fuel. However, none of Champion's heaters reach 10 MMBtu/hr in capacity. Therefore, the rule does not apply.

3.1.11 Particulate Matter - Process Weight Limitations

IDAPA 58.01.01.701 promulgates restrictions on PM for the entire facility based on process weight. Fuel burning equipment at the facility is not subject to this requirement. There are no applicable sources that require process weight calculations.

3.1.12 Odors

IDAPA 58.01.01.775-776 requires no emissions of odorous gases, liquids, or solids to the atmosphere in such quantities as to cause air pollution. Champion will comply with this requirement by keeping records of any odor complaints received and will take appropriate action for each complaint which has merit.

3.2 FEDERAL REGULATORY APPLICABILITY

A review of applicable Federal Rules is provided in Table 3-4. Included in Appendix B is the completed federal regulatory applicability FRA form.

Table 3-2 Federal Regulatory Applicability Summary

Section	Description	Regulatory Citation	Applicable?
3.2.1	National Ambient Air Quality Standards (NAAQS)- (dispersion modeling)	40 CFR Part 50	No
3.2.2	Title V Operating Permit	40 CFR Part 70	No
3.2.3	Air Pollutants (NESHAPs)	40 CFR Parts 61, 63	Yes
3.2.4	New Source Review (NSR)	40 CFR Part 52	No
3.2.5	New Source Performance Standards (NSPS)	40 CFR Part 60	No
3.2.6	Acid Rain Requirements	40 CFR Parts 72–78	No
3.2.7	Risk Management Programs For Chemical Accidental Release Prevention	40 CFR Part 68	No

3.2.1 National Ambient Air Quality Standards (NAAQS)

Primary National Ambient Air Quality Standards (NAAQS) are identified in 40 CFR Part 50 and define levels of air quality, which the United States Environmental Protection Agency (USEPA) deems necessary to protect the public health. Secondary NAAQS define levels of air quality, which the USEPA judges necessary to protect public welfare from any known, or anticipated

adverse effects of a pollutant. Examples of public welfare include protecting wildlife, buildings, national monuments, vegetation, visibility, and property values from degradation due to excessive emissions of criteria pollutants.

Specific standards for the following pollutants have been promulgated by USEPA: $PM_{2.5}$, PM_{10}, SO_2, NO_x, CO, ozone, and lead. The Champion facility will emit $PM_{2.5}$, PM_{10}, SO_2, NO_x, CO, and VOCs, a precursor to ozone. No criteria pollutants exceed the Below Regulatory Concern (BRC) thresholds, thus, a modeling demonstration was not required to demonstrate NAAQS compliance. Note that modeling was conducted for the state-regulated TAPs that exceeded the screening EL (see Appendix D).

3.2.2 Title V (Part 70) Operating Permit

Title V of the Clean Air Act (CAA) created the federal operating permit program. These permitting requirements are codified in 40 CFR Part 70. These permits are required for major sources with a Potential to Emit (PTE), considering federally-enforceable limitations, greater than 100 tpy for any criteria pollutant, 25 tpy for all hazardous air pollutants (HAPs) in aggregate, or 10 tpy of any single HAP. Champion is a minor source, because the potential to emit any criteria pollutant is less than 100 tons per year, the potential to emit all HAPs in aggregate is less than 25 tpy, and the potential to emit any single HAP is less than 10 tpy.

3.2.3 National Emission Standards for Hazardous Air Pollutants (NESHAPs)

National Emission Standards for Hazardous Air Pollutants are discussed in Section 3.1.7 above.

3.2.4 New Source Review (NSR) Requirements

Washington County is designated as an attainment area or undclassified for all criteria pollutants. Therefore, the prevention of significant deterioration (PSD) regulations codified in 40 CFR Part 52 could potentially apply to the proposed facility. The PSD rule applies to: (1) a new major source that has the potential to emit 100 tons per year or more for any criteria pollutant for a facility that is one of the 28 industrial source categories listed in 40 CFR § 52.21(b)(1)(i)(a); or (2) a new major source that has the potential to emit 250 tons per year or more of a regulated pollutant if the facility is not on the list of industrial source categories; or (3) a modification to an existing major source that results in a net emission increase greater than a PSD significant emission rate as specified in 40 CFR § 52.21 (b)(23)(i); or (4) a modification to an existing minor source that is major in itself. The Champion facility does not fall under one of the 28 industrial source categories, nor will the PTE exceed 250 tpy for any regulated pollutant. Therefore, Champion is not subject to PSD regulations.

3.2.5 New Source Performance Standards (NSPS)

New Source Performance Standards are discussed in Section 3.1.6 above.

3.2.6 Acid Rain Requirements

The acid rain requirements codified in 40 CFR Parts 72-78 apply only to utilities and other facilities that combust fossil fuel and generate electricity for wholesale or retail sale. The proposed facility will not produce electrical power for sale. Therefore, the facility is not subject to the acid rain provisions and will not require an acid rain permit.

3.2.7 Risk Management Programs for Chemical Accidental Release Prevention

The facility is not subject to the Chemical Accidental Release Prevention Program and will not be required to develop a Risk Management Plan (RMP). Facilities that produce, process, store, or use any regulated toxic or flammable substance in excess of the thresholds listed in 40 CFR Part 68 must develop a RMP. The facility does not store any regulated toxic or flammable substances in excess of the applicable thresholds. A RMP is not necessary for this facility.

APPENDICES

Appendix A SITE SELECTION MAP

Champion Homes

NEIGHBOR

NORTHBLD

PASSIVE1

PASSIVE3

NORTH4

NORTH2

NORTH3

PASSIVE4

NORTHADD

NORTH5

NORTH

FRAME

SOUTHLEN

SB_1

SB_2

SB_3

SB_4

SB_7

SB_8

SB_6

SB_5

SOUTHBLD

SOUTH

Google earth

N

400 ft

Appendix B DEQ PTC FORMS AND CHECKLISTS

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Cover Sheet for Air Permit Application – Permit to Construct **Form CSPTC**

Please see instructions on page 2 before filling out the form.

COMPANY NAME, FACILITY NAME, AND FACILITY ID NUMBER			
1. Company Name	Champion Home Builders		
2. Facility Name	Weiser, Idaho	3. Facility ID No.	087-00007&8
4. Brief Project Description - One sentence or less	Modifying existing Tier II Permits to Incorporate into a single PTC		

PERMIT APPLICATION TYPE

5. ☐ New Source ☐ New Source at Existing Facility ☐ PTC for a Tier I Source Processed Pursuant to IDAPA 58.01.01.209.05.c
☐ Unpermitted Existing Source ☐ Facility Emissions Cap ☒ Modify Existing Source: Permit No.: 087-00007 and 087-00008
Date Issued: Both issued 09/2000
☐ Required by Enforcement Action: Case No.:____

6. ☒ Minor PTC ☐ Major PTC

FORMS INCLUDED

Included	N/A	Forms		DEQ Verify
☒	☐	Form CSPTC – Cover Sheet		☐
☒	☐	Form GI – Facility Information		☐
☐	☐	Form EU0 – Emissions Units General		☐
☐	☐	Form EU1– Industrial Engine Information	Please specify number of EU1s attached: ____	☐
☐	☐	Form EU2– Nonmetallic Mineral Processing Plants	Please specify number of EU2s attached: ____	☐
☐	☐	Form EU3– Spray Paint Booth Information	Please specify number of EU3s attached: ____	☐
☐	☐	Form EU4– Cooling Tower Information	Please specify number of EU3s attached: ____	☐
☐	☐	Form EU5 – Boiler Information	Please specify number of EU4s attached: ____	☐
☐	☐	Form CBP– Concrete Batch Plant	Please specify number of CBPs attached: ____	☐
☐	☐	Form HMAP – Hot Mix Asphalt Plant	Please specify number of HMAPs attached: ____	☐
☐	☐	PERF – Portable Equipment Relocation Form		☐
☐	☐	Form AO – Afterburner/Oxidizer		☐
☐	☐	Form CA – Carbon Adsorber		☐
☐	☐	Form CYS – Cyclone Separator		☐
☐	☐	Form ESP – Electrostatic Precipitator		☐
☐	☐	Form BCE– Baghouses Control Equipment		☐
☐	☐	Form SCE– Scrubbers Control Equipment		☐
☐	☐	Form VSCE – Venturi Scrubber Control Equipment		☐
☐	☐	Form CAM – Compliance Assurance Monitoring		☐
☒	☐	Forms EI-– Emissions Inventory		☐
☒	☐	PP – Plot Plan		☐
☐	☐	Forms MI1 – MI4 – Modeling	(Excel workbook, all 4 worksheets)	☐
☐	☐	Form FRA – Federal Regulation Applicability		☐

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

General Information - **Form GI**
4/7/16

Please see instructions on second page before filling out the form.

FACILITY AND PERMIT INFORMATION

1. Facility Name:	2. Facility ID Number:
Champion Home Builders	087-00007 and 087-00008
3. Brief Project Description:	Modification of existing Tier II permits and a consolidation into a single PTC
4. Facility Contact Name:	5. Facility Contact Title:
Kevin Bouvia	General Manager
6. Facility Contact Telephone Number:	7. Facility Contact Email:
208-549-3151 ext 1538	kbouvia@championhomes.com
8. Mailing address where permit will be sent (street/city/state/zip code):	9. Physical address of facility (if different than mailing address) (street/city/state/zip code):
1425 Sunnyside Road, Weiser, ID 83672	Same as mailing address

10. County Facility is located	Washington	
11. Is the equipment portable?	☒ No ☐ Yes	
12. NAICS codes	Primary NAICS: 321991	Secondary NAICS (if applicable):
Brief business description and principal product produced:	Manufactured Home (Mobile Home) Manufacturer	
14. Describe any contiguous or adjacent facility this company owns or operates:	Champion Home Builders owns two facilities, which are adjacent to each other; one listed under Redman Home Builders (which is currently operating under Tier II permit #087-00007) and another, directly across the street to the north, listed as Champion Home Builders (which is not currently operational, but permitted under Tier II permit #087-00008)	
15. Permit Application Type. Provide Permit Number for existing permit. For a PTC, an application fee is required.	☒ Initial Permit to Construct (PTC) ☐ PTC Modification	PTC No. _____ Issued Date _____
	☐ Initial Tier II ☒ Tier II Modification ☐ Tier II Renewal	Tier II No. 087-00007&00008 Issued Date 12/19/00
	☐ Initial Tier I ☐ Tier I Administrative Amendment ☐ Tier I Minor Modification ☐ Tier I Significant Modification ☐ Tier I Renewal	Tier I No. _____ Issued Date _____

16. **For Tier I permitted facilities only:** If you are applying for a PTC then you must specify how the PTC will be incorporated into the Tier I permit.	☐ Incorporate PTC at the time of Tier I renewal (IDAPA 58.01.01.209.05.a) ☐ Co-process PTC with Tier I Modification (IDAPA 58.01.01.209.05.b) ☐ Administrative amend the Tier I to incorporate PTC upon applicant's request (IDAPA 58.01.01.209.05.c)
17. ☒ Check here to request facility draft permit before final issuance.	

Certification of Truth, Accuracy, and Completeness (by Responsible Official)
I hereby certify that based on information and belief formed after reasonable inquiry, the statements and information contained in this and any attached and/or referenced document(s) are true, accurate, and complete in accordance with IDAPA 58.01.01.123 124.

Responsible Official Signature	General Manager *Responsible Official Title*	7/29/16 *Date*

Kevin Bowlby

Print or Type Responsible Official Name

Instructions for Form GI

Facility Information:

1. Provide facility name. If the facility is doing business as (dba) a facility different in name than the primary facility, provide the dba name.
2. If the facility is an existing permitted facility in Idaho, provide the facility identification number. If the facility is new and does not yet have a Facility ID, leave blank.
3. Provide a brief project description.

4-7. Provide the name of the *primary* contact person for this permit application. Provide title, telephone number, and e-mail address for the primary contact person.

8. Provide mailing address where DEQ should mail the final permit.
9. Provide the physical address where the equipment or facility is located (if different than 8).
10. Provide the Idaho County where the equipment or facility is located.
11. Indicate if equipment is portable by checking the appropriate box.
12. Provide the primary and secondary (if applicable) North American Industry Classification System (NAICS) code(s) for your facility.
13. Describe the primary activity and principal product of your business as it relates to the NAICS code listed in 12.
14. Identify and describe any other sources or equipment owned and operated by the primary facility that are located on contiguous or adjacent properties and the role the source or equipment plays in supporting the primary facility.

Permit Application Type:

15. Check the box describing the type of permit application. Provide the permit number as applicable.

    Important note: One hard copy of the application and a compact disc (CD) with a PDF version of the application is required to be submitted. Applications can be mailed or submitted to:

    Idaho Department of Environmental Quality
    Attn: Air Quality Program
    1410 North Hilton
    Boise, ID 83706-1255

PTC Fee:

Important note: If application is for a permit to construct (PTC), include the application fee of $1,000 when submitting the application. Per IDAPA 58.01.01.226.02, DEQ cannot process the application without the fee, which must be submitted with the application.

If paying PTC Fee with a check, make the check payable to the Idaho Department of Environmental Quality, and send with the application to the above address:

If paying with a credit card or E-check, payment can be made at https://www.accessidaho.org/ai/payport/online/deq/index.html (***Note:*** *Convenience fee of 3% applies to credit card payments, $5 to E-check payments.*)

If paying by bank wire transfer the DEQ Fiscal Office at (208) 373-0446.

16. For existing Tier I facilities that are applying for a PTC, the applicant must specify how the PTC will be incorporated into the Tier I permit (IDAPA 58.01.01.209.05). If you have questions, call the Air Permit Hotline at 1-877- 5Permit (1-877-573-7648).
17. Check this box to indicate if you want to review a draft permit before the final permit is issued.

Certification of Truth, Accuracy, and Completeness (by Responsible Official):

Provide the name, title, address, telephone number, and e-mail of the facility's responsible official. Responsible Official is defined in IDAPA 58.01.01.006. The responsible official must sign and date the application before it is submitted to DEQ. **Important note:** Only a "wet signature" can be accepted.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Baghouse Control Equipment **Form BCE**
Revision 6
2/18/10

Complete this form for each baghouse. Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name	2. Facility Name:
Champion Home Builders	Champion Home Builders

3. Brief Project Description: Builder of manufactured homes

BAGHOUSE INFORMATION

4. Baghouse Manufacturer: Dustek Dust Systems	5. Baghouse Model: 750	6. Baghouse Equipment ID:

7 (a). Baghouse particulate matter emission concentration. **Note: Provide information in 7(a)-(c) or answer question #8 below.**	_____ gr/dscf	*Manufacturers typically provide guarantees in grains per dry standard cubic foot (gr/dscf). Provide a copy of the guarantee, or other documentation, with the application along with a description of the types of bags that must be used to achieve the emission concentration.* ***Emission concentrations less than 0.01 gr/dscf will receive additional scrutiny by DEQ and a source test of the baghouse may be required.*** *If a guarantee is not provided then you must document how you obtained the emission concentration. Without documentation the application is not complete.*
7 (b). Percentage PM_{10} Or Provide PM_{10} Emission Concentration	98 % _____ gr/dscf	*What percentage of the PM concentration listed in question #7(a) is PM_{10}. You must provide documentation as to how the percentage was determined (i.e per the baghouse manufacturer). Without documentation the application is not complete.*
7 (c). Baghouse flow rate	_____ dscfm	*Provide the baghouse flow rate in dry standard cubic feet per minute. Actual cubic feet per minute may be given in lieu of dscfm* ***if it is documented*** *that moisture content is insignificant. You must provide documentation as to how this flow rate was determined (i.e. per the exhaust fan manufacturer, combustion evaluation, etc.). Without documentation the application is not complete.*
8. Baghouse particulate matter control efficiency. **Note: Not needed if section #7 is completed.**	_____ % PM control _____ % PM_{10} control	*Applicant's providing the control efficiency of the baghouse must provide control efficiency for both PM and PM_{10}. Provide a copy of the control efficiency documentation with the application. Documentation must include a description of the types of bags that must be used to achieve the control efficiency. Without documentation the application is not complete.*
9. Is the baghouse equipped with a bag leak detector?	☐ Yes ☒ No	*If a bag leak detector is installed provide documentation on the leak detector, including; how the leak detector functions and what level of the output signal indicates that a bag is leaking. Without documentation the application is not complete.*

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Baghouse Control Equipment **Form BCE**
Revision 6
2/18/10

Complete this form for each baghouse. Please see instructions on page 2 before filling out the form.

IDENTIFICATION

1. Company Name	2. Facility Name:
Champion Home Builders	Champion Home Builders

3. Brief Project Description: Builder of manufactured homes

BAGHOUSE INFORMATION

4. Baghouse Manufacturer: RDS Collection System	5. Baghouse Model:	6. Baghouse Equipment ID:

7 (a). Baghouse particulate matter emission concentration. **Note: Provide information in 7(a)-(c) or answer question #8 below.**	_____ gr/dscf	*Manufacturers typically provide guarantees in grains per dry standard cubic foot (gr/dscf). Provide a copy of the guarantee, or other documentation, with the application along with a description of the types of bags that must be used to achieve the emission concentration.* ***Emission concentrations less than 0.01 gr/dscf will receive additional scrutiny by DEQ and a source test of the baghouse may be required.*** *If a guarantee is not provided then you must document how you obtained the emission concentration. Without documentation the application is not complete.*
7 (b). Percentage PM_{10} Or Provide PM_{10} Emission Concentration	_____ % _____ gr/dscf	*What percentage of the PM concentration listed in question #7(a) is PM_{10}. You must provide documentation as to how the percentage was determined (i.e per the baghouse manufacturer). Without documentation the application is not complete.*
7 (c). Baghouse flow rate	_____ dscfm	*Provide the baghouse flow rate in dry standard cubic feet per minute. Actual cubic feet per minute may be given in lieu of dscfm* ***if it is documented*** *that moisture content is insignificant. You must provide documentation as to how this flow rate was determined (i.e. per the exhaust fan manufacturer, combustion evaluation, etc.). Without documentation the application is not complete.*
8. Baghouse particulate matter control efficiency. **Note: Not needed if section #7 is completed.**	99.8 % PM control 99.8 % PM_{10} control	*Applicant's providing the control efficiency of the baghouse must provide control efficiency for both PM and PM_{10}. Provide a copy of the control efficiency documentation with the application. Documentation must include a description of the types of bags that must be used to achieve the control efficiency. Without documentation the application is not complete.*
9. Is the baghouse equipped with a bag leak detector?	☐ Yes ☒ No	*If a bag leak detector is installed provide documentation on the leak detector, including; how the leak detector functions and what level of the output signal indicates that a bag is leaking. Without documentation the application is not complete.*

IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

Preapplication Meeting Information Form FRA (Federal Requirements Applicability) - Regulatory Review

In each box in the table below, CTRL+click on the blue underlined text for instructions and information.

IDENTIFICATION	
1. Company Name: Champion Home Builders	2. Facility Name: Champion Home Builders
3. Brief Project Description:	Builder of manufactured homes

APPLICABILITY DETERMINATION	
4. List all applicable subparts of the New Source Performance Standards (NSPS) (40 CFR part 60). List all non-applicable subparts of the NSPS which may appear to apply to the facility but do not. Examples of NSPS-affected emissions units include internal combustion engines, boilers, turbines, etc. Applicant must thoroughly review the list of affected emissions units.	List of all applicable subpart(s): List of all non-applicable subpart(s) which may appear to apply but do not: ☑ Not Applicable
5. List applicable subpart(s) of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) (40 CFR part 61 and 40 CFR part 63). List all non-applicable subparts of the NESHAP which may appear to apply to the facility but do not. Examples of affected emission units include solvent cleaning operations, industrial cooling towers, paint stripping and miscellaneous surface coating. Reference EPA's webpage on NESHAPs for more information.	List of all applicable subpart(s): HHHHHH List of all non-applicable subpart(s) which may appear to apply but do not: XXXXXX ☐ Not Applicable
6. For each subpart identified above, conduct a complete regulatory analysis using the instructions and referencing the example on the following pages. **Note** - Regulatory reviews must be submitted with sufficient detail so that DEQ can verify applicability and document in legal terms why the regulation does or does not apply. Regulatory reviews submitted with insufficient detail will be determined incomplete.	☑ A detailed regulatory review is provided (Follow instructions and example). ☐ DEQ has already been provided a detailed regulatory review. Give a reference to the document including the date.

Appendix C EMISSION INVENTORY

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

Version 1, August 2010

Facility Wide Potential to Emit Emission Inventory

Application Template and Instructions

For new stationary sources provide the facility's potential to emit for all NSR Regulated Air Pollutants. The potential to emit provided here must match the emissions rates which are requested to be permitted.

For modifications to existing facilities (including the addition of new emissions units), if the existing facility classification is in question an existing facility wide potential to emit emission inventory will be required to be submitted[1]. Contact DEQ to determine if a facility wide emission inventory for the existing facility is required.

All emissions inventories must be submitted with thorough documentation. The emission inventories will be subjected to technical review. Therefore, prepare your application with sufficient documentation so that the public and DEQ can verify the validity of the emission estimates. **Applications submitted without sufficient documentation are incomplete. Follow the instructions provided on page 2; do not proceed until you have read the instructions.**

Applicants must use the Potential to Emit Summary table provided below.

Table 1. POTENTIAL TO EMIT FOR NSR REGULATED POLLUTANTS

Emissions Unit	PM_{10}[a]	$PM_{2.5}$[a]	CO[a]	NO_x[a]	SO_2[a]	VOC[a]	GHG[a]
	T/yr	T/yr	T/yr	T/yr	T/yr	T/yr	mT/yr
	Point Sources						
Frame Shop - Welding	0.195	0.195	--	--	--	--	--
Frame Shop - Painting	2.69	2.69	--	--	--	--	--
Mill Shop	6.24E-02	6.24E-02	--	--	--	--	--
Cabinet Shop	0.496	0.496	--	--	--	--	--
Paint Products	34.6	34.6	--	--	--	13.44	--
Adhesives	0	0	--	--	--	4.36	--
Mill & Cabinet Cyclone	1.01	1.01	--	--	--	--	--
Totals	**39.02**	**39.02**	**0**	**0**	**0**	**17.80**	**0**

a) NSR Regulated air Pollutants are defined[2] as: Particulate Matter (PM, PM-10, PM-2.5), Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone (VOC), Sulfur Dioxide, CO_2e[3], Green House Gases (GHG) mass, all pollutants regulated by NSPS (40 CFR 60)(i.e. TRS, fluoride, sulfuric acid mist) & Class I & Class II Ozone Depleting Substances (40 CFR 82)(i.e. CFC, HCFC, Halon, etc.)

Applicants are encouraged to call DEQ's Air Quality Permit Hotline (1-877-573-7648) to ask questions as they prepare the application. **Emission Inventory Instructions:**

---

[1] The applicant must determine if the existing facility is a major facility. If the facility is an existing PSD major facility and changes are being made to the facility the major modification test must be conducted.

[2] 40 CFR 52.21(b)(50), as incorporated by reference at IDAPA 58.01.01.107.03.d

[3] Multiply each greenhouse gas (GHG) by the global warming potential (GWP) listed at 40 CFR 98, Table A- 1 of Subpart A then sum all values to determine CO_2e (GHGs are carbon dioxide, nitrous oxide, methane, hydrofluorcarbons, perfluorcarbons, sulfur hexafluoride). Be sure to show all calculations as described in the instructions.

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

Version 1, August 2010

Toxic Air Pollutant Emissions Inventory

Application Template and Instructions

Applicants must demonstrate preconstruction compliance with toxic air pollutant (TAP) standards contained in IDAPA 58.01.01.210 (*Rules for the Control of Air Pollution in Idaho*). DEQ has developed a TAP completeness checklist in order to assist applicants. DEQ strongly recommends that applicants complete and submit this checklist as part of the application. **Applications which do not follow one of the available methods for demonstrating compliance described in the checklist will be determined incomplete or denied.** Follow this link to the checklist: Toxic Air Pollutant Application Completeness Checklist. Be sure to calculate emissions correctly for the averaging periods as described in the checklist and in the instructions on page 3.

The type of TAP emissions inventory required depends upon which method is used to demonstrate compliance (see the Toxic Air Pollutant Application Completeness Checklist). **All TAP emissions inventories must be summarized using the emissions inventory summary tables provided below** (Table 1 and Table 2).

The applicant must **document all emission calculations as described in the instructions provided on the following page. Applications without sufficient documentation are incomplete; do not proceed until you have read the instructions.**

Applicants are encouraged to call DEQ's Air Quality Permit Hotline (1-877-573-7648) to ask questions as they prepare the application.

Table 1. PRE- AND POST PROJECT NON-CARCINOGENIC TAP EMISSIONS SUMMARY
POTENTIAL TO EMIT

Non-Carcinogenic Toxic Air Pollutants (sum of all emissions)	Pre-Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Post Project 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Change in 24-hour Average Emissions Rates for Units at the Facility (lb/hr)	Non-Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Chromium	**9.20E-06**	**1.00E-05**	**8.00E-07**	**3.30E-02**	**No**
Cobalt	**9.20E-06**	**1.00E-05**	**8.00E-07**	**3.30E-03**	**No**
Manganese	**2.90E-03**	**3.18E-03**	**2.80E-04**	**6.70E-02**	**No**
Cristobalite	**1.24E-01**	**0**	**-1.24E-01**	**3.30E-03**	**No**
Kaolin	**1.87**	**5.92E-02**	**-1.81**	**0.133**	**No**
Mica	**0.63**	**0**	**-0.63**	**0.2**	**No**
Zinc Oxide	**0.68**	**0**	**-0.68**	**0.667**	**No**
MDI	**1.62E-05**	**5.83E-06**	**-1.04E-05**	**3.00E-03**	**No**
Methyl Ethyl Ketone	**0**	**0.58**	**0.58**	**39.3**	**No**

Acetone	**0**	**0.403**	**0.403**	**119**	**No**
Cyclohexanone	**0**	**0.212**	**0.212**	**6.67**	**No**
Limestone	**0**	**0.447**	**0.447**	**0.667**	**No**
Quartz	**0**	**7.46E-03**	**7.46E-03**	**6.70E-03**	**Yes**
Carbon Black	**0**	**0.152**	**0.152**	**0.23**	**No**
Portland Cement	**0**	**3.00E-04**	**3.00E-04**	**0.667**	**No**
Ethylene Glycol	**0**	**0.264**	**0.264**	**0.846**	**No**
Gypsum	**0**	**3.75E-05**	**3.75E-05**	**0.667**	**No**
Methanol	**0**	**5.25E-02**	**5.25E-02**	**17.3**	**No**
Tetrahydrofuran (THF)	**0**	**0.693**	**0.693**	**39.3**	**No**
Nonane	**0**	**4.39E-04**	**4.39E-04**	**7.00**	**No**
Diatomaceous Earth	**0**	**4.19E-05**	**4.19E-05**	**0.667**	**No**

Table 2. PRE- AND POST PROJECT CARCINOGENIC TAP EMISSIONS SUMMARY POTENTIAL TO EMIT

Carcinogenic Toxic Air Pollutants (sum of all emissions)	Pre-Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Post Project Annual Average Emissions Rates for Units at the Facility (lb/hr)	Change in Annual Average Emissions Rates for Units at the Facility (lb/hr)	Carcinogenic Screening Emission Level (lb/hr)	Exceeds Screening Level? (Y/N)
Benzene	**0**	**7.50E-03**	**7.50E-03**	**8.00E-04**	**Yes**
Formaldehyde	**0**	**1.24E-02**	**1.24E-02**	**5.10E-04**	**Yes**
Acetaldehyde	**0**	**7.50E-03**	**7.50E-03**	**3.00E-03**	**Yes**
Acrylamide	**0**	**2.44E-05**	**2.44E-05**	**2.80E-05**	**Yes**
Vinyl Chloride	**0**	**4.87E-03**	**4.87E-03**	**3.70E-06**	**Yes**
Nickel	**9.20E-06**	**2.29E-05**	**8.58E-06**	**-6.25E-07**	**No**

	Material	Manufacturer	Type	Process/Area Where Product Used	How Product is Applied	SG	Density (lb/gal)	Usage (gallons/flr)	Unit Size	Usage (gal/yr)	Safety Data Sheet	Comments
8	9-300XI PURE PERFORMANCE INTERIOR EGGSHELL - PURE WHITE	PPG Industries, Inc.	Paint	Interior	Spray - max throughput per nozzle	1.34	11.18	0.06		25	sds8_champion_ppg_9-300xi pure performance interior eggshell-pure white_08-18-2015	
9	UH 150 FL WH 1210-0100V	PPG Industries, Inc.	Paint	Interior	Spray - max throughput per nozzle	1.44	12.02	10		4,220	sds9_champion_ppg_uh 150 fl wh 1210-0100v_ultrahide 150 satin 2412_06-30-2015	
11	UH 150 HB PWTB 1472-0200	PPG Industries, Inc.	Paint	exterior	Spray - max throughput per nozzle	1.20	10.01	0.07		30	sds11_champion_ppg_uh 150 hb pwtb 1472-0200_high build 1472_06-30-2015	
12	UH 150 HB FL HHWH 1290-1000V	PPG Industries, Inc.	Paint	Interior	Spray - max throughput per nozzle	1.44	12.02	0.07		30	sds12_champion_ppg_uh 150 hb fl hhwh 1290-1000v_high build latex flat 1290_08-14-2015	usage
27	UH 150 SAT WH 2412-0100V	PPG Industries, Inc.	Paint	exterior	Spray - max throughput per nozzle	1.22	10.18	10		4,220	sds27_champion_ppg_uh 150 sat wh 2412-0100v_09-14-2015	exterior paint - sprayed on
30	Chassis Black Paint	Technical Industrial Sales	Paint	exterior/frame	Spray - max throughput per nozzle	1.09	9.08	8		3,376	sds30_champion_TDS_Chassis_black_paint.pdf	FRAME PAINT TIS-25 55GL
35	~~OLYMPIC GEL STAIN 550 VOC~~ CWF-UV5 Cedar 350 VOC FLD466	PPG Industries, Inc.	Paint	exterior	sprayed/brushed	1.01	8.43	0.095		40	sds35_champion_ppg_flood cwf-uv5 350 voc stain_REPLACEMENT with tds_12-09-2015	
37	7799	Specialty Adhesives Inc.	Paint	Interior	Spray - max throughput per nozzle	2.00	16.68	1.5		2,110	sds37_champion_specialty adhesives & coating_7799_vapor barrier tote_2016 tds-sds REPLACEMENT	
22	Green Solutions Floor Seal and Finish	Spartan Chemical Company, Inc.	Lacquers/Thinners	Interior	brush	1.02	8.51	1		425	sds22_champion_spartan_green solutions floor seal and finish_07-30-2015	
2	PVC Medium Clear Cement	Oatey Co.	Glue/Adhesive	Interior	brush	0.92	7.70	0.08		35	sds2_champion_oatey_PVC Medium Clear Cement_PVC Cement_05-27-2015	
7	Hilti FS-ONE MAX - Hilti Firestop Filler Mastic CFS-FIL	Hilti, Inc.	Glue/Adhesive	Interior	caulk tube	?	?	0.3276	10.5 oz./tube	3.276	sds7_champion_hilti_FS-One Max-hilti firestop filler mastic CFS-FIL_FS one Firestop_05-18-2015	used only on projects with 2 stories or spec'd in
13	WELD-ON 773 Low VOC Pipe Cement for ABS Plastic Pipe	IPS Corporation	Glue/Adhesive	Interior	brush	0.89	7.42	0.1	qt	42.75	sds13_champion_weld-on_773 low voc pipe cement for abs plastic pipe_04-07-2015	usage down on abs glues
15	Regular Clear Cement	Oatey Company	Glue/Adhesive	Interior	brush	0.90	7.51	0.11	qt	46.25	sds15_champion_oatey_regular clear cement_05-28-2015	
16	Loctite PL 510 Wood Construction Adhesive	Henkel Corporation	Glue/Adhesive	Interior	caulk tube	1.22	10.21	0.0046683	10.5 oz tube	1.9656	sds16_champion_henkel_loctite pl 510 wood construction adhesive_10-10-2014	
17	Palmer Mirro-Mastic	Palmer Products Corporation	Glue/Adhesive	Interior	caulk tube	1.20	10.01	0.006552	10.5 oz./tube	2.8665	sds17_champion_palmer_palmer mirro-mastic_06-26-2015	
23	Modular Water Based Bonding Adhesive WBA 3781	Firestone Building Products Company	Glue/Adhesive	exterior	brush	1.00	8.34	0.35		154	sds23_champion_firestone_modular water based bonding adhesive wba 3781_06-20-2013	
24	Solvent Free EPDM Bonding Adhesive	Carlisle SynTec	Glue/Adhesive	exterior	brush	0.97	8.09	4	5 gl	40	sds24_champion_carlisle_solvent free epdm bonding adhesive_03-17-2015	project only if spec'd in
26	PolyBlend Sanded Grout	Custom Building Products	Glue/Adhesive	Interior	trowel	2.70		3.6	18 lb bags	1350	sds26_champion_custom building products_ployblend sanded grout_03-15-2013	project only if spec'd in
28	Coal Tar Roofing Pitch	Koppers Inc.	Glue/Adhesive	exterior	trowel/brush	1.30	10.84	1.5		633	sds28_champion_koppers_coal tar roofing pitch_03-03-2015	
29	CASA 3600-PT	CASA Adhesives, Inc.	Glue/Adhesive	Interior	Spray - max throughput per nozzle	1.20	10.01	2.25	38lb canister	912	sds29_champion_casa adhesive inc_casa 3600-pt_12-20-2015	
36	1038/1038HVS	Specialty Adhesives Inc.	Glue/Adhesive	both	brush	1.09	9.09	21	tote	24500	sds36_champion_specialty adhesives & coating_1038 1038hvs_wood adhesive_2016 tds-sds REPLACEMENT	
40	H20 Adhesive	Wilsonart LLC	Glue/Adhesive	exterior	Spray - max throughput per nozzle	1.09	9.09	1		425	sds40_champion_wilsonart_h20 adhesive_replaces 01-30-2013 MSDS_12-11-2015	
41	VORAMER ME 3044 Isocyanate (Part A - adhesive)	Dow Chemical Company	Glue/Adhesive	exterior	Spray - max throughput per nozzle	1.24	10.34	60	tote	25000	sds41_champion_dow chemical co_voramer me 3044 Isocyanatel_part a me iso_06-11-2015	
42	VORAMER MB 3099 Polyol (Part B - catalyst)	Dow Chemical Company	Glue/Adhesive	exterior	Spray - max throughput per nozzle	1.02	8.51	55	tote	23000	sds42_champion_dow chemical co_voramer mb 3099 polyol_part b_03-31-2015	
5	Hilti Firestop Acrylic Sealant CFS-S ACR	Hilti, Inc.	Caulking	exterior	caulk tube	1.55	12.94	0.0975	10 oz tube	41.184	sds5_champion_hilti_hilti firestop acrylic sealant CFS-S ACR CP 606_firestop latex sealant_05-18-2015	used only on projects with 2 stories or spec'd in
6	Hilti Firestop Putty Bandage CDS-P BA	Hilti, Inc.	Caulking	Interior	putty pad	1.55	12.94	1.75	ea	720	sds6_champion_hilti_hilti firestop putty bandage CFS-P BA_firestop putty pad_06-30-2015	used only on projects with 2 stories or spec'd in
18	Alex Painters Acrylic Latex Caulk	DAP Products Inc.	Caulking	exterior	caulk tube	1.56	13.01	0.9555	10 oz tube	403.416	sds18_champion_dap_alex painters acrylic latex caulk_05-14-2015	
19	OSI H2U High Performance Acrylic Urethane Sealant Window, Door & S	Henkel Corporation	Caulking	exterior	caulk tube	1.27	10.57	0.35802	10.2 oz tube	148.93632	sds19_champion_henkel_osi h2u high performance acrylic urethane sealant window, door & siding white 101_10-28-2014	
20	LOCTITE PSS ACWS WH. 10oz=295ML	Henkel Corporation	Caulking	exterior	caulk tube	1.69	14.09	0.00468	10 oz tube	1.872	sds20_champion_henkel_loctite pss acws wh-10oz=295ml_loctite acr caulk_12-01-2014	
21	RTV Silicone Sealant - Clear (pressurized)	CRC Industries, Inc.	Caulking	exterior	caulk tube	1.01	8.42	0.4485	10 oz tube	185.328	sds21_champion_crc_rtv silicone sealant - clear (pressurized)_silicone caulk Q240_12-04-2013	
25	PolyBlend Ceramic Tile Caulk Non Sanded	Custom Building Products	Caulking	Interior	trowel	1.60	13.34	0.0078	10 oz tube	3.354	sds25_champion_custom building products_polyblend ceramic tile caulk non sanded_11-13-2013	
38	OSI 9.5OZ QDMAX001SLNWHT 12CC (OSI Quad Max)	Henkel Corporation	Caulking	exterior	caulk tube	1.45	12.09	0.02964	9.5 oz tube	11.5596	sds38_champion_henkel_osi 9.5 oz qdmax001slnwht 12cc_osi quad max_10-20-2015	
45	Acoustical Sealant 30CTG	Tremco Canadian Sealants	Caulking	exterior	caulk tube	1.62	13.51	0.0039	10 oz tube	1.794	sds45_champion_tremco_acoustical sealant 300ml 30 ctg_sun tek sts1000 caulk_06-25-2014_Combined with new	

SDS File Name:	sds2_champion_oatey_PVC Medium Clear Cement_PVC Cement_05-27-		
Product Manufacturer:	Oatey Co.		
Product Name:	PVC Medium Clear Cement		
Notes:	For joining PVC pies. Clear, translucent liquid with solvent odor.		
	Actual	**PTE**	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	270	1,928	**Specific Gravity:**
Annual Potential Applied (gal/yr):	35	250	**VOC Content:**
Max Hourly lbs (lb/hr):	0.14	0.51	
Max Hourly lbs (gal/hr):	0.02	0.07	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
Furan, Tetrahydro-	109-99-9	0.50	0.07	0.07
Acetone	67-64-1	0.25	0.04	0.03
Methyl ethyl ketone[1]	78-93-3	0.25	0.04	0.03
Polyvinyl chloride	9002-86-2	0.20	0.03	0.03
Cyclohexanone	108-94-1	0.20	0.03	0.03
Fumed Silica	112945-52-5	0.05	0.01	0.01
VOCs		0.52	0.08	0.07

1. No longer considered a hazardous air pollutant

SDS File Name:	sds5_champion_hilti_hilti firestop acrylic sealant CFS-S ACR CP 606_firesto		
Product Manufacturer:	Hilti, Inc.		
Product Name:	Hilti Firestop Acrylic Sealant CFS-S ACR		
Notes:	Sealant in a pasty form.		
	Actual	**PTE**	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	533	3,947	**Specific Gravity:**
Annual Potential Applied (gal/yr):	41	305	**VOC Content:**
Max Hourly lbs (lb/hr):	0.29	1.05	
Max Hourly lbs (gal/hr):	0.02	0.08	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
propane-1,2-diol	57-55-6	0.03	0.01	0.01
VOCs		0.05	0.01	0.01

SDS File Name: sds6_champion_hilti_hilti firestop putty bandage CFS-P BA_firestop putty p
Product Manufacturer: Hilti, Inc.
Product Name: Hilti Firestop Putty Bandage CDS-P BA
Notes: Red, pasty material.

	Actual	PTE	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	9,313	70,851	**Specific Gravity:**
Annual Potential Applied (gal/yr):	720	5,478	**VOC Content:**
Max Hourly lbs (lb/hr):	5.26	18.86	
Max Hourly lbs (gal/hr):	0.41	1.46	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
tris(2-ethylhexyl) phosphate	78-42-2	0.05	0.26	0.23
VOCs		0.02	0.11	0.09

1. The sds lists three different VOC contents for CP 617-619, the largest of which is 31.5 g/l (CP 618). Facility to determine if the

SDS File Name: sds7_champion_hilti_FS-One Max-hilti firestop filler mastic CFS-FIL_FS one F
Product Manufacturer: Hilti, Inc.
Product Name: Hilti FS-ONE MAX - Hilti Firestop Filler Mastic CFS-FIL
Notes: Red, pasty material.

	Actual	PTE	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**[1]
Annual Potential Applied (lb/yr):	37	11,536	**Specific Gravity:**
Annual Potential Applied (gal/yr):	3	1,025	**VOC Content:**
Max Hourly lbs (lb/hr):	0.86	3.07	% Volatiles
Max Hourly lbs (gal/hr):	0.08	0.27	% Non-Volatile

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
propane-1,2-diol	57-55-6	0.03	0.02	0.00
VOCs[2]		0.00	0.00	0.00

1. Product density information "not determined" in sds.

2. The product is in a pasty form with a boiling point greater than 212 °F. The process does not reach these temperatures and

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SDS File Name: sds8_champion_ppg_9-300xi pure performance interior eggshell-pure whi
Product Manufacturer: PPG Industries, Inc.
Product Name: 9-300XI PURE PERFORMANCE INTERIOR EGGSHELL - PURE WHITE
Notes: Liquid coating for industrial applications; used by **spraying.**

	Actual	PTE	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	280	2,100	**Specific Gravity:**
Annual Potential Applied (gal/yr):	25	188	**VOC Content:**
Max Hourly lbs (lb/hr):	0.16	0.56	% Solids[1]
Max Hourly lbs (gal/hr):	0.01	0.05	Solids (total)[1]
			Paint transfer effic.[1]

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
titanium dioxide	13463-67-7	0.25	0.04	0.03
Diatomaceous earth	61790-53-2	7.5E-05	1.17E-05	1.05E-05
proprietary ingredients	not listed	0.03	0.00	0.00
VOCs		0.00	0.00	0.00
PM[1]		1.28E-03	2.00E-04	1.79E-04

1. PM emissions are the non-volatile solids in the paint. Assumes a conservative paint transfer efficiency of 50%. Also, interior p

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SDS File Name: sds9_champion_ppg_uh 150 fl wh 1210-0100v_ultrahide 150 satin 2412_06
Product Manufacturer: PPG Industries, Inc.
Product Name: UH 150 FL WH 1210-0100V
Notes: Liquid coating for industrial applications; used by **spraying.**

	Actual	PTE

Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	50,724	376,226	**Specific Gravity:**
Annual Potential Applied (gal/yr):	4,220	31,300	**VOC Content:**
Max Hourly lbs (lb/hr):	27.95	100.17	% Solids[1]
Max Hourly lbs (gal/hr):	2.33	8.33	Solids (total)[1]
			Paint transfer effic.[1]

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
titanium dioxide	13463-67-7	0.25	6.99	6.34
VOCs		0.03	0.93	0.84
PM[1]		0.00	0.04	0.03

1. PM emissions are the non-volatile solids in the paint. Assumes a conservative paint transfer efficiency of 50%. Also, interior p

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SDS File Name:	sds11_champion_ppg_uh 150 hb pwtb 1472-0200_high build 1472_06-30-2
Product Manufacturer:	PPG Industries, Inc.
Product Name:	UH 150 HB PWTB 1472-0200
Notes:	Liquid coating for industrial applications; used by **spraying.**

	Actual	**PTE**	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	300	2,193	**Specific Gravity:**
Annual Potential Applied (gal/yr):	30	219	**VOC Content:**
Max Hourly lbs (lb/hr):	0.16	0.58	% Solids[1]
Max Hourly lbs (gal/hr):	0.02	0.06	Solids (total)[1]
			Paint transfer effic.[1]

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
titanium dioxide	13463-67-7	0.25	0.04	0.04
Kaolin	1332-58-7	0.1	0.02	0.02
Silicic acid, aluminum sodium salt	1344-00-9	0.03	0.00	0.00
VOCs		0.04	0.01	0.01
PM[1]		0.23	0.04	0.03

1. PM emissions are the non-volatile solids in the paint. Assumes a conservative paint transfer efficiency of 50%.

SDS File Name:	sds12_champion_ppg_uh 150 hb fl hhwh 1290-1000v_high build latex flat	
Product Manufacturer:	PPG Industries, Inc.	
Product Name:	UH 150 HB FL HHWH 1290-1000V	
Notes:	Liquid coating for industrial applications; used by **spraying.**	

	Actual	**PTE**	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	361	2,634	**Specific Gravity:**
Annual Potential Applied (gal/yr):	30	219	**VOC Content:**
Max Hourly lbs (lb/hr):	0.20	0.70	% Solids[1]
Max Hourly lbs (gal/hr):	0.02	0.06	Solids (total)[1]
			Paint transfer effic.[1]

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
titanium dioxide	13463-67-7	0.1	0.02	0.02
VOCs		0.03	0.01	0.01
PM[1]		1.37E-03	2.69E-04	2.48E-04

1. PM emissions are the non-volatile solids in the paint. Assumes a conservative paint transfer efficiency of 50%. Also, interior p

SDS File Name:	sds13_champion_weld-on_773 low voc pipe cement for abs plastic pipe_	
Product Manufacturer:	IPS Corporation	
Product Name:	WELD-ON 773 Low VOC Pipe Cement for ABS Plastic Pipe	
Notes:	Black, medium syrup liquid that smells of ketone.	

	Actual	**PTE**	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	317	2,323	**Specific Gravity:**
Annual Potential Applied (gal/yr):	43	313	**VOC Content:**
Max Hourly lbs (lb/hr):	0.17	0.62	
Max Hourly lbs (gal/hr):	0.02	0.08	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)

Methyl ethyl ketone[1]	78-93-3	0.55	0.09	0.09
Acetone	67-64-1	0.15	0.03	0.02
VOCs		0.37	0.06	0.06

1. No longer considered a hazardous air pollutant

SDS File Name: sds15_champion_oatey_regular clear cement_05-28-2015
Product Manufacturer: Oatey Company
Product Name: Regular Clear Cement
Notes: For joining PVC pipes. Opaque, gray liquid with solvent odor.

	Actual	PTE	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	347	2,584	**Specific Gravity:**
Annual Potential Applied (gal/yr):	46	344	**VOC Content:**
Max Hourly lbs (lb/hr):	0.19	0.69	
Max Hourly lbs (gal/hr):	0.03	0.09	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
Furan, Tetrahydro-	109-99-9	0.6	0.12	0.10
Acetone	67-64-1	0.25	0.05	0.04
Polyvinyl chloride	9002-86-2	0.2	0.04	0.03
Cyclohexanone	108-94-1	0.15	0.03	0.03
Methyl ethyl ketone[1]	78-93-3	0.15	0.03	0.03
VOCs		0.54	0.10	0.09

1. No longer considered a hazardous air pollutant

SDS File Name: sds16_champion_henkel_loctite pl 510 wood construction adhesive_10-1(
Product Manufacturer: Henkel Corporation
Product Name: Loctite PL 510 Wood Construction Adhesive
Notes: Water based adhesive. Tan colored paste with mild, acrylic odor.

	Actual	PTE	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	20	149	**Specific Gravity:**

Annual Potential Applied (gal/yr):	2	15	**VOC Content:**
Max Hourly lbs (lb/hr):	0.01	0.04	
Max Hourly lbs (gal/hr):	0.00	0.00	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
Furan, Tetrahydro-	109-99-9	0.6	0.01	0.01
Acetone	67-64-1	0.25	0.00	0.00
Polyvinyl chloride	9002-86-2	0.2	0.00	0.00
Cyclohexanone	108-94-1	0.15	0.00	0.00
Methyl ethyl ketone[1]	78-93-3	0.15	0.00	0.00
VOCs		0.04	0.00	0.00

1. No longer considered a hazardous air pollutant

SDS File Name:	sds17_champion_palmer_palmer mirro-mastic_06-26-2015		
Product Manufacturer:	Palmer Products Corporation		
Product Name:	Palmer Mirro-Mastic		
Notes:	Adhesive mastic formulated for adhering plate glass mirror and acrylic mi		
	Actual	**PTE**	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	29	205	**Specific Gravity:**
Annual Potential Applied (gal/yr):	3	21	**VOC Content:**
Max Hourly lbs (lb/hr):	0.02	0.05	
Max Hourly lbs (gal/hr):	0.00	0.01	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
Petroleum distillates, hydrotreated light	64742-47-8	0.11	1.68E-03	1.58E-03
Limestone[1,2]	1317-65-3	0.00002	3.05E-07	2.87E-07
Cellulose microcrystalline	9004-34-6	0.08	1.22E-03	1.15E-03
Quartz[1,2]	14808-60-7	0.00000202	3.08E-08	2.90E-08
VOCs		0.19	2.92E-03	2.75E-03

1. Limestone and quartz are particulate in natural and are controlled 99.5% as they are applied to the interior which is cover
2. 95% transfer efficiency assumed when utlizing caulking gun

SDS File Name:	sds18_champion_dap_alex painters acrylic latex caulk_05-14-2015		
Product Manufacturer:	DAP Products Inc.		
Product Name:	Alex Painters Acrylic Latex Caulk		
Notes:	Caulking compound. White to off-white paste with very slight ammonia o		
	Actual	**PTE**	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	5,249	38,910	**Specific Gravity:**
Annual Potential Applied (gal/yr):	403	2,991	**VOC Content:**
Max Hourly lbs (lb/hr):	2.89	10.36	
Max Hourly lbs (gal/hr):	0.22	0.80	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
Limestone[1]	1317-65-3	0.0375	0.11	0.10
Petroleum distillates	64741-88-4	0.1	0.29	0.26
Diethylene glycol dibenzoate	120-55-8	0.025	0.07	0.07
Solvent ref. light paraffinic	64741-89-5	0.025	0.07	0.07
Quartz[1]	14808-60-7	0.0005	0.00	0.00
Titanium dioxide	13463-67-7	0.01	0.03	0.03
VOCs		0.04	0.11	0.10

1. Assumed 95% transfer efficiency when utlizing caulking gun.

SDS File Name:	sds19_champion_henkel_osi h2u high performance acrylic urethane seal		
Product Manufacturer:	Henkel Corporation		
Product Name:	OSI H2U High Performance Acrylic Urethane Sealant Window, Door & Sidi		
Notes:	Sealant/Caulk. White paste with mild acrylic odor.		
	Actual	**PTE**	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	1,574	11,841	**Specific Gravity:**
Annual Potential Applied (gal/yr):	149	1,121	**VOC Content:**
Max Hourly lbs (lb/hr):	0.88	3.15	
Max Hourly lbs (gal/hr):	0.08	0.30	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)

Limestone[1]	1317-65-3	0.015	0.01	0.01
Titanium dioxide	13463-67-7	0.05	0.04	0.04
Ethylene glycol	107-21-1	0.05	0.04	0.04
White mineral oil (petroleum), highly refined	8042-47-5	0.05	0.04	0.04
Silica, amorphous, fumed, crystal-free[1]	112945-52-5	0.0025	0.00	0.00
Quartz (SiO2)[1]	14808-60-7	0.0005	0.00	0.00
Aluminum hydroxide	21645-51-2	0.01	0.01	0.01
VOCs		0.03	0.03	0.03

1. Assumed 95% transfer efficiency when utlizing caulking gun.

SDS File Name: sds20_champion_henkel_loctite pss acws wh-10oz=295ml_loctite acr cau
Product Manufacturer: Henkel Corporation
Product Name: LOCTITE PSS ACWS WH. 10oz=295ML
Notes: Sealant/caulk. Pasty white, with acrylic odor.

	Actual	PTE	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	26	206	**Specific Gravity:**
Annual Potential Applied (gal/yr):	2	15	**VOC Content:**
Max Hourly lbs (lb/hr):	0.02	0.05	
Max Hourly lbs (gal/hr):	0.00	0.00	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
Limestone[1]	1317-65-3	0.03	4.60E-04	3.96E-04
Quartz (SiO2)[1]	14808-60-7	0.0005	7.67E-06	6.60E-06
Titanium dioxide	13463-67-7	0.01	1.53E-04	1.32E-04
VOCs		0.02	3.00E-04	2.58E-04

1. Assumed 95% transfer efficiency when utlizing caulking gun.

SDS File Name: sds21_champion_crc_rtv silicone sealant - clear (pressurized)_silicone cau
Product Manufacturer: CRC Industries, Inc.
Product Name: RTV Silicone Sealant - Clear (pressurized)
Notes: Sealant and adhesive. Solid paste, translucent in color, with acetic acid c

	Actual	PTE	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	1,561	11,825	**Specific Gravity:**

Annual Potential Applied (gal/yr):	185	1,404	**VOC Content (wt):**
Max Hourly lbs (lb/hr):	0.88	3.15	VOC Content (%)
Max Hourly lbs (gal/hr):	0.10	0.37	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
Polydimethylsiloxane, hydroxy-terminated	70131-67-8	0.7	0.61	0.55
Amorphous silica	7631-86-9	0.13	0.11	0.10
Distilates (petroleum), Hydrotreated Middle	64742-46-7	0.1	0.09	0.08
Ethyltriacetoxysilane	17689-77-9	0.05	0.04	0.04
Methyltriacetoxysilane	4253-34-3	0.05	0.04	0.04
Polydimethylsiloxane	63148-62-9	0.05	0.04	0.04
Nitrogen	7727-37-9	0.03	0.03	0.02
VOCs		0.03	0.03	0.02

SDS File Name:	sds22_champion_spartan_green solutions floor seal and finish_07-30-2015		
Product Manufacturer:	Spartan Chemical Company, Inc.		
Product Name:	Green Solutions Floor Seal and Finish		
Notes:	Acrylic co-polymer based floor seal and finish. No VOCs. White emulsion li		
	Actual	**PTE**	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	3,615	26,626	**Specific Gravity:**
Annual Potential Applied (gal/yr):	425	3,130	**VOC Content (wt):**
Max Hourly lbs (lb/hr):	1.98	7.09	VOC Content (%)
Max Hourly lbs (gal/hr):	0.23	0.83	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
styrene/acrylic copolymer	25987-66-0	0.3	0.59	0.54
trimethylpentanediol monoisobutyrate	25265-77-4	0.05	0.10	0.09
tributoxyethyl phosphate	78-51-3	0.05	0.10	0.09
ethylene copolymer	67892-91-5	0.05	0.10	0.09
propylene glycol	57-55-6	0.01	0.02	0.02
VOCs		0.00	0.00	0.00

SDS File Name:	sds23_champion_firestone_modular water based bonding adhessive wba		
Product Manufacturer:	Firestone Building Products Company		
Product Name:	Modular Water Based Bonding Adhesive WBA 3781		
Notes:	Contact adhesive for bonding EPDM (synthetic rubber) and flashing to w		
	Actual	**PTE**	
Facility Operating Hours (hr/yr):	1,816	8760	**Product Density:**
Annual Potential Applied (lb/yr):	1,284	21,309	**Specific Gravity:**
Annual Potential Applied (gal/yr):	154	2,555	**VOC Content (wt):**
Max Hourly lbs (lb/hr):	0.68	2.43	
Max Hourly lbs (gal/hr):	0.08	0.29	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
Butadiene Styrene Copolymer	"NDA"	0.5	0.34	0.32
1,2-Propanediol	57-55-6	0.01	0.01	0.01
VOCs		0.02	0.01	0.01

SDS File Name:	sds24_champion_carlisle_solvent free epdm bonding adhesive_03-17-201		
Product Manufacturer:	Carlisle SynTec		
Product Name:	Solvent Free EPDM Bonding Adhesive		
Notes:	Moisture cure sealant. Paste with mild, mint odor.		
	Actual	**PTE**	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	324	101,284	**Specific Gravity:**
Annual Potential Applied (gal/yr):	40	12,520	**VOC Content (wt):**
Max Hourly lbs (lb/hr):	7.52	26.97	
Max Hourly lbs (gal/hr):	0.93	3.33	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
Amino Silane	1760-24-3	0.03	0.23	0.00
VOCs		0.01	0.09	0.00

SDS File Name:	sds25_champion_custom building products_polyblend ceramic tile caulk		
Product Manufacturer:	Custom Building Products		
Product Name:	PolyBlend Ceramic Tile Caulk Non Sanded		
Notes:	Sealant. Smooth liquid/paste of various colors with a mild acrylic odor.		
	Actual	**PTE**	
Facility Operating Hours (hr/yr):	1,816	8760	**Product Density:**
Annual Potential Applied (lb/yr):	45	760	**Specific Gravity:**
Annual Potential Applied (gal/yr):	3	57	**VOC Content (wt):**
Max Hourly lbs (lb/hr):	0.02	0.09	
Max Hourly lbs (gal/hr):	0.00	0.01	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
Calcium carbonate[1]	1317-65-3	0.000175	0.00	0.00
1,2-Propylene glycol	57-55-6	0.05	0.00	0.00
Titanium dioxide	13463-67-7	0.015	0.00	0.00
Hydrotreated heavy naphtha (petroleum)	64742-48-9	0.01	0.00	0.00
Carbon black[1]	1333-86-4	0.0000025	0.00	0.00
Silica, crystalline, quartz[1]	14808-60-7	0.0000025	0.00	0.00
VOCs		0.01	0.00	0.00

1. All particulate based emissions;assumed 95% transfer efficiency from trowel application and 99.5% control due to plastic c

SDS File Name:	sds26_champion_custom building products_ployblend sanded grout_03-1		
Product Manufacturer:	Custom Building Products		
Product Name:	PolyBlend Sanded Grout		
Notes:	Sealant. Powder form, until blended with water to form grout.		
	Actual	**PTE**	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	1,350	11,268	**Specific Gravity:**
Annual Potential Applied (gal/yr):	19	39	**VOC Content (wt):**
Max Hourly lbs (lb/hr):	0.84	3.00	% Solids
Max Hourly lbs (gal/hr):	0.01	0.02	Solids (total)

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
Silica, crystalline, quartz	14808-60-7	0.000175	1.46E-04	1.18E-04

Portland cement	65997-15-1	0.0001	8.37E-05	6.75E-05
Gypsum	13397-24-5	0.0000125	1.05E-05	8.44E-06
Calcium carbonate	1317-65-3	0.0000025	2.09E-06	1.69E-06
PM		2.50E-04	2.09E-04	1.69E-04

All emissions are particulate based; assumed 95% transfer efficiency from trowel application and 99.5% control due to plastic

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SDS File Name: sds27_champion_ppg_uh 150 sat wh 2412-0100v_09-14-2015
Product Manufacturer: PPG Industries, Inc.
Product Name: UH 150 SAT WH 2412-0100V
Notes: Liquid coating for industrial applications; used by **spraying.**

	Actual	**PTE**	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	42,960	318,634	**Specific Gravity:**
Annual Potential Applied (gal/yr):	4,220	31,300	**VOC Content:**
Max Hourly lbs (lb/hr):	23.67	84.83	% Solids[1]
Max Hourly lbs (gal/hr):	2.33	8.33	Solids (total)[1]
			Paint transfer effic.[1]

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
titanium dioxide	13463-67-7	0.25	5.92	5.37
3-iodo-2-propynyl butylcarbamate	55406-53-6	0.003	0.07	0.06
methenamine 3-chlorallylochloride	4080-31-3	0.003	0.07	0.06
VOCs		0.04	0.98	0.89
PM[1]		0.21	5.03	4.56

1. PM emissions are the non-volatile solids in the paint. Assumes a conservative paint transfer efficiency of 50%.

SDS File Name: sds28_champion_koppers_coal tar roofing pitch_03-03-2015
Product Manufacturer: Koppers Inc.
Product Name: Coal Tar Roofing Pitch[1]
Notes: Black liquid, with aromatic odor, for building/roofing waterproofing. Appli

	Actual	**PTE**	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	6,863	50,903	**Specific Gravity:**

Annual Potential Applied (gal/yr):	633	4,695	**VOC Content:**[1]
Max Hourly lbs (lb/hr):	3.78	13.55	% Solids[2]
Max Hourly lbs (gal/hr):	0.35	1.25	Solids (total)[2]
			Paint transfer effic.[2]

Component	CAS No.	Max Wt. Fraction[1]	Emissions (lb/hr)	Emissions (T/yr)
HIGH-TEMP. COAL TAR PITCH	65996-93-2	1.00	3.78	3.43
The above listed complex substance contains the following constituents				
Fluoranthene	206-44-0	0.035	0.13	0.12
Phenanthrene	85-01-8	0.032	0.12	0.11
Pyrene	129-00-0	0.026	0.10	0.09
1,2-benzanthracene	56-55-3	0.014	0.05	0.05
1,2-benzphenanthrene	218-01-9	0.014	0.05	0.05
Benzo(a)pyrene	50-32-8	0	0.00	0.00
Benzo(g,h,i)pyrene	191-24-2	0.012	0.05	0.04
Indeno(1,2,3-CD)pyrene	193-39-5	0.0099	0.04	0.03
Benzo(b)fluoranthene	205-99-2	0.0091	0.03	0.03
Dibenzo(a,h)pyrene	189-64-0	0.0087	0.03	0.03
Benzo(j)fluoranthene	205-82-3	0.0064	0.02	0.02
Benzo(k)fluoranthene	207-08-9	0.0061	0.02	0.02
Carbazole	86-74-8	0.0048	0.02	0.02
Acenaphthene	83-32-9	0.0047	0.02	0.02
Dibenzo(a,e)pyrene	192-65-4	0.0037	0.01	0.01
Dibenzo(a,h)anthracene	53-70-3	0.0025	0.01	0.01
Dibenzoa,i)pyrene	189-55-9	0.0025	0.01	0.01
Naphthalene	91-20-3	0	0.00	0.00
5-methylchrysene	369-24-3	0.0013	0.00	0.00
Quinoline	91-22-5	0.0001	0.00	0.00
Diphenyl	92-52-4	0	0.00	0.00
VOCs		0.00	0.00	0.00

1. The product is in a liquid form with a boiling point > 240 °C (464 °F). The process does not reach these temperatures, thus v
2. The liquid product is applied via a paint roller. It is not anticipated that the use of this product, in liquid form, will create a r

Product Manufacturer:	CASA Adhesives, Inc.		
Product Name:	CASA 3600-PT		
Notes:	Industrial roofing felt adhesive. Liquid. Non-flammable, non-toxic, "0" VOC		
	Actual	**PTE**	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	912	7,043	**Specific Gravity:**
Annual Potential Applied (gal/yr):	19	39	**VOC Content:**[1]
Max Hourly lbs (lb/hr):	0.52	1.88	
Max Hourly lbs (gal/hr):	0.01	0.02	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
Water	7732-18-5	0.5	0.26	0.23
Proprietary Mixture	NA	0.6	0.31	0.27
VOCs		0.00	0.00	0.00

1. No VOCs, per 12-20-2015 SDS.

SDS File Name:	sds30_champion_TDS_Chassis_black_paint.pdf		
Product Manufacturer:	Technical Idustrial Sales		
Product Name:	Chassis Black Paint		
Notes:	Frame Paint, protective coating for mfg'd home metal frames. Applied us		
	Actual	**PTE**	
Facility Operating Hours (hr/yr):	1,816	1878	**Product Density:**
Annual Potential Applied (lb/yr):	30,690	113,814	**Specific Gravity:**
Annual Potential Applied (gal/yr):	3,376	12,520	**VOC Content:**
Max Hourly lbs (lb/hr):	16.91	60.60	% Solids[1]
Max Hourly lbs (gal/hr):	1.86	6.67	Solids (total)[1]
			Paint transfer effic.[1]

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
Carbon Black	133-86-4	0.005	0.08	0.08
VOCs		0.06	1.01	0.92
PM[1]		0.05	0.80	0.73

1. PM emissions are the non-volatile solids in the paint. Assumes a conservative paint transfer efficiency of 50%. In addition 55

SDS File Name:	sds35_champion_ppg_flood cwf-uv5 350 voc stain_REPLACEMENT with td		
Product Manufacturer:	PPG Industries, Inc.		
Product Name:	CWF-UV 5 350 VOC FLD466		
Notes:	Exterior stain. Liquid (brown with alcohol-like odor) coating for industrial a		
	Actual	**PTE**	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	337	2,505	**Specific Gravity:**
Annual Potential Applied (gal/yr):	40	297	**VOC Content:**
Max Hourly lbs (lb/hr):	0.19	0.67	% Solids[1]
Max Hourly lbs (gal/hr):	0.02	0.08	Solids (total)[1]
			Paint transfer effic.[1]

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
Solvent naphtha (petroleum), medium aliph.	64742-88-7	0.20	0.04	0.03
Ethanediol	107-21-1	0.16	0.03	0.03
Nonylphenol, branched, ethoxylated	68412-54-4	0.10	0.02	0.02
3-iodo-2-propynyl butylcarbamate	55406-53-6	0.01	0.00	0.00
VOCs		0.35	0.06	0.06
PM[1]		0.14	0.03	0.02

1. PM emissions are the non-volatile solids in the paint. Assumes a conservative paint transfer efficiency of 50%.

SDS File Name:	sds36_champion_specialty adhesives & coating_1038 1038hvs_wood adh		
Product Manufacturer:	Specialty Adhesives Inc.		
Product Name:	1038/1038HVS		
Notes:	A white or cream-colored water-borne polyvinyl acetate emulsion adhes		
	Actual	**PTE**	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	24,500	65,730	**Specific Gravity:**
Annual Potential Applied (gal/yr):	19	39	**VOC Content:**

Max Hourly lbs (lb/hr):	4.88	17.50
Max Hourly lbs (gal/hr):	0.01	0.02

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
Formaldehyde	50-00-0	0.001	0.00	0.01
Acetaldehyde	75-07-0	0.001	0.00	0.01
Benzene	71-43-2	0.001	0.00	0.01
Methanol	67-56-1	0.003	0.01	0.04
Boric Acid	10043-35-3	0.01	0.05	0.12
VOCs		0.002	0.01	0.02

SDS File Name:	sds37_champion_specialty adhesives & coating_7799_vapor barrier tote_	
Product Manufacturer:	Specialty Adhesives Inc.	
Product Name:	7799 VB Primer	
Notes:	A white, water-borne high build primer/**vapor barrier** on gypsum board. **B**	
	Actual	**PTE**
Facility Operating Hours (hr/yr):	1,816	3756
Annual Potential Applied (lb/yr):	19,181	42,680
Annual Potential Applied (gal/yr):	2,110	4,695
Max Hourly lbs (lb/hr):	3.17	11.36
Max Hourly lbs (gal/hr):	0.35	1.25

Product Density:
Specific Gravity:
VOC Content:
% Solids[1]
Solids (total)[1]
Paint transfer effic.[1]

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
Formaldehyde	50-00-0	0.001	0.00	0.01
Acrylamide[1]	79-06-1	0.000005	1.59E-05	4.80E-05
Vinyl Chloride	75-01-4	0.001	0.00	0.01
Nonylphenol ethoxylate, branched	68412-54-4	0.003	0.01	0.03
VOCs		0.004	0.01	0.04
PM[1]		1.43E-03	4.52E-03	1.37E-02

1. PM emissions are the non-volatile solids in the paint. Assumes a conservative paint transfer efficiency of 50%. Also, 99.5% cc

SDS File Name:	sds38_champion_henkel_osi 9.5 oz qdmax001slnwht 12cc_osi quad max_		
Product Manufacturer:	Henkel Corporation		
Product Name:	OSI 9.5OZ QDMAX001SLNWHT 12CC (OSI Quad Max)		
Notes:	Window, door and siding sealant (caulk). White paste with alcohol odor.		
	Actual	**PTE**	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	140	1,122	**Specific Gravity:**
Annual Potential Applied (gal/yr):	12	93	**VOC Content:**
Max Hourly lbs (lb/hr):	0.08	0.30	
Max Hourly lbs (gal/hr):	0.01	0.02	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
Limestone	1317-65-3	0.03	2.50E-03	2.10E-03
Phthalate ester	Proprietary	0.10	8.33E-03	6.99E-03
Silane derivative	Proprietary	0.05	4.17E-03	3.49E-03
Quartz SiO2)	14808-60-7	0.0005	4.17E-05	3.49E-05
VOCs		0.02	2.07E-03	1.74E-03

SDS File Name:	sds40_champion_wilsonart_h20 adhesive_replaces 01-30-2013 MSDS_12-1		
Product Manufacturer:	Wilsonart LLC		
Product Name:	H20 Adhesive		
Notes:	Flooring adhesive for laminate. White liquid, smooth paste with slight amn		
	Actual	**PTE**	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	3,864	28,454	**Specific Gravity:**
Annual Potential Applied (gal/yr):	425	3,130	**VOC Content:**
Max Hourly lbs (lb/hr):	2.11	7.58	
Max Hourly lbs (gal/hr):	0.23	0.83	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)

Resin acids and rosin acids, potassium salts	61790-50-9	0.015	0.03	0.03
Benzene, 1,1'-oxybis-, tetrapropylene derivatives, sulfonated, sodium salts	119345-04-9	0.01	0.02	0.02
VOCs		0.02	0.04	0.04

SDS File Name: sds41_champion_dow chemical co_voramer me 3044 lsocyanatel_part a
Product Manufacturer: Dow Chemical Company
Product Name: VORAMER ME 3044 lsocyanate (Part A - adhesive)
Notes: Ceiling tile two-component adhesive system. Part A = adhesive, Part B = C

	Actual	PTE	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	25,000	187,800	**Specific Gravity:**
Annual Potential Applied (gal/yr):	19	39	**VOC Content:**[3]
Max Hourly lbs (lb/hr):	13.95	50.00	
Max Hourly lbs (gal/hr):	0.01	0.02	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
4,4' -Methylenediphenyl diisocyantate (MDI)[1]	101-68-8	0.50	5.83E-06	2.56E-05
Diphenylmethane Diisocyante, isomers and homologues[2]	9016-87-9	1.00		
VOCs		0.00	0.00	0.00

1. Total MDI calculation from previous permit: (1.4 * 10E-5 lbs MDI / ceiling) * (10 celings / day) * (356 days / year) = 0.05 lb (M
2. Not regulated
3. No VOCs listed

SDS File Name: sds42_champion_dow chemical co_voramer mb 3099 polyol_part b_03-3
Product Manufacturer: Dow Chemical Company
Product Name: VORAMER MB 3099 Polyol (Part B - catalyst)
Notes: Ceiling tile two-component adhesive system. Part A = adhesive, Part B = C

	Actual	PTE	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	23,000	172,150	**Specific Gravity:**
Annual Potential Applied (gal/yr):	19	39	**VOC Content:**

Max Hourly lbs (lb/hr):	12.79	45.83
Max Hourly lbs (gal/hr):	0.01	0.02

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
VOCs		0.00	0.00	0.00

SDS File Name:	sds45_champion_tremco_acoustical sealant 300ml 30 ctg_sun tek sts1000		
Product Manufacturer:	Tremco Canadian Sealants		
Product Name:	Acoustical Sealant 30CTG		
Notes:	Sun Tek STS 1000 Caulk		
	Actual	**PTE**	
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**
Annual Potential Applied (lb/yr):	24	165	**Specific Gravity:**
Annual Potential Applied (gal/yr):	2	12	**VOC Content:**
Max Hourly lbs (lb/hr):	0.01	0.04	
Max Hourly lbs (gal/hr):	0.00	0.00	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)
Clay	1332-58-7	0.03	3.68E-04	3.64E-04
Calcium Carbonate (Limestone)	1317-65-3	0.02	2.45E-04	2.42E-04
Stoddard solvent (mineral spirits)	8052-41-3	0.13	1.59E-03	1.58E-03
Residual oils (petroleum)	64742-62-7	0.10	1.23E-03	1.21E-03
Petroleum distillates	64742-47-8	0.05	6.13E-04	6.06E-04
Crystalline silica (Quartz) /Silica sand	14808-60-7	0.00075	9.19E-06	9.09E-06
Titanium dioxide	13463-67-7	0.01	1.23E-04	1.21E-04
1,2,4-Trimethylbenzene	95-63-6	0.01	1.23E-04	1.21E-04
Nonane	111-84-2	0.01	1.23E-04	1.21E-04
Carbon Black	1333-86-4	0.0005	6.13E-06	6.06E-06
VOCs		0.09	1.14E-03	1.12E-03

453.592	grams/pound
0.453592	kilograms/pound
3.78541	liters/US gallon
8.34	weight (lbs) of US gallon of water

Potential	Daily Operating Hours
	Days worked per year
	Max floors per day

2015

7.70 lbs/gal
0.92
4.04 lb/gal 484 g/l

PtE Emissions (lb/hr)	PtE Emissions (T/yr)	HAP	TAP
0.26	0.48		X
0.13	0.24		X
0.13	0.24		X
0.10	0.19		
0.10	0.19		X
0.03	0.05		
0.27	0.51		

p latex sealant_05-18-2015

12.94 lbs/gal
1.55
0.59 lb/gal 71 g/l

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
0.03	0.05		
0.05	0.09		

---

oad_06-30-2015

12.94 lbs/gal
1.55
0.26 lb/gal[1] 31.5 g/l[1]

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
0.94	1.77		
0.38	0.72		

ere's a certain product they know they'll be using, or if the worst case (31.5 g/l) shall be assumed.

---

irestop_05-18-2015

11.25 lbs/gal
1.35
0.08 lb/gal 9 g/l
1
99

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
0.08	0.14		
0.00	0.00		

d thus does not volatilize. No associated VOC emissions.

---

ite_08-18-2015

11.18 lbs/gal
1.34
0.00 lb/gal
51.297% by wt.
5.74 lbs/gal
50%

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
0.14	0.26		
4.19E-05	7.87E-05		X
0.02	0.03		
0.00	0.00		
7.17E-04	1.35E-03		

product covered while in use assimed 99.5% control.

-30-2015

12.02 lbs/gal
1.44
0.40 lb/gal
54.651% by wt.
6.57 lbs/gal
50%

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
25.04	47.03		
3.33	6.26		
0.14	0.26		

product covered while in use assimed 99.5% control.

2015

10.01 lbs/gal
1.20
0.42 lb/gal
45.388% by wt.
4.54 lbs/gal
50%

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
0.15	0.27		
0.06	0.11		X
0.02	0.03		
0.02	0.05		
0.13	0.25		

1290_08-14-2015

12.02 lbs/gal
1.44
0.42 lb/gal
54.961% by wt.
6.61 lbs/gal
50%

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
0.07	0.13		
0.02	0.05		
9.63E-04	1.81E-03		

product covered while in use assimed 99.5% control.

_04-07-2015

7.42 lbs/gal
0.89
2.71 lb/gal 325 g/l

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP

0.34	0.64		X
0.09	0.17		X
0.23	0.42		

7.51 lbs/gal
0.90
4.07 lb/gal 488 g/l

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
0.41	0.78		X
0.17	0.32		X
0.14	0.26		
0.10	0.19		X
0.10	0.19		X
0.37	0.70		

)-2014

10.21 lbs/gal
1.224

0.39 lb/gal 47 g/l

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
0.02	0.04		X
0.01	0.02		X
0.01	0.01		
0.01	0.01		X
0.01	0.01		X
0.00	0.00		

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irror to various substrates. Black colored, heavy paste/liquid.

10.01 lbs/gal
1.2
1.92 lb/gal 230 g/l

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
6.01E-03	1.13E-02		
1.09E-06	2.05E-06		X
4.37E-03	8.21E-03		
1.10E-07	2.07E-07		X
1.05E-02	1.97E-02		

ed by plastic.

ıdor.

13.01 lbs/gal
1.56
0.49 lb/gal 58.4 g/l

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
0.39	0.73		X
1.04	1.95		
0.26	0.49		
0.26	0.49		
0.01	0.01		X
0.10	0.19		
0.39	0.73		

ant window, door & siding white 101_10-28-2014

ıg White 001

10.57 lbs/gal
1.267
0.35 lb/gal 42 g/l

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP

0.05	0.09		X
0.16	0.30		
0.16	0.30		X
0.16	0.30		
0.01	0.01		
0.00	0.00		X
0.03	0.06		
0.10	0.20		

lk_12-01-2014

14.09 lbs/gal
1.690
0.28 lb/gal 33 g/l

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
1.65E-03	3.10E-03		X
2.75E-05	5.16E-05		X
5.50E-04	1.03E-03		
1.07E-03	2.02E-03		

ılk Q240_12-04-2013

ɔdor.

8.42 lbs/gal
1.010

0.25 lb/gal
3%

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
2.20	4.14		
0.41	0.77		
0.31	0.59		
0.16	0.30		
0.16	0.30		
0.16	0.30		
0.09	0.18		
0.09	0.18		

---

iquid with mild odor.

8.51 lbs/gal
1.020
0.00 lb/gal
0%

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
2.13	3.99		
0.35	0.67		
0.35	0.67		
0.35	0.67		
0.07	0.13		
0.00	0.00		

a 3781_06-20-2013

ood, etc., for modular installations. White liquid with slight odor.

8.34 lbs/gal
1.000
0.14 lb/gal 17 g/l

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
1.22	5.33		
0.02	0.11		
0.04	0.18		

5

8.09 lbs/gal
0.970
0.09 lb/gal 11.28 g/l

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
0.81	1.52		
0.31	0.59		

non sanded_11-13-2013

13.34 lbs/gal
1.600
0.13 lb/gal 15 g/l

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
0.00	0.00		X
0.00	0.02		
0.00	0.01		
0.00	0.00		
0.00	0.00		X
0.00	0.00		X
0.00	0.00		

covering during usage

15-2013

Water to grout mix ratio: (1.89 L water : 25 Lbs grout)

22.52 lbs/gal
2.7 (dry mix)
NA lb/gal NA g/l
100% by wt.
22.52 lbs/gal

1.89 L water
25 Lbs grout

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
5.25E-04	9.86E-04		X

3.00E-04	5.63E-04		X
3.75E-05	7.04E-05		X
7.50E-06	1.41E-05		X
7.50E-04	1.41E-03		

: covering during usage

10.18 lbs/gal
1.22
0.42 lb/gal
42.5% by wt.
4.33 lbs/gal
50%

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
21.21	39.83		
0.25	0.48		
0.25	0.48		
3.50	6.57		
18.03	33.85		

---

ed with rollers.

10.84 lbs/gal
1.30

lb/gal
by wt.
lbs/gal

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
13.55	25.45		
0.47	0.89		
0.43	0.81		
0.35	0.66		
0.19	0.36		
0.19	0.36		
0.00	0.00		X
0.16	0.31		
0.13	0.25		
0.12	0.23		
0.12	0.22		
0.09	0.16		
0.08	0.16		
0.07	0.12		
0.06	0.12		
0.05	0.09		
0.03	0.06		
0.03	0.06		
0.00	0.00		X
0.02	0.03		
0.00	0.00		
0.00	0.00		X
0.00	0.00		

olatilization does not occur. No associated VOC emissions.
espirable dust. No associated PM emissions.

:.

10.01 lbs/gal
1.200
0.00 lb/gal 0 g/l

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
0.94	1.76		
1.13	2.11		
0.00	0.00		

---

sing airless spray guns.

9.09 lbs/gal
1.090
0.54 lb/gal 65 g/l
21% by wt.
1.91 lbs/gal
50%

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
0.30	0.28		X
3.62	3.40		
2.86	2.69		

5% control is applied as the sides of the painting area of the frames is covered by 8 ft plastic on 2 sides

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s_12-09-2015

pplications; used by **spraying.**

8.42 lbs/gal
1.01
2.92 lb/gal 350 g/l Low VOC, 350 g/L, per TDS (included in 12-09-2015 SDS).
28.048% by wt.
2.36 lbs/gal
50%

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
0.13	0.25		
0.11	0.20		X
0.07	0.13		
0.01	0.01		
0.23	0.43		
0.09	0.18		

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nesive_2016 tds-sds REPLACEMENT

sive. Suggested for wood to wood, or wood to gypsumboard bonding. Roller coater application.

9.09 lbs/gal
1.09
0.02 lb/gal 2.19 g/l

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
0.02	0.03		X
0.02	0.03		X
0.02	0.03		X
0.05	0.10		X
0.18	0.33		
0.04	0.07		

_2016 tds-sds REPLACEMENT

rush, roller or airless spray application.

9.09 lbs/gal
1.09
0.04 lb/gal 4.20 g/l
57% by wt.
5.18 lbs/gal
50%

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
0.01	0.02		X
5.68E-05	1.07E-04		X
0.01	0.02		X
0.03	0.06		
0.04	0.08		
1.62E-02	3.04E-02		

ontrolled due to interior paint being plastic covered

10-20-2015

12.09 lbs/gal
1.45
0.30 lb/gal 36 g/l

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
0.01	0.02		X
0.03	0.06		
0.01	0.03		
1.49E-04	2.80E-04		X
0.01	0.01		

1-2015

nonia-like odor.

9.09 lbs/gal
1.09
0.17 lb/gal 20 g/l

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP

0.11	0.00		
0.08	0.00		
0.14	0.00		

a me iso_06-11-2015

Catalyst. Both are sprayed onto ceiling rafter simultaneously through a dual nozzle spray gun.

10.34 lbs/gal
1.24
0.00 lb/gal 0 g/l

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
5.83E-06	2.56E-05		X
0.00	0.00		

IDI) / year

:1-2015

Catalyst. Both are sprayed onto ceiling rafter simultaneously through a dual nozzle spray gun.

8.51 lbs/gal
1.02
0.00 lb/gal g/l

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
0.00	0.00		

) caulk_06-25-2014_Combined with new

13.51 lbs/gal
1.62
1.25 lb/gal 150 g/l

PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
1.32E-03	2.47E-03		X
8.78E-04	1.65E-03		X
5.71E-03	1.07E-02		
4.39E-03	8.25E-03		
2.20E-03	4.12E-03		
3.29E-05	6.18E-05		X
4.39E-04	8.25E-04		
4.39E-04	8.25E-04		
4.39E-04	8.25E-04		X
2.20E-05	4.12E-05		X
4.07E-03	7.64E-03		

12
313
10

Actual	Daily Operating Hours	8
	Days worked per year	227
	Max floors per day	1.86

Emissions	lb/hr	T/yr
PM	-	-
VOC	1.24	2.42
HAPs	-	-

TAP	CAS No	585/586	Max lb/hr	t/yr	Avg lb/hr
Methyl ethyl ketone	78-93-3	585	0.58	1.08	0.289
Acetone	67-64-1	585	0.40	0.76	0.202
Cyclohexanone	108-94-1	585	0.21	0.40	0.106
Limestone	1317-65-3	585	8.59E-06	1.61E-05	4.30E-06
Quartz	14808-60-7	585	5.25E-04	9.86E-04	2.63E-04
Portland cement	65997-15-1	585	3.00E-04	5.63E-04	1.50E-04
Gypsum	13397-24-5	585	3.75E-05	7.04E-05	1.88E-05
Benzo(a)pyrene	50-32-8	586	0.00E+00	0.00E+00	0.00E+00
Naphthalene	91-20-3	585	0.00E+00	0.00E+00	0.00E+00
Diphenyl	92-52-4	585	0.00E+00	0.00E+00	0.00E+00
Formaldehyde	50-00-0	586	0.02	0.03	0.008
Acetaldehyde	75-07-0	586	0.02	0.03	0.008
Benzene	71-43-2	586	0.02	0.03	0.008
Methanol	67-56-1	585	0.05	0.10	0.026
4,4' -Methylenediphenyl diisocyantate (MDI)1	101-68-8	585	5.83E-06	2.56E-05	2.92E-06
Furan, Tetrahydro-	109-99-9	585	0.69	1.30	0.347

SDS File Name: sds2_champion_oatey_PVC Medium Clear Cement_PVC Cement_05-27-2015
Product Manufacturer: Oatey Co.
Product Name: PVC Medium Clear Cement
Notes: For joining PVC pies. Clear, translucent liquid with solvent odor.

	Actual	PTE				
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	7.70	lbs/gal	
Annual Potential Applied (lb/yr):	270	1928.08	**Specific Gravity:**	0.92		
Annual Potential Applied (gal/yr):	35	250.4	**VOC Content:**	4.04	lb/gal	484 g/l
Max Hourly lbs (lb/hr):	0	0.513333333				
Max Hourly lbs (gal/hr):	0	0.066666667				

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
Furan, Tetrahydro-	109-99-9	0.5	0.07161	0.067375	0.2566667	0.48202	0	X
Acetone	67-64-1	0.25	0.035805	0.0336875	0.1283333	0.24101	0	X
Methyl ethyl ketone*	78-93-3	0.25	0.035805	0.0336875	0.1283333	0.24101	0	X
Polyvinyl chloride	9002-86-2	0.2	0.028644	0.02695	0.1026667	0.192808	0	0
Cyclohexanone	108-94-1	0.2	0.028644	0.02695	0.1026667	0.192808	0	X
Fumed Silica	112945-52-5	0.05	0.007161	0.0067375	0.0256667	0.048202	0	0
VOCs		0.524568461	0.07512869	0.0706856	0.2692785	0.505705	0	0

1. No longer considered a hazardous air pollutant

SDS File Name: sds7_champion_hilti_FS-One Max-hilti firestop filler mastic CFS-FIL_FS one Firestop_05-18-2015
Product Manufacturer: Hilti, Inc.
Product Name: Hilti FS-ONE MAX - Hilti Firestop Filler Mastic CFS-FIL
Notes: Red, pasty material.

	Actual	PTE				
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:1**	11.25	lbs/gal	
Annual Potential Applied (lb/yr):	37	11535.615	**Specific Gravity:**	1.35		
Annual Potential Applied (gal/yr):	3	1025.388	**VOC Content:**	0.08	lb/gal	9 g/l
Max Hourly lbs (lb/hr):	1	3.07125	% Volatiles	1.00		
Max Hourly lbs (gal/hr):	0	0.273	% Non-Volatile	99.00		

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
propane-1,2-diol	57-55-6	0.03	0.02	0.00	0.08	0.14	0.00	0.00
VOCs2		0.00	0.00	0.00	0.00	0.00	0.00	0.00

1. Product density information "not determined" in sds.
2. The product is in a pasty form with a boiling point greater than 212 °F. The process does not reach these temperatures and thus does not volatilize. No associated VOC emissions.

SDS File Name: sds13_champion_weld-on_773 low voc pipe cement for abs plastic pipe_04-07-2015
Product Manufacturer: IPS Corporation
Product Name: WELD-ON 773 Low VOC Pipe Cement for ABS Plastic Pipe
Notes: Black, medium syrup liquid that smells of ketone.

	Actual	PTE				
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	7.42	lbs/gal	
Annual Potential Applied (lb/yr):	317	2323.2738	**Specific Gravity:**	0.89		
Annual Potential Applied (gal/yr):	43	313	**VOC Content:**	2.71	lb/gal	325 g/l
Max Hourly lbs (lb/hr):	0	0.61855				
Max Hourly lbs (gal/hr):	0	0.083333333				

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
Methyl ethyl ketone1	78-93-3	0.55	0.09	0.09	0.34	0.64	0.00	X
Acetone	67-64-1	0.15	0.03	0.02	0.09	0.17	0.00	X
VOCs		0.3654053	0.06	0.06	0.23	0.42	0.00	0.00

SDS File Name: sds15_champion_oatey_regular clear cement_05-28-2015
Product Manufacturer: Oatey Company
Product Name: Regular Clear Cement
Notes: For joining PVC pipes. Opaque, gray liquid with solvent odor.

	Actual	PTE				
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	7.51	lbs/gal	
Annual Potential Applied (lb/yr):	347	2584.3158	**Specific Gravity:**	0.90		
Annual Potential Applied (gal/yr):	46	344.3	**VOC Content:**	4.07	lb/gal	488 g/l
Max Hourly lbs (lb/hr):	0	0.68805				
Max Hourly lbs (gal/hr):	0	0.091666667				

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
Furan, Tetrahydro-	109-99-9	0.6	0.12	0.10	0.41	0.78	0.00	X
Acetone	67-64-1	0.25	0.05	0.04	0.17	0.32	0.00	X
Polyvinyl chloride	9002-86-2	0.2	0.04	0.03	0.14	0.26	0.00	0.00
Cyclohexanone	108-94-1	0.15	0.03	0.03	0.10	0.19	0.00	X
Methyl ethyl ketone1	78-93-3	0.15	0.03	0.03	0.10	0.19	0.00	X
VOCs		0.542573778	0.10	0.09	0.37	0.70	0.00	0.00

1. No longer considered a hazardous air pollutant

SDS File Name: sds16_champion_henkel_loctite pl 510 wood construction adhesive_10-10-2014
Product Manufacturer: Henkel Corporation
Product Name: Loctite PL 510 Wood Construction Adhesive
Notes: Water based adhesive. Tan colored paste with mild, acrylic odor.

	Actual	PTE			
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	10.21 lbs/gal	
Annual Potential Applied (lb/yr):	20	149.1593779	**Specific Gravity:**	1.22	
Annual Potential Applied (gal/yr):	2	14.611779	**VOC Content:**	0.39 lb/gal	47 g/l
Max Hourly lbs (lb/hr):	0	0.039712294			
Max Hourly lbs (gal/hr):	0	0.00389025			

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
Furan, Tetrahydro-	109-99-9	0.6	0.01	0.01	0.02	0.04	0.00	X
Acetone	67-64-1	0.25	0.00	0.00	0.01	0.02	0.00	X
Polyvinyl chloride	9002-86-2	0.2	0.00	0.00	0.01	0.01	0.00	0.00
Cyclohexanone	108-94-1	0.15	0.00	0.00	0.01	0.01	0.00	X
Methyl ethyl ketone1	78-93-3	0.15	0.00	0.00	0.01	0.01	0.00	X
VOCs		0.038423589	0.00	0.00	0.00	0.00	0.00	0.00

1. No longer considered a hazardous air pollutant

SDS File Name: sds17_champion_palmer_palmer mirro-mastic_06-26-2015
Product Manufacturer: Palmer Products Corporation
Product Name: Palmer Mirro-Mastic
Notes: Adhesive mastic formulated for adhering plate glass mirror and acrylic mirror to various substrates. Black colored, heavy paste/liquid.

	Actual	PTE			
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	10.01 lbs/gal	
Annual Potential Applied (lb/yr):	29	205.2416621	**Specific Gravity:**	1.20	
Annual Potential Applied (gal/yr):	3	20.50776	**VOC Content:**	1.92 lb/gal	230 g/l
Max Hourly lbs (lb/hr):	0	0.05464368			
Max Hourly lbs (gal/hr):	0	0.00546			

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
Petroleum distillates, hydrotreated light	64742-47-8	0.11	0.00	0.00	0.01	0.01	0.00	0.00
Limestone	1317-65-3	0.00002	0.00	0.00	0.00	0.00	0.00	X
Cellulose microcrystalline	9004-34-6	0.08	0.00	0.00	0.00	0.01	0.00	0.00
Quartz	14808-60-7	0.00000202	0.00	0.00	0.00	0.00	0.00	X
VOCs		0.191790936	0.00	0.00	0.01	0.02	0.00	0.00

SDS File Name: sds23_champion_firestone_modular water based bonding adhesive wba 3781_06-20-2013
Product Manufacturer: Firestone Building Products Company
Product Name: Modular Water Based Bonding Adhesive WBA 3781
Notes: Contact adhesive for bonding EPDM (synthetic rubber) and flashing to wood, etc., for modular installations. White liquid with slight odor.

	Actual	PTE			
Facility Operating Hours (hr/yr):	1,816	8760	**Product Density:**	8.34 lbs/gal	
Annual Potential Applied (lb/yr):	1,284	21308.7	**Specific Gravity:**	1.00	
Annual Potential Applied (gal/yr):	154	2555	**VOC Content (wt):**	0.14 lb/gal	17 g/l
Max Hourly lbs (lb/hr):	1	2.4325			
Max Hourly lbs (gal/hr):	0	0.291666667			

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
Butadiene Styrene Copolymer	"NDA"	0.5	0.34	0.32	1.22	5.33	0.00	0.00
1,2-Propanediol	57-55-6	0.01	0.01	0.01	0.02	0.11	0.00	0.00
VOCs		0.017011022	0.01	0.01	0.04	0.18	0.00	0.00

SDS File Name: sds24_champion_carlisle_solvent free epdm bonding adhesive_03-17-2015
Product Manufacturer: Carlisle SynTec
Product Name: Solvent Free EPDM Bonding Adhesive
Notes: Moisture cure sealant. Paste with mild, mint odor.

	Actual	PTE			
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	8.09 lbs/gal	
Annual Potential Applied (lb/yr):	324	101284.296	**Specific Gravity:**	0.97	
Annual Potential Applied (gal/yr):	40	12520	**VOC Content (wt):**	0.09 lb/gal	11.28 g/l
Max Hourly lbs (lb/hr):	8	26.966			
Max Hourly lbs (gal/hr):	1	3.333333333			

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
Amino Silane	1760-24-3	0.03	0.23	0.00	0.81	1.52	0.00	0.00
VOCs		0.011636406	0.09	0.00	0.31	0.59	0.00	0.00

SDS File Name: sds26_champion_custom building products_ployblend sanded grout_03-15-2013
Product Manufacturer: Custom Building Products
Product Name: PolyBlend Sanded Grout
Notes: Sealant. Powder form, until blended with water to form grout.

	Actual	PTE			
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	22.52 lbs/gal	
Annual Potential Applied (lb/yr):	1,350	1,268	**Specific Gravity:**	2.70 (dry mix)	
Annual Potential Applied (gal/yr):	19	91	**VOC Content (wt):**	NA lb/gal	NA g/l
Max Hourly lbs (lb/hr):	1	3	% Solids	1.00 by wt.	
Max Hourly lbs (gal/hr):	0.01	0.05	Solids (total)	22.52 lbs/gal	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
Silica, crystalline, quartz	14808-60-7	0.000175	0.00	0.00	0.00	0.00	0.00	X
Portland cement	65997-15-1	0.0001	0.00	0.00	0.00	0.00	0.00	X
Gypsum	13397-24-5	0.0000125	0.00	0.00	0.00	0.00	0.00	X
Calcium carbonate	1317-65-3	0.0000025	0.00	0.00	0.00	0.00	0.00	X
PM1		0.00025	0.00	0.00	0.00	0.00	0.00	0.00

1. PM emissions would likely only occur during the grout/water mixing process and are assumed to be negligible.

SDS File Name: sds28_champion_koppers_coal tar roofing pitch_03-03-2015
Product Manufacturer: Koppers Inc.
Product Name: Coal Tar Roofing Pitch[1]
Notes: Black liquid, with aromatic odor, for building/roofing waterproofing. Applied with rollers.

Water to grout mix ratio: (1.89 L water : 25 Lbs grout)
1.89 L water
25 Lbs grout

	Actual	PTE			
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	10.84	lbs/gal
Annual Potential Applied (lb/yr):	6,863	50903.19	**Specific Gravity:**	1.30	
Annual Potential Applied (gal/yr):	633	4695	**VOC Content:**[1]	0.00	lb/gal
Max Hourly lbs (lb/hr):	4	13.5525	% Solids[2]	0.00	by wt.
Max Hourly lbs (gal/hr):	0	1.25	Solids (total)[2]	0.00	lbs/gal
			Paint transfer effic.[2]	0.00	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
HIGH-TEMP. COAL TAR PITCH	65996-93-2	1.00	3.78	3.43	13.55	25.45	0.00	0.00
The above listed complex substance contains the following constituents								
Fluoranthene	206-44-0	0.035	0.13	0.12	0.47	0.89	0.00	0.00
Phenanthrene	85-01-8	0.032	0.12	0.11	0.43	0.81	0.00	0.00
Pyrene	129-00-0	0.026	0.10	0.09	0.35	0.66	0.00	0.00
1,2-benzanthracene	56-55-3	0.014	0.05	0.05	0.19	0.36	0.00	0.00
1,2-benzphenanthrene	218-01-9	0.014	0.05	0.05	0.19	0.36	0.00	0.00
Benzo(a)pyrene	50-32-8	0	0.00	0.00	0.00	0.00	0.00	X
Benzo(g,h,i)pyrene	191-24-2	0.012	0.05	0.04	0.16	0.31	0.00	0.00
Indeno(1,2,3-CD)pyrene	193-39-5	0.0099	0.04	0.03	0.13	0.25	0.00	0.00
Benzo(b)fluoranthene	205-99-2	0.0091	0.03	0.03	0.12	0.23	0.00	0.00
Dibenzo(a,h)pyrene	189-64-0	0.0087	0.03	0.03	0.12	0.22	0.00	0.00
Benzo(j)fluoranthene	205-82-3	0.0064	0.02	0.02	0.09	0.16	0.00	0.00
Benzo(k)fluoranthene	207-08-9	0.0061	0.02	0.02	0.08	0.16	0.00	0.00
Carbazole	86-74-8	0.0048	0.02	0.02	0.07	0.12	0.00	0.00
Acenaphthene	83-32-9	0.0047	0.02	0.02	0.06	0.12	0.00	0.00
Dibenzo(a,e)pyrene	192-65-4	0.0037	0.01	0.01	0.05	0.09	0.00	0.00
Dibenzo(a,h)anthracene	53-70-3	0.0025	0.01	0.01	0.03	0.06	0.00	0.00
Dibenzoa,j)pyrene	189-55-9	0.0025	0.01	0.01	0.03	0.06	0.00	0.00
Naphthalene	91-20-3	0	0.00	0.00	0.00	0.00	0.00	X
5-methylchrysene	369-24-3	0.0013	0.00	0.00	0.02	0.03	0.00	0.00
Quinoline	91-22-5	0.0001	0.00	0.00	0.00	0.00	0.00	0.00
Diphenyl	92-52-4	0	0.00	0.00	0.00	0.00	0.00	X
VOCs		0	0.00	0.00	0.00	0.00	0.00	0.00

1. The product is in a liquid form with a boiling point > 240 °C (464 °F). The process does not reach these temperatures, thus volatilization does not occur. No associated VOC emissions.
2. The liquid product is applied via a paint roller. It is not anticipated that the use of this product, in liquid form, will create a respirable dust. No associated PM emissions.

SDS File Name: sds29_champion_casa adhesive inc_casa 3600-pt_12-20-2015
Product Manufacturer: CASA Adhesives, Inc.
Product Name: CASA 3600-PT
Notes: Industrial roofing felt adhesive. Liquid. Non-flammable, non-toxic, "0" VOC.

	Actual	PTE				
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	10.01	lbs/gal	
Annual Potential Applied (lb/yr):	912	7042.5	**Specific Gravity:**	1.20		
Annual Potential Applied (gal/yr):	19	39.125	**VOC Content:**[1]	0.00	lb/gal	0 g/l
Max Hourly lbs (lb/hr):	1	1.875				
Max Hourly lbs (gal/hr):	0	0.021544604				

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
Water	7732-18-5	0.5	0.26	0.23	0.94	1.76	0.00	0.00
Proprietary Mixture	NA	0.6	0.31	0.27	1.13	2.11	0.00	0.00
VOCs		0	0.00	0.00	0.00	0.00	0.00	0.00

1. No VOCs, per 12-20-2015 SDS.

SDS File Name: sds36_champion_specialty adhesives & coating_1038 1038hvs_wood adhesive_2016 tds-sds REPLACEMENT
Product Manufacturer: Specialty Adhesives Inc.
Product Name: 1038/1038HVS
Notes: A white or cream-colored water-borne polyvinyl acetate emulsion adhesive. Suggested for wood to wood, or wood to gypsumboard bonding. Roller coater application.

	Actual	PTE				
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	9.09	lbs/gal	
Annual Potential Applied (lb/yr):	24,500	65730	**Specific Gravity:**	1.09		
Annual Potential Applied (gal/yr):	19	39	**VOC Content:**	0.02	lb/gal	2.19 g/l
Max Hourly lbs (lb/hr):	5	17.5				
Max Hourly lbs (gal/hr):	0.01	0.02				

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
Formaldehyde	50-00-0	0.001	0.00	0.01	0.02	0.03	0.00	X
Acetaldehyde	75-07-0	0.001	0.00	0.01	0.02	0.03	0.00	X
Benzene	71-43-2	0.001	0.00	0.01	0.02	0.03	0.00	X
Methanol	67-56-1	0.003	0.01	0.04	0.05	0.10	0.00	X
Boric Acid	10043-35-3	0.01	0.05	0.12	0.18	0.33	0.00	0.00
VOCs		0.002010477	0.01	0.02	0.04	0.07	0.00	0.00

SDS File Name: sds40_champion_wilsonart_h20 adhesive_replaces 01-30-2013 MSDS_12-11-2015
Product Manufacturer: Wilsonart LLC
Product Name: H20 Adhesive
Notes: Flooring adhesive for laminate. White liquid, smooth paste with slight ammonia-like odor.

	Actual	PTE			
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	9.09 lbs/gal	
Annual Potential Applied (lb/yr):	3,864	28453.578	**Specific Gravity:**	1.09	
Annual Potential Applied (gal/yr):	425	3130	**VOC Content:**	0.17 lb/gal	20 g/l
Max Hourly lbs (lb/hr):	2	7.5755			
Max Hourly lbs (gal/hr):	0	0.833333333			

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
Resin acids and rosin acids, potassium salts	61790-50-9	0.015	0.03	0.03	0.11	0.00	0.00	0.00
Benzene, 1,1'-oxybis-, tetrapropylene derivatives, sulfonated, sodium salts	119345-04-9	0.010	0.02	0.02	0.08	0.00	0.00	0.00
VOCs		0.018	0.04	0.04	0.14	0.00	0.00	0.00

SDS File Name: sds41_champion_dow chemical co_voramer me 3044 isocyanatel_part a me iso_06-11-2015
Product Manufacturer: Dow Chemical Company
Product Name: VORAMER ME 3044 Isocyanate (Part A - adhesive)
Notes: Ceiling tile two-component adhesive system. Part A = adhesive, Part B = Catalyst. Both are sprayed onto ceiling rafter simultaneously through a dual nozzle spray gun.

	Actual	PTE			
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	10.34 lbs/gal	
Annual Potential Applied (lb/yr):	25,000	187800	**Specific Gravity:**	1.24	
Annual Potential Applied (gal/yr):	19	39.125	**VOC Content:3**	0.00 lb/gal	0 g/l
Max Hourly lbs (lb/hr):	14	50			
Max Hourly lbs (gal/hr):	0	0.021544604			

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
4,4'-Methylenediphenyl diisocyantate (MDI)1	101-68-8	0.500	0.00	0.00	0.00	0.00	0.00	X
Diphenylmethane Diisocyante, isomers and homologues2	9016-87-9	1.000					0.00	0.00
VOCs		0.000	0.00	0.00	0.00	0.00	0.00	0.00

1. Total MDI calculation from previous permit: (1.4 * 10E-5 lbs MDI / ceiling) * (10 celings / day) * (356 days / year) = 0.05 lb (MDI) / year
2. Not regulated
3. No VOCs listed

SDS File Name: sds42_champion_dow chemical co_voramer mb 3099 polyol_part b_03-31-2015
Product Manufacturer: Dow Chemical Company
Product Name: VORAMER MB 3099 Polyol (Part B - catalyst)
Notes: Ceiling tile two-component adhesive system. Part A = adhesive, Part B = Catalyst. Both are sprayed onto ceiling rafter simultaneously through a dual nozzle spray gun.

	Actual	PTE			
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	8.51 lbs/gal	
Annual Potential Applied (lb/yr):	23,000	172150	**Specific Gravity:**	1.02	
Annual Potential Applied (gal/yr):	19	39.125	**VOC Content:**	0.00 lb/gal	0 g/l
Max Hourly lbs (lb/hr):	13	45.83333333			
Max Hourly lbs (gal/hr):	0	0.021544604			

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
VOCs	0	0	0.00	0.00	0.00	0.00	0.00	0.00

Emissions	lb/hr	T/yr
PM	-	-
VOC	1.03	1.94
HAPs	-	-

TAS	CAS No	585/586	Max lb/hr	t/yr	Avg lb/hr
Limestone	1317-65-3	585	0.45	0.84	0.224
Quartz	14808-60-7	585	0.01	0.01	3.47E-03
Ethylene glycol	107-21-1	585	0.16	0.30	7.88E-02
Carbon black	1333-86-4	585	2.22E-05	4.22E-05	1.11E-05
Clay	1332-58-7	585	1.32E-03	2.47E-03	6.59E-04
Nonane	111-84-2	585	4.39E-04	8.25E-04	2.20E-04

SDS File Name: sds5_champion_hilti_hilti firestop acrylic sealant CFS-S ACR CP 606_firestop latex sealant_05-18-2015
Product Manufacturer: Hilti, Inc.
Product Name: Hilti Firestop Acrylic Sealant CFS-S ACR
Notes: Sealant in a pasty form.

	Actual	PTE				
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	12.94	lbs/gal	
Annual Potential Applied (lb/yr):	533	3947.438625	**Specific Gravity:**	1.55		
Annual Potential Applied (gal/yr):	41	305.175	**VOC Content:**	0.59	lb/gal	71 g/l
Max Hourly lbs (lb/hr):	0	1.05096875				
Max Hourly lbs (gal/hr):	0	0.08125				

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
propane-1,2-diol	57-55-6	0.03	0.01	0.01	0.03	0.05	0.00	0.00
VOCs		0.05	0.01	0.01	0.05	0.09	0.00	0.00

SDS File Name: sds6_champion_hilti_hilti firestop putty bandage CFS-P BA_firestop putty pad_06-30-2015
Product Manufacturer: Hilti, Inc.
Product Name: Hilti Firestop Putty Bandage CDS-P BA
Notes: Red, pasty material.

	Actual	PTE				
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	12.94	lbs/gal	
Annual Potential Applied (lb/yr):	9,313	70851.4625	**Specific Gravity:**	1.55		
Annual Potential Applied (gal/yr):	720	5477.5	**VOC Content:**	0.26	lb/gal[1]	31.5 g/l[1]
Max Hourly lbs (lb/hr):	5	18.86354167				
Max Hourly lbs (gal/hr):	0	1.458333333				

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
tris(2-ethylhexyl) phosphate	78-42-2	0.05	0.26	0.23	0.94	1.77	0.00	0.00
VOCs		0.02	0.11	0.09	0.38	0.72	0.00	0.00

1. The sds lists three different VOC contents for CP 617-619, the largest of which is 31.5 g/l (CP 618). Facility to determine if there's a certain product they know they'll be using, or if the worst case (31.5 g/l) shall be assumed.

SDS File Name: sds18_champion_dap_alex painters acrylic latex caulk_05-14-2015
Product Manufacturer: DAP Products Inc.
Product Name: Alex Painters Acrylic Latex Caulk
Notes: Caulking compound. White to off-white paste with very slight ammonia odor.

	Actual	PTE				
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	13.01	lbs/gal	
Annual Potential Applied (lb/yr):	5,249	38910.39844	**Specific Gravity:**	1.56		
Annual Potential Applied (gal/yr):	403	2990.715	**VOC Content:**	0.49	lb/gal	58.4 g/l
Max Hourly lbs (lb/hr):	3	10.359531				
Max Hourly lbs (gal/hr):	0	0.79625				

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
Limestone	1317-65-3	0.0375	0.11	0.10	0.39	0.73	0.00	X
Petroleum distillates	64741-88-4	0.1	0.29	0.26	1.04	1.95	0.00	0.00
Diethylene glycol dibenzoate	120-55-8	0.025	0.07	0.07	0.26	0.49	0.00	0.00
Solvent ref. light paraffinic	64741-89-5	0.025	0.07	0.07	0.26	0.49	0.00	0.00
Quartz	14808-60-7	0.0005	0.00	0.00	0.01	0.01	0.00	X
Titanium dioxide	13463-67-7	0.01	0.03	0.03	0.10	0.19	0.00	0.00
VOCs		0.037460169	0.11	0.10	0.39	0.73	0.00	0.00

SDS File Name: sds19_champion_henkel_osi h2u high performance acrylic urethane sealant window, door & siding white 101_10-28-2014
Product Manufacturer: Henkel Corporation
Product Name: OSI H2U High Performance Acrylic Urethane Sealant Window, Door & Siding White 001
Notes: Sealant/Caulk. White paste with mild acrylic odor.

	Actual	PTE				
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	10.57	lbs/gal	
Annual Potential Applied (lb/yr):	1,574	11841.16114	**Specific Gravity:**	1.27		
Annual Potential Applied (gal/yr):	149	1120.6026	**VOC Content:**	0.35	lb/gal	42 g/l
Max Hourly lbs (lb/hr):	1	3.152598813				
Max Hourly lbs (gal/hr):	0	0.29835				

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
Limestone	1317-65-3	0.015	0.01	0.01	0.05	0.09	0.00	X
Titanium dioxide	13463-67-7	0.05	0.04	0.04	0.16	0.30	0.00	0.00
Ethylene glycol	107-21-1	0.05	0.04	0.04	0.16	0.30	0.00	X
White mineral oil (petroleum), highly refined	8042-47-5	0.05	0.04	0.04	0.16	0.30	0.00	0.00
Silica, amorphous, fumed, crystal-free	112945-52-5	0.0025	0.00	0.00	0.01	0.01	0.00	0.00
Quartz (SiO2)	14808-60-7	0.0005	0.00	0.00	0.00	0.00	0.00	X
Aluminum hydroxide	21645-51-2	0.01	0.01	0.01	0.03	0.06	0.00	0.00
VOCs		0.033170664	0.03	0.03	0.10	0.20	0.00	0.00

SDS File Name: sds20_champion_henkel_loctite pss acws wh-10oz=295ml_loctite acr caulk_12-01-2014
Product Manufacturer: Henkel Corporation
Product Name: LOCTITE PSS ACWS WH. 10oz=295ML
Notes: Sealant/caulk. Pasty white, with acrylic odor.

	Actual	PTE				
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	14.09	lbs/gal	
Annual Potential Applied (lb/yr):	26	206.4633386	**Specific Gravity:**	1.69		
Annual Potential Applied (gal/yr):	2	14.6484	**VOC Content:**	0.28	lb/gal	33 g/l
Max Hourly lbs (lb/hr):	0	0.05496894				
Max Hourly lbs (gal/hr):	0	0.0039				

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
Limestone	1317-65-3	0.03	0.00	0.00	0.00	0.00	0.00	X
Quartz (SiO2)	14808-60-7	0.0005	0.00	0.00	0.00	0.00	0.00	X
Titanium dioxide	13463-67-7	0.01	0.00	0.00	0.00	0.00	0.00	0.00
VOCs		0.019539288	0.00	0.00	0.00	0.00	0.00	0.00

SDS File Name: sds21_champion_crc_rtv silicone sealant - clear (pressurized)_silicone caulk Q240_12-04-2013
Product Manufacturer: CRC Industries, Inc.
Product Name: RTV Silicone Sealant - Clear (pressurized)
Notes: Sealant and adhesive. Solid paste, translucent in color, with acetic acid odor.

	Actual	PTE			
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	8.42	lbs/gal
Annual Potential Applied (lb/yr):	1,561	11824.81104	**Specific Gravity:**	1.01	
Annual Potential Applied (gal/yr):	185	1403.805	**VOC Content (wt):**	0.25	lb/gal
Max Hourly lbs (lb/hr):	1	3.14824575	VOC Content (%)	3.0%	
Max Hourly lbs (gal/hr):	0	0.37375			

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
Polydimethylsiloxane, hydroxy-terminated	70131-67-8	0.7	0.61	0.55	2.20	4.14	0.00	0.00
Amorphous silica	7631-86-9	0.13	0.11	0.10	0.41	0.77	0.00	0.00
Distillates (petroleum), Hydrotreated Middle	64742-46-7	0.1	0.09	0.08	0.31	0.59	0.00	0.00
Ethyltriacetoxysilane	17689-77-9	0.05	0.04	0.04	0.16	0.30	0.00	0.00
Methyltriacetoxysilane	4253-34-3	0.05	0.04	0.04	0.16	0.30	0.00	0.00
Polydimethylsiloxane	63148-62-9	0.05	0.04	0.04	0.16	0.30	0.00	0.00
Nitrogen	7727-37-9	0.03	0.03	0.02	0.09	0.18	0.00	0.00
VOCs		0.03	0.03	0.02	0.09	0.18	0.00	0.00

SDS File Name: sds25_champion_custom building products_polyblend ceramic tile caulk non sanded_11-13-2013
Product Manufacturer: Custom Building Products
Product Name: PolyBlend Ceramic Tile Caulk Non Sanded
Notes: Sealant. Smooth liquid/paste of various colors with a mild acrylic odor.

	Actual	PTE				
Facility Operating Hours (hr/yr):	1,816	8760	**Product Density:**	13.34	lbs/gal	
Annual Potential Applied (lb/yr):	45	759.80736	**Specific Gravity:**	1.60		
Annual Potential Applied (gal/yr):	3	56.94	**VOC Content (wt):**	0.13	lb/gal	15 g/l
Max Hourly lbs (lb/hr):	0	0.086736				
Max Hourly lbs (gal/hr):	0	0.0065				

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
Calcium carbonate	1317-65-3	0.000175	0.00	0.00	0.00	0.00	0.00	X
1,2-Propylene glycol	57-55-6	0.05	0.00	0.00	0.00	0.02	0.00	0.00
Titanium dioxide	13463-67-7	0.015	0.00	0.00	0.00	0.01	0.00	0.00
Hydrotreated heavy naphtha (petroleum)	64742-48-9	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Carbon black	1333-86-4	0.0000025	0.00	0.00	0.00	0.00	0.00	X
Silica, crystalline, quartz	14808-60-7	0.0000025	0.00	0.00	0.00	0.00	0.00	X
VOCs		0.009381078	0.00	0.00	0.00	0.00	0.00	0.00

SDS File Name: sds38_champion_henkel_osi 9.5 oz qdmax001slnwht 12cc_osi quad max_10-20-2015
Product Manufacturer: Henkel Corporation
Product Name: OSI 9.5OZ QDMAX001SLNWHT 12CC (OSI Quad Max)
Notes: Window, door and siding sealant (caulk). White paste with alcohol odor.

	Actual	PTE				
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	12.09	lbs/gal	
Annual Potential Applied (lb/yr):	140	1121.906308	**Specific Gravity:**	1.45		
Annual Potential Applied (gal/yr):	12	92.7732	**VOC Content:**	0.30	lb/gal	36 g/l
Max Hourly lbs (lb/hr):	0	0.2986971				
Max Hourly lbs (gal/hr):	0	0.0247				

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
Limestone	1317-65-3	0.03	0.00	0.00	0.01	0.02	0.00	X
Phthalate ester	Proprietary	0.10	0.01	0.01	0.03	0.06	0.00	0.00
Silane derivative	Proprietary	0.05	0.00	0.00	0.01	0.03	0.00	0.00
Quartz SiO2	14808-60-7	0.00	0.00	0.00	0.00	0.00	0.00	X
VOCs		0.02	0.00	0.00	0.01	0.01	0.00	0.00

SDS File Name: sds45_champion_tremco_acoustical sealant 300ml 30 ctg_sun tek sts1000 caulk_06-25-2014_Combined with new
Product Manufacturer: Tremco Canadian Sealants
Product Name: Acoustical Sealant 30CTG
Notes: Sun Tek STS 1000 Caulk

	Actual	PTE				
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	13.51	lbs/gal	
Annual Potential Applied (lb/yr):	24	164.9263356	**Specific Gravity:**	1.62		
Annual Potential Applied (gal/yr):	2	12.207	**VOC Content:**	1.25	lb/gal	150 g/l
Max Hourly lbs (lb/hr):	0	0.0439101				
Max Hourly lbs (gal/hr):	0	0.00325				

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
Clay	1332-58-7	0.03	0.00	0.00	0.00	0.00	0.00	X
Calcium Carbonate (Limestone)	1317-65-3	0.02	0.00	0.00	0.00	0.00	0.00	X
Stoddard solvent (mineral spirits)	8052-41-3	0.13	0.00	0.00	0.01	0.01	0.00	0.00
Residual oils (petroleum)	64742-62-7	0.10	0.00	0.00	0.00	0.01	0.00	0.00
Petroleum distillates	64742-47-8	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Crystalline silica (Quartz) /Silica sand	14808-60-7	0.00	0.00	0.00	0.00	0.00	0.00	X
Titanium dioxide	13463-67-7	0.01	0.00	0.00	0.00	0.00	0.00	0.00
1,2,4-Trimethylbenzene	95-63-6	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Nonane	111-84-2	0.01	0.00	0.00	0.00	0.00	0.00	X
Carbon Black	1333-86-4	0.00	0.00	0.00	0.00	0.00	0.00	X
VOCs		0.09	0.00	0.00	0.00	0.01	0.00	0.00

SDS File Name: sds8_champion_ppg_9-300xi pure performance interior eggshell-pure white_08-18-2015
Product Manufacturer: PPG Industries, Inc.
Product Name: 9-300XI PURE PERFORMANCE INTERIOR EGGSHELL - PURE WHITE
Notes: Liquid coating for industrial applications; used by **spraying.**

	Actual	PTE			
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	11.18	lbs/gal
Annual Potential Applied (lb/yr):	280	2099.604	**Specific Gravity:**	1.34	
Annual Potential Applied (gal/yr):	25	187.8	**VOC Content:**	0.00	lb/gal
Max Hourly lbs (lb/hr):	0	0.559	% Solids[1]	51.3%	by wt.
Max Hourly lbs (gal/hr):	0	0.05	Solids (total)[1]	5.74	lbs/gal
			Paint transfer effic.[1]	50.0%	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
titanium dioxide	13463-67-7	0.25	0.04	0.03	0.14	0.26	0.00	0.00
Diatomaceous earth	61790-53-2	7.5E-05	0.00	0.00	0.00	0.00	0.00	X
proprietary ingredients	not listed	0.03	0.00	0.00	0.02	0.03	0.00	0.00
VOCs		0	0.00	0.00	0.00	0.00	0.00	0.00
PM[1]		0.00128243	0.00	0.00	0.00	0.00	0.00	0.00

1. PM emissions are the non-volatile solids in the paint. Assumes a conservative paint transfer efficiency of 50%.

SDS File Name: sds9_champion_ppg_uh 150 fl wh 1210-0100v_ultrahide 150 satin 2412_06-30-2015
Product Manufacturer: PPG Industries, Inc.
Product Name: UH 150 FL WH 1210-0100V
Notes: Liquid coating for industrial applications; used by **spraying.**

	Actual	PTE			
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	12.02	lbs/gal
Annual Potential Applied (lb/yr):	50,724	376226	**Specific Gravity:**	1.44	
Annual Potential Applied (gal/yr):	4,220	31300	**VOC Content:**	0.40	lb/gal
Max Hourly lbs (lb/hr):	28	100.17	% Solids[1]	54.7%	by wt.
Max Hourly lbs (gal/hr):	2	8.33	Solids (total)[1]	6.57	lbs/gal
			Paint transfer effic.[1]	50.0%	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
titanium dioxide	13463-67-7	0.25	6.99	6.34	25.04	47.03	0.00	0.00
VOCs		0.03327787	0.93	0.84	3.33	6.26	0.00	0.00
PM[1]		0.00136628	0.04	0.03	0.14	0.26	0.00	0.00

1. PM emissions are the non-volatile solids in the paint. Assumes a conservative paint transfer efficiency of 50%.

SDS File Name: sds11_champion_ppg_uh 150 hb pwtb 1472-0200_high build 1472_06-30-2015
Product Manufacturer: PPG Industries, Inc.
Product Name: UH 150 HB PWTB 1472-0200
Notes: Liquid coating for industrial applications; used by **spraying.**

	Actual	PTE			
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	10.01	lbs/gal
Annual Potential Applied (lb/yr):	300	2193.191	**Specific Gravity:**	1.20	
Annual Potential Applied (gal/yr):	30	219.1	**VOC Content:**	0.42	lb/gal
Max Hourly lbs (lb/hr):	0	0.58391667	% Solids[1]	45.4%	by wt.
Max Hourly lbs (gal/hr):	0	0.05833333	Solids (total)[1]	4.54	lbs/gal
			Paint transfer effic.[1]	50.0%	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
titanium dioxide	13463-67-7	0.25	0.04	0.04	0.15	0.27	0.00	0.00
Kaolin	1332-58-7	0.1	0.02	0.02	0.06	0.11	0.00	X
Silicic acid, aluminum sodium salt	1344-00-9	0.03	0.00	0.00	0.02	0.03	0.00	0.00
VOCs		0.04195804	0.01	0.01	0.02	0.05	0.00	0.00
PM[1]		0.22694	0.04	0.03	0.13	0.25	0.00	0.00

1. PM emissions are the non-volatile solids in the paint. Assumes a conservative paint transfer efficiency of 50%.

Emissions	lb/hr	T/yr
PM	18.41	34.57
VOC	7.16	13.44
HAPs	-	-

TAS	CAS No	585/586	Max lb/hr	t/yr	Avg lb/hr
Diatomaceous earth	61790-53-2	585	4.19E-05	7.87E-05	2.10E-05
Kaolin	1332-58-7	585	5.84E-02	1.10E-01	2.92E-02
Ethanediol	107-21-1	585	1.07E-01	2.00E-01	5.33E-02
Formaldehyde	50-00-0	586	1.14E-02	2.13E-02	4.87E-03
Acrylamide	79-06-1	586	5.68E-05	1.07E-04	2.44E-05
Vinyl Chloride	75-01-4	586	1.14E-02	2.13E-02	4.87E-03
Carbon Black	133-86-4	585	0.30	0.28	1.52E-01

SDS File Name: sds12_champion_ppg_uh 150 hb fl hhwh 1290-1000v_high build latex flat 1290_08-14-2015
Product Manufacturer: PPG Industries, Inc.
Product Name: UH 150 HB FL HHWH 1290-1000V
Notes: Liquid coating for industrial applications; used by **spraying.**

	Actual	PTE			
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	12.02	lbs/gal
Annual Potential Applied (lb/yr):	361	2633.582	**Specific Gravity:**	1.44	
Annual Potential Applied (gal/yr):	30	219.1	**VOC Content:**	0.42	lb/gal
Max Hourly lbs (lb/hr):	0	0.70116667	% Solids[1]	55.0%	by wt.
Max Hourly lbs (gal/hr):	0	0.05833333	Solids (total)[1]	6.61	lbs/gal
			Paint transfer effic.[1]	50.0%	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
titanium dioxide	13463-67-7	0.1	0.02	0.02	0.07	0.13	0.00	0.00
VOCs		0.03494176	0.01	0.01	0.02	0.05	0.00	0.00
PM[1]		0.00137403	0.00	0.00	0.00	0.00	0.00	0.00

1. PM emissions are the non-volatile solids in the paint. Assumes a conservative paint transfer efficiency of 50%.

SDS File Name: sds27_champion_ppg_uh 150 sat wh 2412-0100v_09-14-2015
Product Manufacturer: PPG Industries, Inc.
Product Name: UH 150 SAT WH 2412-0100V
Notes: Liquid coating for industrial applications; used by **spraying.**

	Actual	PTE			
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	10.18	lbs/gal
Annual Potential Applied (lb/yr):	42,960	318634	**Specific Gravity:**	1.22	
Annual Potential Applied (gal/yr):	4,220	31300	**VOC Content:**	0.42	lb/gal
Max Hourly lbs (lb/hr):	24	84.8333333	% Solids[1]	42.5%	by wt.
Max Hourly lbs (gal/hr):	2	8.33333333	Solids (total)[1]	4.33	lbs/gal
			Paint transfer effic.[1]	50.0%	

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
titanium dioxide	13463-67-7	0.25	5.92	5.37	21.21	39.83	0.00	0.00
3-iodo-2-propynyl butylcarbamate	55406-53-6	0.003	0.07	0.06	0.25	0.48	0.00	0.00
methenamine 3-chlorallylochloride	4080-31-3	0.003	0.07	0.06	0.25	0.48	0.00	0.00
VOCs		0.04125737	0.98	0.89	3.50	6.57	0.00	0.00
PM[1]		0.2125	5.03	4.56	18.03	33.85	0.00	0.00

1. PM emissions are the non-volatile solids in the paint. Assumes a conservative paint transfer efficiency of 50%.

SDS File Name: sds30_champion_henkel_dorus fp 7919 formerly xb-7919_10-29-2014
Product Manufacturer: Henkel Corporation
Product Name: DORUS FP 7919 formerly XB-7919
Notes: Frame Paint, protective coating for mfg'd home metal frames. Applied using airless spray guns.

	Actual	PTE				
Facility Operating Hours (hr/yr):	1,816	1878	**Product Density:**	9.09	lbs/gal	
Annual Potential Applied (lb/yr):	30,690	113814.312	**Specific Gravity:**	1.09		
Annual Potential Applied (gal/yr):	3,376	12520	**VOC Content:**	0.54	lb/gal	65 g/l
Max Hourly lbs (lb/hr):	17	60.604	% Solids1	21.0%	by wt.	
Max Hourly lbs (gal/hr):	2	6.66666667	Solids (total)1	1.91	lbs/gal	
			Paint transfer effic.1	50.0%		

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
Carbon Black	133-86-4	0.005	0.08	0.08	0.30	0.28	0.00	X
VOCs		0.05967169	1.01	0.92	3.62	3.40	0.00	0.00
PM1		0.04725	0.80	0.73	2.86	2.69	0.00	0.00

1. PM emissions are the non-volatile solids in the paint. Assumes a conservative paint transfer efficiency of 50%.

SDS File Name: sds35_champion_ppg_flood cwf-uv5 350 voc stain_REPLACEMENT with tds_12-09-2015
Product Manufacturer: PPG Industries, Inc.
Product Name: CWF-UV 5 350 VOC FLD466
Notes: Exterior stain. Liquid (brown with alcohol-like odor) coating for industrial applications; used by **spraying.**

	Actual	PTE					
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	8.42	lbs/gal		
Annual Potential Applied (lb/yr):	337	2504.69799	**Specific Gravity:**	1.01			
Annual Potential Applied (gal/yr):	40	297.35	**VOC Content:**	2.92	lb/gal	350 g/l	Low VOC, 350 g/L, per TDS (included in 12-09-2015 SDS).
Max Hourly lbs (lb/hr):	0	0.6668525	% Solids[1]	28.0%	by wt.		
Max Hourly lbs (gal/hr):	0	0.07916667	Solids (total)[1]	2.36	lbs/gal		
			Paint transfer effic.[1]	50.0%			

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
Solvent naphtha (petroleum), medium aliph.	64742-88-7	0.20	0.04	0.03	0.13	0.25	0.00	0.00
Ethanediol	107-21-1	0.16	0.03	0.03	0.11	0.20	0.00	X
Nonylphenol, branched, ethoxylated	68412-54-4	0.10	0.02	0.02	0.07	0.13	0.00	0.00
3-iodo-2-propynyl butylcarbamate	55406-53-6	0.01	0.00	0.00	0.01	0.01	0.00	0.00
VOCs		0.35	0.06	0.06	0.23	0.43	0.00	0.00
PM[1]		0.14	0.03	0.02	0.09	0.18	0.00	0.00

1. PM emissions are the non-volatile solids in the paint. Assumes a conservative paint transfer efficiency of 50%.

SDS File Name: sds37_champion_specialty adhesives & coating_7799_vapor barrier tote_2016 tds-sds REPLACEMENT
Product Manufacturer: Specialty Adhesives Inc.
Product Name: 7799 VB Primer
Notes: A white, water-borne high build primer/**vapor barrier** on gypsum board. **Brush, roller or airless spray application**.

	Actual	PTE					
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	9.09	lbs/gal		
Annual Potential Applied (lb/yr):	19,181	42680.367	**Specific Gravity:**	1.09			
Annual Potential Applied (gal/yr):	2,110	4695	**VOC Content:**	0.04	lb/gal	4.20 g/l	
Max Hourly lbs (lb/hr):	3	11.36325	% Solids[1]	57.0%	by wt.		
Max Hourly lbs (gal/hr):	0	1.25	Solids (total)[1]	5.18	lbs/gal		
			Paint transfer effic.[1]	50.0%			

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
Formaldehyde	50-00-0	0.001	0.00	0.01	0.01	0.02	0.00	X
Acrylamide	79-06-1	0.000005	0.00	0.00	0.00	0.00	0.00	X
Vinyl Chloride	75-01-4	0.001	0.00	0.01	0.01	0.02	0.00	X
Nonylphenol ethoxylate, branched	68412-54-4	0.003	0.01	0.03	0.03	0.06	0.00	0.00
VOCs		0.00385571	0.01	0.04	0.04	0.08	0.00	0.00
PM1		0.001425	0.00	0.01	0.02	0.03	0.00	0.00

1. PM emissions are the non-volatile solids in the paint. Assumes a conservative paint transfer efficiency of 50%.

SDS File Name: sds22_champion_spartan_green solutions floor seal and finish_07-30-2015
Product Manufacturer: Spartan Chemical Company, Inc.
Product Name: Green Solutions Floor Seal and Finish
Notes: Acrylic co-polymer based floor seal and finish. No VOCs. White emulsion liquid with mild odor.

	Actual	PTE			
Facility Operating Hours (hr/yr):	1,816	3756	**Product Density:**	8.51	lbs/gal
Annual Potential Applied (lb/yr):	3,615	26626.284	**Specific Gravity:**	1.02	
Annual Potential Applied (gal/yr):	425	3130	**VOC Content (wt):**	0.00	lb/gal
Max Hourly lbs (lb/hr):	2	7.089	VOC Content (%)	0.0%	
Max Hourly lbs (gal/hr):	0	0.83333333			

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
styrene/acrylic copolymer	25987-66-0	0.3	0.59	0.54	2.13	3.99	0.00	0.00
trimethylpentanediol monoisobutyrate	25265-77-4	0.05	0.10	0.09	0.35	0.67	0.00	0.00
tributoxyethyl phosphate	78-51-3	0.05	0.10	0.09	0.35	0.67	0.00	0.00
ethylene copolymer	67892-91-5	0.05	0.10	0.09	0.35	0.67	0.00	0.00
propylene glycol	57-55-6	0.01	0.02	0.02	0.07	0.13	0.00	0.00
VOCs		0	0.00	0.00	0.00	0.00	0.00	0.00

In the frame shop, steel cross members are welded to steel I-beams to construct the base frames.
Once complete, black frame paint is applied to the frame using airless spray guns.
Emissions from this process include PM, VOCs and TAPs.

Emissions from this process are uncontrolled and are vented through four (4) ceiling vents.

Welding Emissions Estimates

PM-10 and Toxic Air Pollutants (TAPs) from the welding process were estimated using emission factors from EPA's AP-42 (pp. 12.19-1 - 12.19-2) and from production data supplied in the permit application. The applicable AP-42 section and welding electrode data are provided as Appendix B. Per the permit application, the maximum amount of electrode that could be consumed per day is 200 lbs. For this analysis, **twenty percent** has been added as a safety factor.

The welding process' potential to emit PM-10 is estimated to be 0.05 pounds per hour (lb/hr) and 0.21 tons per year (T/yr). The potential to emit does not trigger major source permitting requirements.

Maximum electrode consumption	240 lbs/day
Electrode	E70S welding wire feed is E70S - solid, non-flux w/ shielding gas

Total Fume as PM-10

	Emission Factor	Potential to Emit	
Pollutant	(lb/10^3 lb)	Max (lb/hr)	Max (T/yr)
PM-10	5.2	0.104	0.195312

HAP Emissions Estimates

		IDAPA 58.01.01	Emission Factor[a]	POTENTIAL TO EMIT		24-hr or Annual Average (lb/hr)[b]	NET SCREENING EMISSION LEVEL (EL)	Modeling Required?	
Idaho State TAP	CAS	585/586	(10^{-1} lb/10^3 lb)[a]	Max lb/hr	Max (T/yr)			YES	NO
Chromium	7440-47-3	585	1.00E-03	2.00E-05	3.76E-05	1.00E-05	3.30E-02		NO
Cobalt	7440-48-4	585	1.00E-03	2.00E-05	3.76E-05	1.00E-05	3.30E-03		NO
Manganese	7439-96-5	585	3.18E-01	6.36E-03	1.19E-02	3.18E-03	6.70E-02		NO
Nickel	7440-02-0	586	1.00E-03	2.00E-05	3.76E-05	8.58E-06	2.70E-05		NO

[a] From AP-42, Table 12.19-2. Mass of pollutant emitted per unit mass of electrode consumed. All HAP emissions are in the PM-10 size range (particles ≤ 10 μm in aerodynamic diameter).
[b] 585 pollutant averaging is based on 24-hr average and 586 pollutants are annual averages

In the frame shop, steel cross members are welded to steel I-beams to construct the base frames.
Once complete, black frame paint is applied to the frame using airless spray guns.
Emissions from this process include PM, VOCs and TAPs.
The frame paint contained no VOC in the original Tier II permit/analysis. MSDS information from Forrest Paint Products
shows a VOC content of 0.53 lb/gal VOC.
A new SDS/EDS was requested from the manufacturer to get better information on the actual VOC content, % non-volatile solids, etc.

Emissions from this process are uncontrolled and are vented through four (4) ceiling vents.

Frame paint is applied with an airless gun.

1 **Product Name:** Trailer Frame Paint - Black

	Actual	**PTE**		
Facility Operating Hours (hr/yr):	1,816	1,878	**Product Density:**	9.09 lb/gal
Annual Potential Applied (lb/yr):	30,690	113,814	**Specific Gravity:**	1.09
Annual Potential Applied (gal/yr):	3,376	12,520	VOC Content	0.54 lb/gal
Max Hourly lbs (lb/hr):	17	61	Non-Volatile Solids	0.21 % (max)
Max Hourly lbs (gal/hr):	2	7		

Component	CAS No.	Max Wt. Fraction	Emissions (lb/hr)	Emissions (T/yr)	PTE Emissions (lb/hr)	PTE Emissions (T/yr)	HAP	TAP
VOCs		0.05967	1.01	0.92	3.62	3.40	0	0
PM1		0.04725	0.80	0.73	2.86	2.69	0	0

General Description:

Raw lumber used to construct each home is cut to size in the mill. Each saw includes an enclosed vacuum system that collects and conveys PM to a baghouse.
A fan, located at the baghouse, induces the airflow for the vacuum system. Emissions from this process are controlled.
Each saw is equipped with a vacuum system which sucks the sawdust from each work station to the RDS baghouse.
Once the sawdust reaches the baghouse, it is pulled through the bags via a 6,500 CFM fan.
The bags are shaken to remove the sawdust, where it falls into a collection hopper under the baghouse.
The hopper is emptied, as needed.
Baghouse control efficiency is stated as 99.8%, with an average weekly collection of 1,200 lbs.

Mill Emission Estimates: PM10 Only

RDS collection system (South)

Maximum Amount of Sawdust Collected 1200 lb/week
RDS Baghouse Capture Efficiency 99.8 % (PM-10)

Conservative Est. (Going to Baghouse) = 16.66667 lb/hr PM-10 going to baghouse
(1200 lb/week) * (1 week / 6 days) * (1 day / 12 hours)

From Baghouse to Atmosphere = 0.033333 lb/hr PM-10 going to atmosphere
(10 lb/hr) * (1-(99.8/100))

(lb/hr emissions) * (3744 hr/yr) * (1 Ton / 2000 lbs)
= 0.0624 Tons/yr PM-10

Cyclone collection system Mill & cabinet shop(North)

Controlled Amount of Sawdust emitted per T-200072 SOB 0.54 lb/hr

Based on 12 hr per day 6 days per week and 52 weeks/yr (3744 hr/yr) 1.01088 T/yr

Source	Potential to Emit		Predicted Ambient Impact		NAAQS	
	lb/hr	T/yr	24-hr	Annual	24-hr	Annual
Mill Shop (South)	0.033333	0.0624				
Mill Shop (North)	0.54	1.01088				

Cabinet Shop

Special cabinetry and soffit production is performed in the Cabinet Shop using saws and sanders
Each saw and sander includes a vacuum system similar to that in the mill.
A 3,000 cfm fan induces the air flow through the system.
Filtered air is vented into the interior of the Manufacturing Plant.
Sawdust and sanderdust is collected in a hopper that is part of the dust collection system.
The hopper is emptied monthly.

PM-10 emissions from the cabinet shop were estimated using the capture efficiency of the dust collection system and the amount of sawdust and sanderdust removed from the hopper.
Per the permit application, the dust collection system's collection efficiency is 98% for particulate matter 3 microns or less.
The average amount of sawdust and sanderdust removed per month is apporximately 600 lbs., which takes into account heavy production periods.
For this analysis, a safety factor of 20% has been added.

Cabinet Shop Emissions Estimates (PM-10 Only)

Dustek Dust System - Model 750

Maximum amount of Saw/Sandust Collected	3816	lb/month	***1.86 to 10 floors per day**
1 month	288	hours/month = (6 days/week)*(4 weeks/month)*(12 hours/day) CONSERVATIVE	
Dust collection system control efficiency	98	%	

(3816 lb/month)*(1 month/288 hours) = 13.25 lb/hr to Dust Collection System — 13.25 lb/hr => to dust collection system

(13.25 lb/hr)*(1-(100/98)) = 0.265 lb/hr => from dust collector to atmosphere — 0.265 lb/hr => from dust collector to atmosphere

(0.265 lb/hr)*(3744 hr/yr)*(1 Ton/2000 lbs) = 0.496 T/yr (annual PM-10) — 0.49608 T/yr PM-10 => to atmosphere

Source	Potential to Emit PM-10/PM-2.5		Predicted Ambient Impact		NAAQS	
	lb/hr	T/yr	24-hr	Annual	24-hr	Annual
Cabinet Shop	0.265	0.49608				

IDEQ PTC Forms
Facility Wide Potential to Emit Emission Inventory

Table 1. PRE-PROJECT POTENTIAL TO EMIT FOR NSR REGULATED POLLUTANTS[a]

Description	Criteria Pollutant Emission Summary												
	NO_x Emissions		CO Emissions		$PM_{2.5}/_{10}$ Emissions		SO_2 Emissions		VOC Emissions		Lead Emissions		GHG Emissions
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	Metric T/yr
Redman Home Builders, Weiser Tier II Permit # 087-00007; 1425 Sunnyside Road (South Facility)													
Frame Shop - Welding	--	--	--	--	5.00E-02	2.10E-01	--	--	--	--	--	--	
Frame Shop - Frame Painting	--	--	--	--	1.50E+00	6.55E+00	--	--	--	--	--	--	
Mill	--	--	--	--	2.00E-02	9.00E-02	--	--	--	--	--	--	
Cabinet Shop	--	--	--	--	3.00E-02	1.30E-01	--	--	--	--	--	--	
Paint Products	--	--	--	--	1.35E+01	1.40E+01	--	--	6.38E+00	6.63E+00	--	--	
Adhesives	--	--	--	--	--	--	--	--	--	--	--	--	
Champion Home Builders, Weiser Tier II Permit # 087-00008; 1442 Sunnyside Road (North Facility)													
Mill & Cabinet Shop Cyclone	--	--	--	--	5.40E-01	2.36E+00	--	--	--	--	--	--	
Paint Products	--	--	--	--	6.60E+00	2.89E+01	--	--	3.08E+00	1.35E+01	--	--	
Adhesives	--	--	--	--			--	--			--	--	
Pre-Project PTE Total	**0.000**	**0.000**	**0.000**	**0.000**	**22.192**	**52.250**	**0.000**	**0.000**	**9.455**	**20.130**	**0.000**	**0.000**	**0.000**

[a] Pre-project emissions are based upon previously permitted emissions levels stated within the existing Tier II permits for each facility (Redman and Champion). The two existing Tier II permits will be consolidated under a single PTC and differentiated based upon geographic location (north and south).
NSR Regulated air Pollutants are defined[1] as: Particulate Matter (PM-10, PM-2.5), Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone (VOC), Sulfur Dioxide, all pollutants regulated by NSPS (40 CFR 60)(i.e. TRS, fluoride, sulfuric acid mist) & Class I & Class II Ozone Depleting Substances (40 CFR 82)(i.e. CFC, HCFC, Halon, etc.)

Table 2. POST PROJECT MAXIMUM POTENTIAL TO EMIT FOR NSR REGULATED POLLUTANTS

Description	Criteria Pollutant Emission Summary												
	NO_x Emissions		CO Emissions		$PM_{2.5}/_{10}$ Emissions		SO_2 Emissions		VOC Emissions		Lead Emissions		GHG Emissions
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	Metric T/yr
Champion Home Builders, South Facility													
Frame Shop - Welding	--	--	--	--	1.04E-01	1.95E-01	--	--	--	--	--	--	
Frame Shop - Frame Painting	--	--	--	--	2.86E+00	2.69E+00	--	--	--	--	--	--	
Mill	--	--	--	--	3.33E-02	6.24E-02	--	--	--	--	--	--	
Cabinet Shop	--	--	--	--	2.65E-01	4.96E-01	--	--	--	--	--	--	
Paint Products	--	--	--	--	9.20E+00	1.73E+01	--	--	3.58E+00	6.72E+00	--	--	
Adhesives	--	--	--	--	--	--	--	--	1.13E+00	2.18E+00	--	--	
Champion Home Builders, North Facility													
Mill & Cabinet Shop Cyclone	--	--	--	--	5.40E-01	1.01E+00	--	--	--	--	--	--	
Painting	--	--	--	--	9.20E+00	1.73E+01	--	--	3.58E+00	6.72E+00	--	--	
Adhesives	--	--	--	--	--	--	--	--	1.13E+00	2.18E+00	--	--	
Proposed PTE Total	**0.000**	**0.000**	**0.000**	**0.000**	**22.214**	**39.023**	**0.000**	**0.000**	**9.425**	**17.806**	**0.000**	**0.000**	**0.000**

NSR Regulated air Pollutants are defined[1] as: Particulate Matter (PM-10, PM-2.5), Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone (VOC), Sulfur Dioxide, all pollutants regulated by NSPS (40 CFR 60)(i.e. TRS, fluoride, sulfuric acid mist) & Class I & Class II Ozone Depleting Substances (40 CFR 82)(i.e. CFC, HCFC, Halon, etc.)

Table 3. CHANGES IN POTENTIAL TO EMIT FOR NSR REGULATED POLLUTANTS

Description	Criteria Pollutant Emission Summary												
	NO_x Emissions		CO Emissions		$PM_{2.5}/_{10}$ Emissions		SO_2 Emissions		VOC Emissions		Lead Emissions		GHG Emissions
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	Metric T/yr
Champion Home Builders, South Facility													
Frame Shop - Welding					5.40E-02	-1.47E-02							
Frame Shop - Frame Painting					1.36E+00	-3.86E+00							
Mill					1.33E-02	-2.76E-02							
Cabinet Shop					2.35E-01	3.66E-01							
Paint Products					-4.25E+00	3.29E+00			-2.80E+00	9.08E-02			
Adhesives									1.13E+00	2.18E+00			
Champion Home Builders, North Facility													
Mill & Cabinet Shop Cyclone					0.00E+00	-1.35E+00							
Paint Products					2.60E+00	-1.16E+01			4.99E-01	-6.78E+00			
Adhesives									1.13E+00	2.18E+00			
Changes in PTE Total	**0.000**	**0.000**	**0.000**	**0.000**	**0.022**	**-13.227**	**0.000**	**0.000**	**-0.030**	**-2.324**	**0.000**	**0.000**	**0.000**

NSR Regulated air Pollutants are defined[1] as: Particulate Matter (PM-10, PM-2.5), Carbon Monoxide, Lead, Nitrogen Dioxide, Ozone (VOC), Sulfur Dioxide, all pollutants regulated by NSPS (40 CFR 60)(i.e. TRS, fluoride, sulfuric acid mist) & Class I & Class II Ozone Depleting Substances (40 CFR 82)(i.e. CFC, HCFC, Halon, etc.)

Table 4. PRE-PROJECT POTENTIAL TO EMIT FOR TOXIC AIR POLLUTANTS

	Toxic Air Pollutant (TAP)	CAS #	Potential to Emit		Net Screening Emission Level (EL)	Modeling Completed?	
			lb/hr	T/yr	lb/hr	Yes	No
Redman Home Builders, Weiser Tier II Permit # 087-00007; 1425 Sunnyside Road							
Welding	Chromium Metal IDAPA 58.01.01.585	7440-47-3	9.20E-06	4.00E-05	3.30E-02		x
	Cobalt IDAPA 58.01.01.585	7440-48-4	9.20E-06	4.00E-05	3.30E-03		x
	Manganese IDAPA 58.01.01.585	7439-96-5	2.90E-03	1.27E-02	6.70E-02		x
	Nickel IDAPA 58.01.01.586	7440-02-0	9.20E-06	4.00E-05	2.70E-05		x
Paint & Adhesive Products	Cristobalite IDAPA 58.01.01.585	14464-46-1	4.62E-02	1.90E-01	3.30E-03	x	
	Kaolin IDAPA 58.01.01.585	1332-58-7	5.81E-01	2.52E+00	1.33E-01	x	
	Mica IDAPA 58.01.01.585	12001-26-2	1.85E-01	8.00E-01	2.00E-01		x
	Zinc oxide IDAPA 58.01.01.585	1314-13-2	2.70E-01	1.15E+00	6.67E-01		x
	MDI IDAPA 58.01.01.585	101-68-8	7.20E-06	3.03E-05	3.00E-03		x
Champion Home Builders, Weiser Tier II Permit # 087-00008; 1442 Sunnyside Road							
Paint & Adhesive Products	Cristobalite IDAPA 58.01.01.585	14464-46-1	7.76E-02	3.20E-01	3.30E-03	x	
	Kaolin IDAPA 58.01.01.585	1332-58-7	1.29E+00	5.48E+00	1.33E-01	x	
	Mica IDAPA 58.01.01.585	12001-26-2	4.43E-01	1.93E+00	2.00E-01	x	
	Zinc oxide IDAPA 58.01.01.585	1314-13-2	4.10E-01	1.82E+00	6.67E-01		x
	MDI IDAPA 58.01.01.585	101-68-8	8.99E-06	3.94E-05	3.00E-03		x

Table 5. POST-PROJECT POTENTIAL TO EMIT FOR TOXIC AIR POLLUTANTS

	Toxic Air Pollutant (TAP)	CAS #	Potential to Emit		Net Screening Emission Level (EL)	Modeling Required?
			lb/hr	Δ lb/hr	lb/hr	
Redman Home Builders, Weiser Tier II Permit # 087-00007; 1425 Sunnyside Road						
Welding	Chromium Metal IDAPA 58.01.01.585	7440-47-3	1.00E-05	8.00E-07	3.30E-02	No
	Cobalt IDAPA 58.01.01.585	7440-48-4	1.00E-05	8.00E-07	3.30E-03	No
	Manganese IDAPA 58.01.01.585	7439-96-5	3.18E-03	2.80E-04	6.70E-02	No
	Nickel IDAPA 58.01.01.586	7440-02-0	8.58E-06	-6.25E-07	2.70E-05	No
Paint & Adhesive Products	Cristobalite IDAPA 58.01.01.585	14464-46-1	0.00E+00	-1.24E-01	3.30E-03	No
	Kaolin IDAPA 58.01.01.585	1332-58-7	5.97E-02	-1.81E+00	1.33E-01	No
	Mica IDAPA 58.01.01.585	12001-26-2	0.00E+00	-6.27E-01	2.00E-01	No
	Zinc oxide IDAPA 58.01.01.585	1314-13-2	0.00E+00	-6.80E-01	6.67E-01	No
	MDI IDAPA 58.01.01.585	101-68-8	5.83E-06	-1.04E-05	3.00E-03	No
	Methyl ethyl ketone	78-93-3	5.78E-01	5.78E-01	3.93E+01	No
	Acetone	67-64-1	4.03E-01	4.03E-01	1.19E+02	No
	Cyclohexanone	108-94-1	2.12E-01	2.12E-01	6.67E+00	No
	Limestone	1317-65-3	4.47E-01	4.47E-01	6.67E-01	No
	Quartz	14808-60-7	7.46E-03	7.46E-03	6.70E-03	Yes
	Portland cement	65997-15-1	3.00E-04	3.00E-04	6.67E-01	No
	Gypsum	13397-24-5	3.75E-05	3.75E-05	6.67E-01	No
	Benzo(a)pyrene	50-32-8	0.00E+00	0.00E+00	2.00E-06	No
	Naphthalene	91-20-3	0.00E+00	0.00E+00	3.33E+00	No
	Diphenyl	92-52-4	0.00E+00	0.00E+00	1.00E-01	No
	Formaldehyde	50-00-0	1.24E-02	1.24E-02	5.10E-04	Yes
	Acetaldehyde	75-07-0	7.50E-03	7.50E-03	3.00E-03	Yes
	Benzene	71-43-2	7.50E-03	7.50E-03	8.00E-04	Yes
	Methanol	67-56-1	5.25E-02	5.25E-02	1.73E+01	No
	Tetrahydrofuran (THF)	109-99-9	6.93E-01	6.93E-01	3.93E+01	No
	Ethylene glycol	107-21-1	2.64E-01	2.64E-01	8.46E-01	No
	Carbon black	1333-86-4	1.52E-01	1.52E-01	2.30E-01	No
	Nonane	111-84-2	4.39E-04	4.39E-04	7.00E+01	No
	Diatomaceous earth	61790-53-2	4.19E-05	4.19E-05	6.67E-01	No
	Acrylamide	79-06-1	2.44E-05	2.44E-05	5.10E-06	Yes
	Vinyl Chloride	75-01-4	4.87E-03	4.87E-03	9.40E-04	Yes

Point Sources

Source ID	Stack Release Type (Beta)	Source Description	Easting (x)	Northing (Y)	Base Elevation	Stack Height	Temp.	Exit Velocity	Stack Diameter	Quartz	Formaldehyde	Acetaldehyde	Benzene	Acrylamide	Vinyl Chloride	Comments, assumptions made, etc.
			(m)	(m)	(m)	(ft)	(K)	(m/s)	(ft)	(lb/hr)	(tpy)	(lb/hr)	(tpy)	(lb/hr)	(lb/hr)	
SB_1	Vertical	South Building #1	504350	4895925	645.67	36	0	0.81735119	3.5	4.66E-04	7.73E-04	4.69E-04	4.69E-04	1.52E-06	3.05E-04	
SB_2	Vertical	South Building #2	504386	4895925	645.67	36	0	0.81735119	3.5	4.66E-04	7.73E-04	4.69E-04	4.69E-04	1.52E-06	3.05E-04	
SB_3	Vertical	South Building #3	504335	4895894	645.67	36	0	0.81735119	3.5	4.66E-04	7.73E-04	4.69E-04	4.69E-04	1.52E-06	3.05E-04	
SB_4	Vertical	South Building #4	504371	4895895	645.67	36	0	0.81735119	3.5	4.66E-04	7.73E-04	4.69E-04	4.69E-04	1.52E-06	3.05E-04	
SB_5	Vertical	South Building #5	504370	4895867	645.67	36	0	0.81735119	3.5	4.66E-04	7.73E-04	4.69E-04	4.69E-04	1.52E-06	3.05E-04	
SB_6	Vertical	South Building #6	504335	4895868	645.67	36	0	0.81735119	3.5	4.66E-04	7.73E-04	4.69E-04	4.69E-04	1.52E-06	3.05E-04	
SB_7	Vertical	South Building #7	504424	4895902	645.67	36	0	0.81735119	3.5	4.66E-04	7.73E-04	4.69E-04	4.69E-04	1.52E-06	3.05E-04	
SB_8	Vertical	South Building #8	504462	4895901	645.67	36	0	0.81735119	3.5	4.66E-04	7.73E-04	4.69E-04	4.69E-04	1.52E-06	3.05E-04	
NORTH1	Vertical	North Building #1	504496	4896111	644.78	26	0	6.86406037	3.5	3.11E-04	5.16E-04	3.13E-04	3.13E-04	1.02E-06	2.03E-04	
NORTH2	Vertical	North Building #2	504497	4896100	644.84	26	0	6.86406037	3.5	3.11E-04	5.16E-04	3.13E-04	3.13E-04	1.02E-06	2.03E-04	1/2 of the emissions are applied to the north building and the 8 points; other 1/2 to the south building between 12 points
NORTH3	Vertical	North Building #3	504466	4896092	644.87	26	0	6.86406037	3.5	3.11E-04	5.16E-04	3.13E-04	3.13E-04	1.02E-06	2.03E-04	
NORTH4	Vertical	North Building #4	504452	4896089	644.87	26	0	6.86406037	3.5	3.11E-04	5.16E-04	3.13E-04	3.13E-04	1.02E-06	2.03E-04	
NORTH5	Vertical	North Building #5	504547	4896094	644.98	26	0	6.86406037	3.5	3.11E-04	5.16E-04	3.13E-04	3.13E-04	1.02E-06	2.03E-04	
PASSIVE1	Vertical	North Building passive#1	504382	4896098	644.79	26	0	0.001	2.75	3.11E-04	5.16E-04	3.13E-04	3.13E-04	1.02E-06	2.03E-04	
PASSIVE2	Vertical	North Building passive#2	504412	4896093	644.82	26	0	0.001	2.75	3.11E-04	5.16E-04	3.13E-04	3.13E-04	1.02E-06	2.03E-04	
PASSIVE3	Vertical	North Building passive#3	504430	4896092	644.82	26	0	0.001	2.75	3.11E-04	5.16E-04	3.13E-04	3.13E-04	1.02E-06	2.03E-04	
PASSIVE4	Vertical	North Building passive#4	504447	4896091	644.83	26	0	0.001	2.75	3.11E-04	5.16E-04	3.13E-04	3.13E-04	1.02E-06	2.03E-04	
PASSIVE5	Vertical	North Building passive#5	504515	4896089	644.94	26	0	0.001	2.75	3.11E-04	5.16E-04	3.13E-04	3.13E-04	1.02E-06	2.03E-04	
PASSIVE6	Vertical	North Building passive#6	504498	4896090	644.94	26	0	0.001	2.75	3.11E-04	5.16E-04	3.13E-04	3.13E-04	1.02E-06	2.03E-04	
PASSIVE7	Vertical	North Building passive#7	504481	4896090	644.9	26	0	0.001	2.75	3.11E-04	5.16E-04	3.13E-04	3.13E-04	1.02E-06	2.03E-04	

BUILDINGS

	Buildings	ID	Tier Height (m)	# of Corners	Corner 1 East (X) m	Corner 1 North (Y) m	Corner 2 East (X) m	Corner 2 North (Y) m
1	Frame Shop	FRAME	10.668	6	504205.17	4895975.07	504205.14	4895944.67
2	South building	SOUTHBLD	10.668	14	504398.79	4895849.88	504398.86	4895896.82
3	South building lean to	SOUTHLEN	10.668	4	504299.35	4895949.48	504334.87	4895949.53
4	North building	NORTHBLD	8.2296	17	504367.00	4896125.22	504366.23	4896092.90
5	North Building add-on	NORTHADD	7.62	10	504430.72	4896061.86	504431.08	4896060.69
6	NEIGHBOR	NEIGHBOR	10.668	12	504296.28	4896080.78	504272.02	4896080.97

Corner 3 East (X) m	Corner 3 North (Y) m	Corner 4 East (X) m	Corner 4 North (Y) m	Corner 5 East (X) m	Corner 5 North (Y) m	Corner 6 East (X) m	Corner 6 North (Y) m	Corner 7 East (X) m	Corner 7 North (Y) m
504223.24	4895944.67	504223.24	4895950.34	504254.2	4895950.4	504254.19	4895975.07		
504451.66	4895896.85	504451.66	4895866.72	504474.7	4895866.72	504474.7	4895930.53	504421.39	4895930.61
504334.83	4895963.67	504299.38	4895963.67						
504394.84	4896092.02	504394.47	4896063.13	504522.995	4896058.477	504522.045	4896009.878	504544.909	4896008.813
504411.80	4896061.52	504411.95	4896053.90	504430.64	4896052.92	504430.59	4896040.65	504436.52	4896040.47
504271.74	4896110.18	504178.92	4896110.07	504179.565	4896051.019	504203.384	4896051.238	504203.431	4896046.961

Corner 8 East (X) m	Corner 8 North (Y) m	Corner 9 East (X) m	Corner 9 North (Y) m	Corner 10 East (X) m	Corner 10 North (Y) m	Corner 11 East (X) m	Corner 11 North (Y) m	Corner 12 East (X) m	Corner 12 North (Y) m
504421.36	4895949.49	504299.56	4895949.49	504299.49	4895931.19	504291.88	4895931.2	504291.88	4895897.35
504559.641	4896008.675	504563.287	4896103.597	504532.31	4896104.411	504532.635	4896112.772	504556.989	4896111.888
504436.65	4896043.26	504457.11	4896042.63	504457.35	4896060.69				
504198.504	4896046.6	504198.437	4896044.148	504234.724	4896044.193	504234.685	4896051.294	504296.311	4896051.59

Corner 13 East (X) m	Corner 13 North (Y) m	Corner 14 East (X) m	Corner 14 North (Y) m	Corner 15 East (X) m	Corner 15 North (Y) m	Corner 16 East (X) m	Corner 16 North (Y) m	Corner 17 East (X) m	Corner 17 North (Y) m
504306.59	4895897.38	504306.59	4895849.85						
504556.947	4896118.733	504378.233	4896125.135	504378.485	4896105.45	504372.439	4896105.45	504372.807	4896125.482

Champion Fenceline
South Building

East (X)	North (Y)
(m)	(m)
504317.318	4895791.681
504435.092	4895792.172
504577.011	4895791.465
504582.727	4895800.082
504582.595	4895832.358
504582.42	4895933.295
504582.664	4895985.152
504189.713	4895985.543
504190.858	4895792.864
504317.318	4895791.681

Champion Fenceline
North Building

East (X)	North (Y)
(m)	(m)
504685.28	4895997.417
504693.05	4896013.023
504563.95	4896187.775
504324.017	4896186.462
504329.275	4895995.018
504685.28	4895997.417

Pollutant	Avg. Period	Background Concentration (µg/m^3)	Modeled Concentration (µg/m^3)	Total Concentration (µg/m^3)	AAC or AACC (µg/m3)	% of Standard
Formaldehyde	Annual	--	7.38E-02	7.38E-02	7.70E-02	95.79%
Acetaldehyde	Annual	--	4.48E-02	4.48E-02	4.50E-01	9.94%
Benzene	Annual	--	4.48E-02	4.48E-02	1.20E-01	37.29%
Acrylamide	Annual	--	1.90E-04	1.90E-04	7.70E-04	24.68%
Vinyl Chloride	Annual	--	3.87E-02	3.87E-02	1.40E-01	27.67%
Quartz	24-hr	--	0.20	0.20	5	4.00%

Appendix D AMBIENT AIR ANALYSIS

Idaho DEQ Impact Modeling Analyses Report Form

1.0 Summary

This air quality modeling protocol documents the proposed methodology used to prepare an air quality analysis in support of an Idaho Department of Environmental Quality (IDEQ) Permit to Construct (PTC) application for manufacturing of homes at the Champion Home Builders (Champion) facility located in Weiser, ID. This is a modification of two older Tier II permits (087-00007 and 087-00008) and converting them into one comprehensive Permit to Construct (PTC).

All criteria pollutants have no change or a net reduction of annual emissions. Additionally, the particulate hourly emission rate does have a slight increase, but it is less than both the $PM_{2.5}$ and PM_{10} modeling threshold. Therefore, criteria pollutant modeling was not performed as part of this permitting action. In contrast, there are several new toxic air pollutants (TAPs) that exceed the screening levels outlined in IDAPA 58.01.01.585-586. As a result, those pollutants are also modeled.

2.0 Project Description and Background as it relates to Modeling Analyses

Champion Home Builders in Weiser, Idaho fabricates modules (boxes) on an assembly line to create single family homes and light commercial projects such as office buildings, apartments and hotels. The modules are constructed in an enclosed 148,000 square foot facility. The assembly line is organized into 31 stations where the construction process takes place. The design of the plant allows two section or three section modules/homes to travel side by side until reaching the final stations where they are split apart for completion and close up.

The modules/homes are constructed from lumber with a steel chasse/undercarriage for support during transportation. A portion of the lumber arrives pre-cut (PT'ed) to fit the specific module design. Other lumber is cut within the factory mill to meet the specific needs of the project.

The floor department constructs the modular floor's frames utilizing wood, decks them with 4 foot x 8 foot sub-flooring, installs floor insulation and electrical wiring, installs necessary plumbing, installs HVAC ducting, and lays linoleum and or carpet flooring.

The cabinet shop assembles and installs cabinet doors into base and overhead cabinets. The countertops are manufactured and finished with laminates, granite and/or quartz. The completed cabinets are then placed and secured into the modules.

The wall department frames the walls with pre-cut lumber, white glue and/or two part foam adhesive and gypsum board. The roofing department uses pre-manufactured trusses and lumber with gypsum installed with two-part foam adhesive.

Electrical wiring is installed. Interior and exterior walls are prepped, textured and painted, where necessary. All interior painting is conducted with the units fully enclosed within the plant and

encapsulated with plastic. Exterior painting occurs without the plastic covering, but enclosed within the manufacturing building.

Following the completion of a modular unit, electrical and water checks are performed. Lastly, all units are cleaned, prepped for shipping and moved into the yard via tractor.

2.1 General Facility/Project Descriptions

Emissions sources at the facility will include the following:

- Adhesives and Glues
- Caulking
- Paints, Lacquer and Thinners
- Welding
- Mill and Cabinet Shops
- Dust Collection (baghouse, cyclone)

Adhesives and Glues

The Champion facility utilizes a number of adhesives and glues throughout the construction process. All emissions are based on daily usage rates and applicable Safety Data Sheets (SDS), environmental data sheet information. All usage rates are based on the assumption that maximum production rates are met (10 floors per day).

Caulking

Similar to adhesives, all caulking emissions are derived from applicable daily usage and SDS (or EDS or MSDS) information. Again maximum production was assumed. Annual usage assumes 12 hour work days, 6 day work week and 313 total days per year. This is consistent for all material.

Paints, Lacquers and Thinners

All interior paints are utilized within the units with plastic covering to capture nearly all potential overspray. Only exterior paints do not implement the use of plastic covering, but all painting is conducted within the plant. As all other material, emissions are determined via daily usage and applicable SDS information.

Welding

Champion periodically performs some welding onsite within the Frame Shop. A Shielded Metal Arc Welding process and an E70S electrode are utilized. Total usage is not expected to exceed 240 lb/day. This assumes a maximum of 200 lb plus a 20% safety factor included. Previous permits (Redman Homes) included welding which included chromium, cobalt, manganese and nickel. The difference between the previous emissions and the new totals demonstrate that the net change for all four TAPs is below the applicable EL.

Mill & Cabinet Shop

Raw lumber used to construct each home is cut to size in the mill. Each saw includes an enclosed vacuum system that collects and conveys PM to a baghouse. A fan, located at the baghouse (South building), induces the airflow for the vacuum system. Emissions from this process are controlled. Previous permitting identifies that the baghouse controls PM at a rate of 99.8%. This permit assumes the same control rate to ensure consistency. Based on average weekly collection rates the total weight assumed is 1200 lbs. This is consistent with Appendix C of the previous Statement of Basis (SOB) calculations. Based on "Scamper-N-Go" certified scale in Weiser, sawdust was weighed on March 27, 2000 for a total of 700 lbs. A 300 lb "add-on estimate" was assumed. An additional 20% was added to the add-on estimate for a total of 1200 lbs. of sawdust collected/disposed of per week.

The north side building controls dust via cyclone. Per the SOB calculations from permit T-200072, the cyclone has a flow rate of 4,200 cubic feet per minute and a grain loading of 0.015gr/scf. After applying a conversation of 7000 grains per pound, the resulting controlled PM rate from the cyclone is 0.54 lb/hr.

The Cabinet Shop creates special cabinetry and soffit production. PM emissions from the cabinet shop were estimated using the capture efficiency of the dust collection system and the amount of sawdust and sander dust removed from the hopper. Per the previous permit SOB, the dust collection system's collection efficiency is 98% for particulate matter 3 microns or less. The average amount of sawdust and sander dust removed per month is approximately 600 lbs., which takes into account heavy production periods. In addition, a 20% safety factor is added. The 720 lb/month was based on current operation (1.86 floors) and is scaled up to the proposed 10 floors per day.

Natural Gas Heaters

Champion periodically utilizes natural gas heaters for comfort. The usage rates have not varied since the previous permitting action. Therefore, the associated emissions are not included in this modification application.

2.2 Location of Project

AERMOD includes rural and urban algorithm options. These options affect the wind speed profile, dispersion rates, and mixing-height formula used in calculating ground-level pollutant concentrations. A protocol was developed by USEPA to classify an area as either rural or urban for dispersion modeling purposes. The classification is based on average heat flux, land use, or population density within a three-km radius from the plant site. Of these techniques, the USEPA has specified that land use is the most definitive criterion (USEPA, 1987). The urban/rural classification scheme based on land use is as follows:

> *The land use within the total area, A_0, circumscribed by a 3-km circle about the source, is classified using the meteorological land use typing scheme proposed by Auer (1978). The classification scheme requires that more than 50% of the area, A0, be from the following land use types in order to be considered urban for dispersion modeling purposes: heavy industrial (I1); light-moderate industrial (I2); commercial (C1); single-family compact residential (R2); and multi-family compact residential (R3). Otherwise, the use of rural dispersion coefficients is appropriate.*

The Champion facility is located in a rural area, in Weiser, ID. Although the immediate vicinity of the site is industrial and commercial, site and map reconnaissance showed that the area A_0 within a 3-km circle of the source is below the 50% urban land use criteria necessary for use of urban dispersion coefficients. Rural dispersion coefficients were therefore used in the air quality dispersion modeling.

Washington County is designated as an attainment area or unclassified for all criteria pollutants. The facility is located at 504,395 mE and 4,896,027 mN, UTM zone 11 NAD 83. A map showing the geographical location of the facility is provided within Appendix A of the application.

2.3 Existing Permits and Modeling Analyses Performed

The existing permits are expired Tier II permits issued on December 19, 2000. One was issued to Champion Home Builders (the current North Facility) and the other to Redman Homes (the current South facility). The permit numbers are 087-00007 and 087-00008. Prior modeling included screening evaluations of particulate matter and some TAPs that exceed the EL.

3.0 Modeling Analyses Applicability

As discussed in Sections 2.4 and 2.5 of the associated application, all criteria pollutants emissions associated with this project either create a net negative change, no change or are below the applicable modeling threshold. As stated in the Idaho State modeling guidance, Table 2 identifies the hourly Level I particulate thresholds to be 0.22 lb and 0.054 lb for PM_{10} and $PM_{2.5}$, respectively. As shown in the associated application and emission inventory, the maximum hourly increase from this project is 0.022 lb ($PM_{2.5}$ is assumed equivalent to PM_{10}). Therefore, no criteria pollutants were modeled.

However, there are several TAPs that exceeded the applicable screening level which requires ambient analysis for those pollutants. Six TAPs were modeled and demonstrated compliance with both the AAC and AACC.

3.1 Applicable Standards

Criteria pollutant NAAQS are listed in Table 1, along with significant impact levels (SILs).

Table 1 APPLICABLE REGULATORY LIMITS

Pollutant	Averaging Period	Significant Impact Levels[a] (µg/m^3)[b]	Regulatory Limit[c] (µg/m^3)	Modeled Design Value Used[d]
PM_{10}[e]	24-hour	5.0	150[f]	Maximum 6th highest[g]
$PM_{2.5}$[h]	24-hour	1.2	35[i]	Mean of maximum 8th highest[j]
	Annual	0.3	12[k]	Mean of maximum 1st highest[l]
Carbon monoxide (CO)	1-hour	2,000	40,000[m]	Maximum 2nd highest[n]
	8-hour	500	10,000[m]	Maximum 2nd highest[n]
Sulfur Dioxide (SO_2)	1-hour	3 ppb[o] (7.8 µg/m^3)	75 ppb[p] (196 µg/m^3)	Mean of maximum 4th highest[q]
	3-hour	25	1,300[m]	Maximum 2nd highest[n]
	24-hour	5	365[m]	Maximum 2nd highest[n]
	Annual	1.0	80[r]	Maximum 1st highest[n]
Nitrogen Dioxide (NO_2)	1-hour	4 ppb (7.5 µg/m^3)	100 ppb[s] (188 µg/m^3)	Mean of maximum 8th highest[t]
	Annual	1.0	100[r]	Maximum 1st highest[n]

Lead (Pb)	3-month[u]	NA	0.15[r]	Maximum 1st highest[n]
	Quarterly	NA	1.5[r]	Maximum 1st highest[n]
Ozone (O_3)	8-hour	40 TPY VOC[v]	70 ppb[w]	Not typically modeled

a. Idaho Air Rules Section 006 (definition for significant contribution) or as incorporated by reference as per Idaho Air Rules Section 107.03.b.
b. Micrograms/cubic meter.
c. Incorporated into Idaho Air Rules by reference, as per Idaho Air Rules Section 107.
d. The maximum 1st highest modeled value is always used for the significant impact analysis unless indicated otherwise. Modeled design values are calculated for each ambient air receptor.
e. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
f. Not to be exceeded more than once per year on average over 3 years.
g. Concentration at any modeled receptor when using five years of meteorological data.
h. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.
i. 3-year mean of the upper 98th percentile of the annual distribution of 24-hour concentrations.
j. 5-year mean of the 8th highest modeled 24-hour concentrations at the modeled receptor for each year of meteorological data modeled. For the SIL analysis, the 5-year mean of the 1st highest modeled 24-hour impacts at the modeled receptor for each year.
k. 3-year mean of annual concentration.
l. 5-year mean of annual averages at the modeled receptor.
m. Not to be exceeded more than once per year.
n. Concentration at any modeled receptor.
o. Interim SIL established by EPA policy memorandum.
p. 3-year mean of the upper 99th percentile of the annual distribution of maximum daily 1-hour concentrations.
q. 5-year mean of the 4th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of 1st highest modeled 1-hour impacts for each year is used.
r. Not to be exceeded in any calendar year.
s. 3-year mean of the upper 98th percentile of the annual distribution of maximum daily 1-hour concentrations.
t. 5-year mean of the 8th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of maximum modeled 1-hour impacts for each year is used.
u. 3-month rolling average.
v. An annual emissions rate of 40 ton/year of VOCs is considered significant for O_3.
w. Annual 4th highest daily maximum 8-hour concentration averaged over three years.

Applicable TAP-specific increment standards are provided in Idaho Air Rules Section 585 and 586. A table of identified TAP emissions resulting from the proposed project is provided in this section of the Modeling Report. TAP emissions increases resulting from the project are identified in Table 2.

Table 2 TAP ELS AND AACS/AACCS

TAP	Non-Carcinogen or Carcinogen	Screening Emissions Level (EL)[a] (lb/hr)	AAC or AACC[b] (µg/m^3)
Acetaldehyde	Carcinogenic	3.0E-03	4.5E-01
Formaldehyde	Carcinogenic	5.1E-04	7.7E-02
Benzene	Carcinogenic	8.0E-04	1.2E-01
Acrylamide	Carcinogenic	5.10E-06	7.7E-04
Vinyl Chloride	Carcinogenic	9.40E-04	1.4E-01
Quartz	Non-carcinogenic	0.0067	5.0

a. ELs from Idaho Air Rules Section 585 and 586 in pounds/hour.
b. Acceptable Ambient Concentration (AAC) or Acceptable Ambient Concentration for a Carcinogen (AACC) from Idaho Air Rules Section 585 and 586, in micrograms/cubic meter or milligrams/cubic meter. Note that AACs listed in Idaho Air Rules Section 585 are expressed in units of milligrams/cubic meter rather than micrograms/cubic meter.

All TAPs identified in the emissions inventory for the project are listed in the TAPs EL and AAC/AACC Table in this section.

3.2 Criteria Pollutant Modeling Applicability

No criteria pollutants were modeled. All are below the Level I threshold. Please see the associated emission Inventory for details.

Table 3 lists criteria pollutants for which site-specific modeling analyses were performed to demonstrate compliance with NAAQS.

Table 3 MODELING APPLICABILITY

Criteria Pollutant	Modeled (yes/no)	Basis for Exclusion from Modeling
$PM_{2.5}$ 24-hour	No	_ __BRC Exempt[a] _X__Emissions Below Level l Thresholds[b] ___Emissions Below Level II Thresholds[c]
$PM_{2.5}$ annual	No	_ __BRC Exempt _X__Emissions Below Level l Thresholds ___Emissions Below Level II Thresholds
PM_{10} 24-hour	No	___BRC Exempt _X_Emissions Below Level l Thresholds ___Emissions Below Level II Thresholds
NO_2 1-hour	No	___BRC Exempt _X_Emissions Below Level l Thresholds ___Emissions Below Level II Thresholds
NO_2 annual	No	___BRC Exempt _X_Emissions Below Level l Thresholds ___Emissions Below Level II Thresholds
SO_2 1-hour, 3-hour	No	___BRC Exempt _X_Emissions Below Level l Thresholds ___Emissions Below Level II Thresholds
SO_2 annual	No	___BRC Exempt _X_Emissions Below Level l Thresholds ___Emissions Below Level II Thresholds
CO 1-hour, 8-hour	No	___BRC Exempt _X_Emissions Below Level l Thresholds ___Emissions Below Level II Thresholds

a. If the project would have qualified for a Category I BRC permitting exemption for the criteria pollutant in question, as per Idaho Air Rules Section 221.01, except for the emissions quantities of another criteria pollutant, then a NAAQS compliance analysis is not required under Section 203.02 or 403.02 for that criteria pollutant.

b. Level I Modeling Thresholds from Table 2 in Section 3 of the DEQ Modeling Guideline. NAAQS compliance is assured through DEQ's non-site-specific modeling analyses.

c. Level II Modeling Thresholds from Table 2 in Section 3 of the DEQ Modeling Guideline. NAAQS compliance is assured through DEQ's non-site-specific modeling analyses. Level II Modeling Thresholds can only be used with prior DEQ approval.

Emissions calculations that clearly show how the modeling applicability determination was performed are provided in Appendix C of the application.

3.3 TAP Modeling Applicability

As stated above, six TAPs exceed the emission screening level (EL). Modeling analysis was conducted for one non-carcinogenic (quartz) and five carcinogenic pollutants (formaldehyde, acetaldehyde, benzene, acrylamide and vinyl chloride).

3.4 Modeling Protocol

A modeling protocol was not submitted for this project as there were time constraints. Also, the modeling approach is very similar to another project of manufactured homes that DEQ is in the process of reviewing.

4.0 Modeled Emissions Sources

Only those sources containing the TAPs stated in Section 3.3 of this report were modeled. Operating hours are 12 hr/day; 6 day/week and 52 week per year for paints, adhesives etc. Also, only one is used at a time. All other operations are assumed to be simultaneous. Sawdust dust is accumulated at a maximum of 1200 pounds per week at the Mill Shop and 3,816 lb/month at the Cabinet Shop.

The modeling emissions inventory and the emissions inventory presented in other parts of the permit application are consistent.

4.1 Criteria Pollutants

No criteria pollutants were modeled as all were less than the Level I threshold.

4.1.1 Modeled Emissions Rates for Cumulative Impact Analyses

All emission rates used in the modeling analysis is equivalent to those rates identified in Appendix C of the application. The Emission Inventory also includes a “Modeling Input - Point” tab that demonstrates how the modeled emission rates were calculated from data provided within the inventory.

4.2 Toxic Air Pollutants

Emissions factors were derived using appropriate SDS information. The contributing processes occur in both the south and north building at a 50/50 rate. Half of the toxic emissions were applied to each building as 5 of the 10 floors built per day will be in each building. Previous modeling associated Redman Home Builders (South building) parameters were used to ensure consistency and they were confirmed by Champion staff. North building data is in part consistent, with previous modeling. However, updates have been made to more accurately simulate the impacts from the source. The South building contains eight stacks, each with identical flow rates and diameters. The North building consists of five similar fans and seven passive vents. All emissions are allocated evenly across each release point.

The passive vents of 8 feet by 1 foot. An equivalent diameter was calculated using the following equation:

$$d_e = \frac{1.30(a * b)^{0.625}}{(a + b)^{0.25}}$$

Where: a is the length of a side and b is the length of the other side

As a result, a calculated equivalent diameter of each of the seven passive vents, as used in the modeling analysis, is 2.75 ft. The velocity for each passive vent was set to 0.001 m/s, consistent with low-flow sources, DEQ modeling guidance/recommendations, and to ensure maximum conservatism. Also, the vents are at roof level. The five "fanned" exhaust points each had an exit diameter of 3.5 feet and a flowrate of 1,548 acfm, consistent with previous modeling. Stack heights for the elevated exhaust points were measured to be 1 foot above roof height (27 feet for the North building and 35 feet for the South building). The South building assumed the original modeled flow rates of 1,548 acfm per unit, and diameters of 3.5 feet. Lastly, all exhaust temperatures are assumed to be ambient.

Table 4 lists TAP emissions rates that were included in modeling analyses. Modeling was performed for each TAP having total project emissions exceeding the TAP-specific screening Emissions Level (EL).

TABLE 4 MODELED EMISSIONS RATES FOR TAP ANALYSES

Source ID	Source Description	TAP	Averaging Period	Emissions[a] (lb/hr)
SB_1	South Building #1	Formaldehyde	24-hour/annual	7.73E-04
		Acetaldehyde	24-hour/annual	4.69E-04
		Benzene	24-hour/annual	4.69E-04
		Quartz	24-hour/annual	4.66E-04
		Acrylamide	24-hour/annual	1.52E-06
		Vinyl Chloride	24-hour/annual	3.05E-04
SB_2	South Building #2	Formaldehyde	24-hour/annual	7.73E-04
		Acetaldehyde	24-hour/annual	4.69E-04
		Benzene	24-hour/annual	4.69E-04
		Quartz	24-hour/annual	4.66E-04
		Acrylamide	24-hour/annual	1.52E-06
		Vinyl Chloride	24-hour/annual	3.05E-04
SB_3	South Building #3	Formaldehyde	24-hour/annual	7.73E-04
		Acetaldehyde	24-hour/annual	4.69E-04
		Benzene	24-hour/annual	4.69E-04
		Quartz	24-hour/annual	4.66E-04
		Acrylamide	24-hour/annual	1.52E-06
		Vinyl Chloride	24-hour/annual	3.05E-04
SB_4	South Building #4	Formaldehyde	24-hour/annual	7.73E-04
		Acetaldehyde	24-hour/annual	4.69E-04
		Benzene	24-hour/annual	4.69E-04
		Quartz	24-hour/annual	4.66E-04
		Acrylamide	24-hour/annual	1.52E-06
		Vinyl Chloride	24-hour/annual	3.05E-04
SB_5	South Building #5	Formaldehyde	24-hour/annual	7.73E-04

TABLE 4 MODELED EMISSIONS RATES FOR TAP ANALYSES				
Source ID	**Source Description**	**TAP**	**Averaging Period**	**Emissions[a] (lb/hr)**
		Acetaldehyde	24-hour/annual	4.69E-04
		Benzene	24-hour/annual	4.69E-04
		Quartz	24-hour/annual	4.66E-04
		Acrylamide	24-hour/annual	1.52E-06
		Vinyl Chloride	24-hour/annual	3.05E-04
SB_6	South Building #6	Formaldehyde	24-hour/annual	7.73E-04
		Acetaldehyde	24-hour/annual	4.69E-04
		Benzene	24-hour/annual	4.69E-04
		Quartz	24-hour/annual	4.66E-04
		Acrylamide	24-hour/annual	1.52E-06
		Vinyl Chloride	24-hour/annual	3.05E-04
SB_7	South Building #7	Formaldehyde	24-hour/annual	7.73E-04
		Acetaldehyde	24-hour/annual	4.69E-04
		Benzene	24-hour/annual	4.69E-04
		Quartz	24-hour/annual	4.66E-04
		Acrylamide	24-hour/annual	1.52E-06
		Vinyl Chloride	24-hour/annual	3.05E-04
SB_8	South Building #8	Formaldehyde	24-hour/annual	7.73E-04
		Acetaldehyde	24-hour/annual	4.69E-04
		Benzene	24-hour/annual	4.69E-04
		Quartz	24-hour/annual	4.66E-04
		Acrylamide	24-hour/annual	1.52E-06
		Vinyl Chloride	24-hour/annual	3.05E-04
NORTH1	North Building #1	Formaldehyde	24-hour/annual	5.16E-04
		Acetaldehyde	24-hour/annual	3.13E-04
		Benzene	24-hour/annual	3.13E-04
		Quartz	24-hour/annual	3.11E-04
		Acrylamide	24-hour/annual	1.02E-06
		Vinyl Chloride	24-hour/annual	2.03E-04
NORTH2	North Building #2	Formaldehyde	24-hour/annual	5.16E-04
		Acetaldehyde	24-hour/annual	3.13E-04
		Benzene	24-hour/annual	3.13E-04
		Quartz	24-hour/annual	3.11E-04
		Acrylamide	24-hour/annual	1.02E-06
		Vinyl Chloride	24-hour/annual	2.03E-04
NORTH3	North Building #3	Formaldehyde	24-hour/annual	5.16E-04
		Acetaldehyde	24-hour/annual	3.13E-04
		Benzene	24-hour/annual	3.13E-04
		Quartz	24-hour/annual	3.11E-04
		Acrylamide	24-hour/annual	1.02E-06
		Vinyl Chloride	24-hour/annual	2.03E-04
NORTH4	North Building #4	Formaldehyde	24-hour/annual	5.16E-04
		Acetaldehyde	24-hour/annual	3.13E-04
		Benzene	24-hour/annual	3.13E-04
		Quartz	24-hour/annual	3.11E-04
		Acrylamide	24-hour/annual	1.02E-06

TABLE 4 MODELED EMISSIONS RATES FOR TAP ANALYSES				
Source ID	**Source Description**	**TAP**	**Averaging Period**	**Emissions[a] (lb/hr)**
		Vinyl Chloride	24-hour/annual	2.03E-04
NORTH5	North Building #5	Formaldehyde	24-hour/annual	5.16E-04
		Acetaldehyde	24-hour/annual	3.13E-04
		Benzene	24-hour/annual	3.13E-04
		Quartz	24-hour/annual	3.11E-04
		Acrylamide	24-hour/annual	1.02E-06
		Vinyl Chloride	24-hour/annual	2.03E-04
PASSIVE1	Passive Vent North Building #1	Formaldehyde	24-hour/annual	5.16E-04
		Acetaldehyde	24-hour/annual	3.13E-04
		Benzene	24-hour/annual	3.13E-04
		Quartz	24-hour/annual	3.11E-04
		Acrylamide	24-hour/annual	1.02E-06
		Vinyl Chloride	24-hour/annual	2.03E-04
PASSIVE2	Passive vent North Building #2	Formaldehyde	24-hour/annual	5.16E-04
		Acetaldehyde	24-hour/annual	3.13E-04
		Benzene	24-hour/annual	3.13E-04
		Quartz	24-hour/annual	3.11E-04
		Acrylamide	24-hour/annual	1.02E-06
		Vinyl Chloride	24-hour/annual	2.03E-04
PASSIVE3	Passive vent North Building #3	Formaldehyde	24-hour/annual	5.16E-04
		Acetaldehyde	24-hour/annual	3.13E-04
		Benzene	24-hour/annual	3.13E-04
		Quartz	24-hour/annual	3.11E-04
		Acrylamide	24-hour/annual	1.02E-06
		Vinyl Chloride	24-hour/annual	2.03E-04
PASSIVE4	Passive vent North Building #4	Formaldehyde	24-hour/annual	5.16E-04
		Acetaldehyde	24-hour/annual	3.13E-04
		Benzene	24-hour/annual	3.13E-04
		Quartz	24-hour/annual	3.11E-04
		Acrylamide	24-hour/annual	1.02E-06
		Vinyl Chloride	24-hour/annual	2.03E-04
PASSIVE5	Passive vent North Building #5	Formaldehyde	24-hour/annual	5.16E-04
		Acetaldehyde	24-hour/annual	3.13E-04
		Benzene	24-hour/annual	3.13E-04
		Quartz	24-hour/annual	3.11E-04
		Acrylamide	24-hour/annual	1.02E-06
		Vinyl Chloride	24-hour/annual	2.03E-04

a. Pounds/hour emissions rate modeled is the project-specific increase in potential/allowable emissions increase for the averaging period specified for the TAP.

Emissions rates in Table 4 are identical to those in the model input file for TAP analyses.

4.3 Emissions Release Parameters

All emissions release parameters are based on manufacturer data, direct measurement made by the facility or is ambient exhaust temperatures. Table 5 lists stack parameters for all point sources.

Table 5 POINT SOURCE STACK PARAMETERS

Release Point	Description	UTM[a] Coordinates		Stack Height (ft)	Stack Gas Flow Temp. (F)	Stack Gas velocity (m/s)[c]	Modeled Stack Diameter (ft)	Orient. Of Release[d]
		Easting-X (m)[b]	Northing-Y (m)					
SB_1	South Building #1	504350	4895925	36	Ambient	0.817	3.5	Vertical
SB_2	South Building #2	504386	4895925	36	Ambient	0.817	3.5	Vertical
SB_3	South Building #3	504335	4895894	36	Ambient	0.817	3.5	Vertical
SB_4	South Building #4	504371	4895895	36	Ambient	0.817	3.5	Vertical
SB_5	South Building #5	504370	4895867	36	Ambient	0.817	3.5	Vertical
SB_6	South Building #6	504335	4895868	36	Ambient	0.817	3.5	Vertical
SB_7	South Building #7	504424	4895902	36	Ambient	0.817	3.5	Vertical
SB_8	South Building #8	504462	4895901	36	Ambient	0.817	3.5	Vertical
NORTH1	North Building #1	504496	4896111	28	Ambient	0.817	3.5	Vertical
NORTH2	North Building #2	504497	4896100	28	Ambient	0.817	3.5	Vertical
NORTH3	North Building #3	504466	4896092	28	Ambient	0.817	3.5	Vertical
NORTH4	North Building #4	504452	4896089	28	Ambient	0.817	3.5	Vertical
NORTH5	North Building #5	504547	4896094	28	Ambient	0.817	3.5	Vertical
PASSIVE1	North Building passive#1	504382	4896098	27	Ambient	0.01	3.5	Vertical
PASSIVE2	North Building passive#2	504412	4896093	27	Ambient	0.01	3.5	Vertical
PASSIVE3	North Building passive#3	504430	4896092	27	Ambient	0.01	3.5	Vertical
PASSIVE4	North Building passive#4	504447	4896091	27	Ambient	0.01	3.5	Vertical
PASSIVE5	North Building passive#5	504515	4896089	27	Ambient	0.01	3.5	Vertical
PASSIVE6	North Building passive#6	504498	4896090	27	Ambient	0.01	3.5	Vertical
PASSIVE7	North Building passive#7	504481	4896090	27	Ambient	0.01	3.5	Vertical

a. Universal Transverse Mercator.
b. Meters.
c. meters per second.
d. Vertical uninterrupted, rain-capped, or horizontal release.

__X___The specific methods used to determine/calculate given release parameters is described in this section.

__X__The release orientation of all point source stacks (horizontal, rain-capped, or uninterrupted vertical release) has been verified and is documented in this section.

5.0 Modeling Methodology

Table 6 summarizes the key modeling parameters used in the impact analyses.

Table 6 MODELING PARAMETERS		
Parameter	**Description/Values**	**Documentation/Addition Description**
General Facility Location	Boise, Idaho	The area is an attainment, maintenance or unclassified area for all criteria pollutants
Model	AERMOD	AERMOD with the PRIME downwash algorithm, version 15181
Meteorological Data	Boise surface data Boise upper air data	The meteorological model input files for this project were developed by IDEQ. See Section 5.2 of this memorandum for additional details of the meteorological data.
Terrain	Considered	3-dimensional receptor coordinates were obtained from USGS National Elevation Dataset (NED) files and were used to establish elevation of ground level receptors. AERMAP was used to determine each receptor elevation and hill height scale.
Building Downwash	Considered	Plume downwash was considered for the structures associated with the facility. BPIP-PRIME was used to evaluate building dimensions for consideration of downwash effects in AERMOD.
NOx Chemistry	NA	NOx modeling was not required for this project.
Receptor Grid	**TAPs Analyses**	
	Grid 1	10-meter spacing along the ambient air boundary
	Grid 2	10-meter spacing in a 620 meter (easting) by 500 meter (northing) grid centered on the facility
	Grid 3	25-meter spacing in a 725 meter (easting) by 625 meter (northing) grid centered on Grid 2
	Grid 4	50-meter spacing in a 1.1 kilometer (easting) by 1 kilometer (northing) grid centered on Grid 3
	Grid 5	100-meter spacing in a 1.5 kilometer (easting) by 1.5 kilometer (northing) grid centered on Grid 4
	Grid 6	250-meter spacing in a 2.7 kilometer (easting) by 2.7 kilometer (northing) grid centered on Grid 5
	Grid 7	500-meter spacing in a 6.5 kilometer (easting) by 6.0 kilometer (northing) grid centered on Grid 6
	Grid 8	1.0-kilometer spacing in a 11 kilometer (easting) by 12 kilometer (northing) grid centered on Grid 6
	NAAQS Analyses	
	Not included in analysis	
	SILs Analyses	
	Not included in analysis	

5.1 Model Selection

AERMOD version 15181 was used for the modeling analyses to evaluate impacts of the Nashua Homes facility. This is the current version of the regulatory guideline model.

__X__The current versions of all models and associated programs were used in analyses, or alternate versions were specifically approved by DEQ.

____Any non-default model options used were approved by DEQ in advance.

5.2 Meteorological Data

Preprocessed AERMOD ready meteorological files were provided by Darrin Mehr of IDEQ. The data files cover the years 2008 through 2012 from the Boise Regional Airport. The data is hourly from the National Weather Service Automated Surface Observing System (ASOS). The data presented by IDEQ is model-ready, and was used without alteration or processing. These data originated from IDEQ, but has been included as part of this submittal.

__X__Meteorological data files are provided with the application.

5.3 Effects of Terrain

All source base and receptor elevations were calculated from USGS NED data obtained via the National Map Viewer website using the Bee-Line BEEST preprocessing system. A 1/3 arc second NED file was used in the analysis Input and output files from AERMAP will be included on the associated DVD.

__X__The datum of terrain data, building corner locations, emissions sources, and the ambient air boundary are specified and are consistent such that the modeled plot plan accurately represents the facility and surroundings.

5.4 Facility Layout

The image shown below identifies the general location of the Nashua Homes facility.

__X__The facility layout plot plan is provided in this section that clearly and accurately depicts buildings, emissions points, and the ambient air boundary.

5.5 Effects of Building Downwash

Building downwash effects were determined using the BPIP – Prime algorithm. There are several buildings that were incorporated into the analysis. These include: the main Champion Homes buildings, the frame shop, attachment to both the north and south buildings, and a nearby neighbor.

5.6 Ambient Air Boundary

The ambient air boundary is defined by Sunnyside Road, surrounding fence line of the South building and original property boundary of the current Champion Homes tier II permit (North building). The east side of the north building is adjacent to the Highway 95. There is no fence along surrounding the north building, but Champion will post private property/no trespassing signage where necessary. Washington county parcels are owned by Champion are RP10N05W094810 (20 acres) and RP10N05W48001A (14.3 acres).

__X__This section thoroughly describes how the facility can legally preclude public access (and practically preclude access) to areas excluded from ambient air in the modeling analyses.

5.7 Receptor Network

__X__This section of the Modeling Report provides justification that receptor spacing used in the air impact analyses was adequate to reasonably resolve the maximum modeled concentrations to the point that NAAQS or TAP compliance is assured.

The facility is located in a rural area in Weiser, ID. The property covers approximately 34.3 acres. Consistent with IDEQ guidance, the ambient air boundary used in this analysis is the owned property boundary, which also serves as the public access boundary.

Receptor density will be set to a spacing of 10 meters along the ambient air boundary, 10 meters for the first 50 meters past the boundary, then receptors were set at a density of one per 25 meters out to 100 meters away from the ambient air boundary, 50 meters out to 200 meters from the ambient air boundary, 100 meters out to another 500 meters, 250 meter spacing for another 1 kilometer, 500 meters out to 2.0 kilometers past the ambient air boundary and 1.0 kilometer spacing another 3.0 kilometers out.

The receptor network ensures that the analysis meets or exceeds EPA receptor network requirements and captures the maximum impact from the facility. Therefore, no supplemental receptor network or expansion of the model domain is included.

5.8 Background Concentrations

Only TAPs were necessary to model. Therefore, no background values were applied.

__X__ Background concentrations have been thoroughly documented and justified for all criteria pollutants where a cumulative NAAQS impact analysis was performed.

5.9 NOx Chemistry

NO_x chemistry was not evaluated because NO2 compliance was not required for this project.

6.0 Results and Discussion

The air quality impact limits applicable to this analysis are the Idaho ambient impact limits for Toxic Air Pollutants. All TAPs that exceed the emission screening level are considered either daily non-carcinogenic or annual carcinogenic pollutants.

6.1 Criteria Pollutant Impact Results

All applicable criteria pollutants were determined to be below the Level I modeling threshold and were not evaluated against any standard.

6.1.1 Significant Impact Level Analyses

A significance analysis is not necessary for this project because criteria pollutant modeling was not required.

6.1.2 Cumulative NAAQS Impact Analyses

A NAAQS analysis was not performed.

6.2 TAP Impact Analyses

Table 7 provides results for TAP impact analyses.

Table 12. RESULTS FOR TAP IMPACT ANALYSES			
TAP	**Averaging Period**	**Maximum Modeled Impact (µg/m^3)[a]**	**AAC or AACC (µg/m^3)**
Formaldehyde	Annual	7.38E-02	7.70E-02
Acetaldehyde	Annual	4.48E-02	4.50E-01
Benzene	Annual	4.48E-02	1.20E-01
Acrylamide	Annual	1.90E-04	7.70E-04
Vinyl Chloride	Annual	3.87E-02	1.40E-01
Quartz	24-hr	0.20	5

[a.] Micrograms/cubic meter.

7.0 Quality Assurance/Control

All modeling has been reviewed and expected to be accurate and complete. The results of all ambient modeling suggest that all emissions are compliant with applicable AAC or AACC.

Appendix E **SAFETY DATA SHEETS**

Available on accompanying DVD

Appendix F **MANUFACTURER DATA**

OCCUPATIONAL SAFETY AND HEALTH GUIDELINE FOR ACRYLAMIDE

INTRODUCTION

This guideline summarizes pertinent information about acrylamide for workers and employers as well as for physicians, industrial hygienists, and other occupational safety and health professionals who may need such information to conduct effective occupational safety and health programs. Recommendations may be superseded by new developments in these fields; readers are therefore advised to regard these recommendations as general guidelines and to determine periodically whether new information is available.

SUBSTANCE IDENTIFICATION

- **Formula**

C_3H_5NO

- **Structure**

$H_2C=CHCONH_2$

- **Synonyms**

Acrylic amide; propenamide; 2-propenamide; propenoic acid amide; acrylamide monomer

- **Identifiers**

1. CAS No.: 79-06-1
2. RTECS No.: AS3325000
3. DOT UN: 2074 55
4. DOT label: St. Andrew's Cross

- **Appearance and odor**

Acrylamide is a colorless to white, odorless, crystalline solid.

CHEMICAL AND PHYSICAL PROPERTIES

- **Physical data**

1. Molecular weight: 71.1
2. Boiling point (at 760 mm Hg): 175° to 300°C (347° to 572°F); decomposes on boiling
3. Specific gravity (water = 1): 1.1 at 30°C (86°F)
4. Vapor density (air = 1 at boiling point of acrylamide): 2.4
5. Melting point: 84.5°C (179.3°F)
6. Vapor pressure at 20°C (68°F): 0.007 mm Hg
7. Solubility: Miscible with water; soluble in acetone, ethanol, ethyl ether, and methanol
8. Evaporation rate: Data not available

- **Reactivity**

1. Conditions contributing to instability: Acrylamide decomposes above 175°C (347°F). Violent polymerization may occur when heated or when exposed to ultraviolet light.
2. Incompatibilities: Fires and explosions may result from contact of acrylamide with strong oxidizers.
3. Thermal decomposition products: Toxic gases (such as ammonia, hydrogen, and carbon monoxide) may be released when acrylamide decomposes; toxic oxides of nitrogen may form in fire.
4. Special precautions: None

- **Flammability**

Acrylamide is combustible, but because of its high flash point, it is considered only a slight fire hazard when exposed to heat, sparks, or open flame. It is a combustible, flammable liquid when dissolved in solvent. The National Fire Protection Association has not assigned a flammability rating to

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service Centers for Disease Control
National Institute for Occupational Safety and Health
Division of Standards Development and Technology Transfer

U.S. DEPARTMENT OF LABOR
Occupational Safety and Health Administration

acrylamide; other sources rate acrylamide as a moderate fire hazard.

1. Flash point: 138°C (280°F) (closed cup)

2. Autoignition temperature: 424°C (795°F)

3. Flammable limits in air (% by volume): Data not available

4. Extinguishant: Use dry chemical, carbon dioxide, Halon®, water spray, or standard foam for small fires; water spray, fog, or standard foam for large fires.

Fires involving acrylamide should be fought upwind and from the maximum distance possible. Isolate the hazard area and deny access to unnecessary personnel. Emergency personnel should stay out of low areas and ventilate closed spaces before entering. Containers of acrylamide may explode in the heat of the fire and should be moved from the fire area if it is possible to do so safely. If this is not possible, cool the containers from the sides with water until well after the fire is out. Stay away from the ends of containers. Personnel should withdraw immediately if they hear a rising sound from a venting safety device or if a container becomes discolored as a result of fire. Dikes should be used to contain fire-control water for later disposal. Firefighters should wear a full set of protective clothing (including a self-contained breathing apparatus) when fighting fires involving acrylamide. Chemical protective clothing specifically recommended for acrylamide may not provide thermal protection unless so stated by the clothing manufacturer. Firefighters' protective clothing may not provide protection against permeation by acrylamide.

EXPOSURE LIMITS

• OSHA PEL

The current Occupational Safety and Health Administration (OSHA) permissible exposure limit (PEL) for acrylamide is 0.03 mg/m^3 as an 8-hr time-weighted average (TWA) concentration. The OSHA PEL also bears a "Skin" designation, which indicates that the cutaneous route of exposure (including mucous membranes and eyes) contributes to overall exposure [29 CFR 1910.1000, Table Z-1-A].

• NIOSH REL

The National Institute for Occupational Safety and Health (NIOSH) has established a recommended exposure limit (REL) of 0.03 mg/m^3 as an 8-hr TWA with a "Skin" notation. However, acrylamide has been designated as a potential occupational carcinogen and exposure should be limited to the lowest feasible concentration [NIOSH 1992].

• ACGIH TLV®

The American Conference of Governmental Industrial Hygienists (ACGIH) has designated acrylamide an A2 substance (suspected human carcinogen) and assigned acrylamide a threshold limit value (TLV) of 0.03 mg/m^3 as a TWA for a normal 8-hr workday and a 40-hr workweek with a "Skin" notation [ACGIH 1991b].

• Rationale for limits

The limits are based on the risk of systemic poisoning associated with exposure to acrylamide.

HEALTH HAZARD INFORMATION

• Routes of exposure

Exposure to acrylamide can occur through inhalation of vapor, dust, or aerosol and absorption through the skin or mucous membranes.

• Summary of toxicology

1. *Effects on Animals*: Acrylamide is an irritant, a potent neurotoxin that affects both the central and peripheral nervous systems, a reproductive toxin, and a carcinogen. A 10% aqueous solution of acrylamide applied to abraded rabbit skin caused tissue swelling and redness. Although the 10% aqueous solution immediately caused slight pain and conjunctival irritation, a 40% solution produced severe pain with minimal corneal damage. This damage was repaired within 24 hr following a nonrinsed ocular application [Grant 1986]. Acrylamide is also a moderate skin irritant. The acute dermal LD_{50} in rabbits is 2,250 mg/kg [ACGIH 1991a]. The acute oral LD_{50} for rats, guinea pigs, and rabbits fed aqueous solutions of 2.5% to 12.6% acrylamide ranged from 150 to 180 mg/kg body weight. However, in rats fed a 50% aqueous solution of acrylamide, the LD_{50} was 565 mg/kg and 490 mg/kg for males and females, respectively. The acute lethality of acrylamide is a result of its neurotoxic effects, especially on the central nervous system. The toxic effects of acrylamide on the central nervous system are reversible if the dose and duration of exposure are minimal. Recovery is greatly prolonged if the exposure duration is increased [ACGIH 1991a].

Severe or lethal exposure concentrations can also induce testicular degeneration of the seminephrous tubules, degeneration of the convoluted tubular epithelium of the kidney, fatty degeneration and necrosis of the liver, and congestion of the lungs [NLM 1991]. The primary effects of repeated exposures are neurotoxic and involve the central and peripheral nervous systems. The central nervous system effects predominate during acute and subchronic exposures and can also involve somnolence and hallucinations. The sensory and motor neuronal effects on the peripheral nervous system (such as distal numbness, paresthesias, sensory loss, weakness, ataxia, and paralysis) predominate during chronic exposures [NLM 1991]. Rats, cats, and monkeys have developed neuropathies only when exposed to repeated daily doses of 1 mg/kg or more [ACGIH 1991a].

Male rats and mice that received neurotoxic concentrations of acrylamide orally for 2 to 3 months developed testicular degeneration. The rats consumed 20 mg/kg of body weight per day from drinking water, which contained 400 ppm. The mice received doses of 35.5 mg/kg twice per week [NLM 1991]. Chromosomal alterations in the sperm (but not bone marrow) cells of male DDY mice exposed to acrylamide have also been reported [Sakamoto and Hashimoto 1986]. Although pregnant rats that consumed a diet containing 400 ppm throughout their gestation period developed maternal toxicity (neurotoxicity), only slightly depressed birth weights were noted in their pups [ACGIH 1991a]. Similar consumption of a 200-ppm diet induced an abnormal gait in the pregnant dams but did not affect the growth and development of offspring during their first 6 weeks of postnatal development [ACGIH 1991a]. No developmental defects were induced in fetuses of pregnant dams intubated with 20 mg/kg per day (200 mg/kg total dose) during days 6 to 17 of gestation [NLM 1991].

Studies in mice and rats confirm that acrylamide can act either as an initiator or as a complete carcinogen [NIOSH 1991]. This chemical induces skin-tumor-initiating activity in Sencar mice and lung tumors in A/J mice. Acrylamide administered in drinking water to F344 rats for 2 years caused a statistically increased number of tumors (including cancerous tumors) at multiple sites. The International Agency for Research on Cancer (IARC) found "sufficient evidence of carcinogenicity" for chronically exposed animals [IARC 1986].

2. *Effects on Humans*: Most cases of acrylamide toxicity in humans have resulted from occupational exposures, especially transcutaneous ones. In these cases, episodic contact dermatitis of the hands is usually observed before signs of severe neuropathy become apparent. Workers exposed through the skin to acrylamide dust for 1 to 24 months developed characteristic neurological signs that consisted of postural difficulty, ataxia, lethargy, loss of vibratory sensation, loss of deep tendon reflexes, loss of position sense, and weakness, numbness, and tingling of the extremities. In addition, the extremities were cold and bluish-red in color. The palms of the hands and soles of the feet sweated excessively, and skin peeled from the hands and fingers [Sax 1984; Schaumburg et al. 1983].

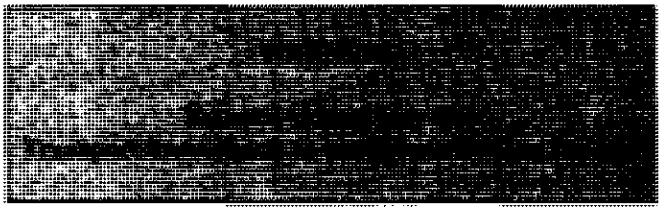
Acrylamide toxicity resulting from ingestion of subacute doses (such as in contaminated drinking water) is manifested by central nervous system neuropathy. Drowsiness, disturbed balance, confusion, memory loss, and hallucinations have all been reported following ingestion of acrylamide. Nystagmus and slurred speech have also been noted. Disturbances of vision have not been observed in cases of systemic acrylamide toxicity. In systemic acrylamide poisoning, peripheral neuropathy is late to appear relative to central nervous system effects. The signs and symptoms of acrylamide toxicity remit slowly, and often only partially, following cessation of exposure. Although IARC could find no adequate data that demonstrate an increased cancer incidence in acrylamide-exposed workers, they classify the chemical as 2B, "possibly carcinogenic to humans." This classification is based on the induction of cancers in exposed experimental animals [IARC 1987].

- **Signs and symptoms of exposure**

1. *Acute exposure*: Exposure to acrylamide can cause irritation, muscular stiffness and weakness, ataxia, loss of balance, loss of proprioception, and ability to stand.

2. *Chronic exposure*: Exposure to acrylamide can cause irritation, peeling of the skin and excessive sweating of the hands and feet, somnolence, confusion, hallucinations, memory loss, numbness, sensory loss, loss of tendon reflexes, weakness, nystagmus, slurred speech, incoordination, tremor, muscular atrophy, ataxia, and paralysis.

- **Emergency procedures**



Keep unconscious victims warm and on their sides to avoid choking if vomiting occurs. ***Immediately*** initiate the following emergency procedures, continuing them as appropriate en route to the emergency medical facility:

1. *Eye exposure*: Irritation may result! ***Immediately and thoroughly*** flush the eyes with large amounts of water, occasionally lifting the upper and lower eyelids.

2. *Skin exposure*: Acrylamide can cause skin irritation. ***Immediately*** remove contaminated clothing and ***thoroughly*** wash contaminated skin with soap and water.

3. *Inhalation exposure*: If respirable acrylamide is inhaled, move the victim to fresh air ***immediately***. Have the victim blow his or her nose, or use a soft tissue to swab particulates from the nostrils.

If the victim is not breathing, clean any chemical contamination from the victim's lips and perform cardiopulmonary resuscitation (CPR); if breathing is difficult, give oxygen.

4. *Ingestion exposure*: Take the following steps if acrylamide is ingested:

—Have the victim rinse the contaminated mouth cavity several times with a fluid such as water.

—Have the victim drink a glass (8 oz) of fluid such as water.

—Induce vomiting by giving syrup of ipecac as directed on the package. If ipecac is unavailable, have the victim touch the back of the throat with a finger until productive vomiting ceases.

—Do ***not*** force an unconscious or convulsing person to drink fluid or to vomit.

5. *Rescue*: Remove an incapacitated worker from further exposure and implement appropriate emergency procedures (e.g., those listed on the material safety data sheet required by OSHA's hazard communication standard [29 CFR 1910.1200]). All workers should be familiar with emergency procedures and the location and proper use of emergency equipment.

EXPOSURE SOURCES AND CONTROL METHODS

The following uses of acrylamide may result in worker exposures to this substance:

—Use in the manufacture of copolymers and polyacrylamides for use as flocculating and thickening agents in pulp and paper industries, oil production, mining textiles, surface coating, adhesives, dyes, photography, and water and waste treatment

—Use as a grouting material in oil wells, basements, tunnels, mine shafts, caissons, and dams

—Use in miscellaneous processes of monomer acrylamide as a curing agent and in organic synthesis

—Use in soap and cosmetic preparations as thickeners and in preshave lotions, hair grooming preparations, and denture fixtures

—Use in stabilizing soil and in permitting the free flow of foundry sand into molds

—Use in clarifying solutions in chemical and food manufacturing; use in gel form in electrophoresis procedures in laboratories

The following methods are effective in controlling worker exposures to acrylamide, depending on the feasibility of implementation:

—Process enclosure

—Local exhaust ventilation

—General dilution ventilation

—Personal protective equipment

Good sources of information about control methods are as follows:

1. ACGIH [1992]. Industrial ventilation—a manual of recommended practice. 21st ed. Cincinnati, OH: American Conference of Governmental Industrial Hygienists.

2. Burton DJ [1986]. Industrial ventilation—a self study companion. Cincinnati, OH: American Conference of Governmental Industrial Hygienists.

3. Alden JL, Kane JM [1982]. Design of industrial ventilation systems. New York, NY: Industrial Press, Inc.

4. Wadden RA, Scheff PA [1987]. Engineering design for control of workplace hazards. New York, NY: McGraw-Hill.

5. Plog BA [1988]. Fundamentals of industrial hygiene. Chicago, IL: National Safety Council.

MEDICAL MONITORING

Workers who may be exposed to chemical hazards should be monitored in a systematic program of medical surveillance that is intended to prevent occupational injury and disease. The program should include education of employers and workers about work-related hazards, placement of workers in jobs that do not jeopardize their safety or health, early detection of adverse health effects, and referral of workers for diagnosis and treatment. The occurrence of disease or other work-related adverse health effects should prompt immediate evaluation of primary preventive measures (e.g., industrial hygiene monitoring, engineering controls, and personal protective equipment). A medical monitoring program is intended to supplement, not replace, such measures. To place workers effectively and to detect and control work-related health effects, medical evaluations should be performed (1) before job placement, (2) periodically during the term of employment, and (3) at the time of job transfer or termination.

- **Preplacement medical evaluation**

Before a worker is placed in a job with a potential for exposure to acrylamide, a licensed health care professional should evaluate and document the worker's baseline health status with thorough medical, environmental, and occupational histories, a physical examination, and physiologic and laboratory tests appropriate for the anticipated occupational risks. These should concentrate on the function and integrity of the central nervous system and respiratory system. Medical monitoring for respiratory disease should be conducted using the principles and methods recommended by the American Thoracic Society [ATS 1987].

A preplacement medical evaluation is recommended to assess an individual's suitability for employment at a specific job and to detect and assess medical conditions that may be aggravated or may result in increased risk when a worker is exposed to acrylamide at or below the prescribed exposure limit. The licensed health care professional should consider the probable frequency, intensity, and duration of exposure as well as the nature and degree of any applicable medical

condition. Such conditions (which should not be regarded as absolute contraindications to job placement) include a history or findings consistent with seizure or other central nervous system disorders or chronic respiratory disease.

- **Periodic medical examinations and biological monitoring**

Occupational health interviews and physical examinations should be performed at regular intervals during the employment period, as mandated by any applicable Federal, State, or local standard. Where no standard exists and the hazard is minimal, evaluations should be conducted every 3 to 5 years or as frequently as recommended by an experienced occupational health physician. Additional examinations may be necessary if a worker develops symptoms attributable to acrylamide exposure. The interviews, examinations, and medical screening tests should focus on identifying the adverse effects of acrylamide on the central nervous system and respiratory system. Current health status should be compared with the baseline health status of the individual worker or with expected values for a suitable reference population.

Biological monitoring involves sampling and analyzing body tissue or fluids to provide an index of exposure to a toxic substance or metabolite. No biological monitoring test acceptable for routine use has yet been developed for acrylamide.

- **Medical examinations recommended at the time of job transfer or termination**

The medical, environmental, and occupational history interviews, the physical examination, and selected physiologic or laboratory tests that were conducted at the time of job placement should be repeated at the time of job transfer or termination. Any changes in the worker's health status should be compared with those expected for a suitable reference population.

WORKPLACE MONITORING AND MEASUREMENT

A worker's exposure to airborne acrylamide is determined by using a personal sampling train consisting of a glass fiber filter in a Swinnex cassette (13 mm) followed by a silica gel tube. Plastic cassettes (37 mm) yielded poor recoveries of acrylamide and are therefore unsuitable. Samples are collected at a maximum flow rate of 1.0 liter/min until a maximum air volume of 120 liters is collected. The silica gel tube should then be treated with methanol to extract the acrylamide. An important step in this method is the transfer of the glass-fiber filters to glass vials containing 1 ml of methanol immediately after sampling to avoid losses of acrylamide from the filter by evaporation. The sample is then analyzed by gas chromatography using a nitrogen/phosphorous detector. The limit of detection for this procedure is 1.3 parts per billion (ppb) (0.004 mg/m^3). This method (Method 21) is included in the OSHA Computerized Information System [OSHA 1986]. The NIOSH procedure (Method S158) is described in the *NIOSH Manual of Analytical Methods* [NIOSH 1984].

PERSONAL HYGIENE

Because acrylamide can be absorbed through the skin in lethal amounts, workers should immediately remove any contaminated clothing and then should wash thoroughly with soap and water any areas of the skin that have come in contact with this substance.

Clothing and shoes contaminated with acrylamide should be removed immediately and provisions should be made for safely removing this chemical from these articles. Persons laundering contaminated clothing should be informed about the hazardous properties of acrylamide, particularly its potential for being absorbed through the skin in lethal amounts.

A worker who handles acrylamide should thoroughly wash hands, forearms, and face with soap and water before eating, using tobacco products, or using toilet facilities.

Workers should not eat, drink, or use tobacco products in areas where acrylamide is handled, processed, or stored.

STORAGE

Acrylamide should be stored in a dark, dry, well-ventilated refrigerated area in tightly sealed containers that are labeled in accordance with OSHA's hazard communication standard [29 CFR 1910.1200]. Storage in an inert atmosphere is recommended. All electrical service in storage areas should be of explosionproof design. Containers of acrylamide should be protected from physical damage and should be stored separately from oxidizing agents, polymerization catalysts, heat, sparks, and open flame. Because empty containers may contain acrylamide residues, they should be handled appropriately.

SPILLS AND LEAKS

In the event of a spill or leak involving acrylamide, persons not wearing protective equipment and clothing should be restricted from contaminated areas until cleanup is complete. The following steps should be undertaken following a spill or leak:

1. Do not touch the spilled material.
2. Notify safety personnel.
3. Remove all sources of heat and ignition.
4. Provide maximum explosionproof ventilation.

5. Use nonsparking tools during cleanup.

6. Carefully collect solid material using sand, vermiculite, or soda ash and place in a covered container for disposal.

7. To the extent feasible, avoid generating dust during cleanup.

SPECIAL REQUIREMENTS

U.S. Environmental Protection Agency (EPA) requirements for emergency planning, reportable quantities of hazardous releases, community right-to-know, and hazardous waste management may change over time. Users are therefore advised to determine periodically whether new information is available.

- **Emergency planning requirements**

Acrylamide is not subject to EPA emergency planning requirements under the Superfund Amendments and Reauthorization Act (SARA) [42 USC 11022].

- **Reportable quantity requirements for hazardous releases**

Employers are not required by the emergency release notification provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) [40 CFR 355.40] to notify the National Response Center of an accidental release of acrylamide; there is no reportable quantity for this substance.

- **Community right-to-know requirements**

Employers are not required by Section 313 of SARA to submit a Toxic Chemical Release Inventory Form (Form R) to EPA reporting the amount of acrylamide emitted or released from their facility annually.

- **Hazardous waste management requirements**

EPA considers a waste to be hazardous if it exhibits any of the following characteristics: ignitability, corrosivity, reactivity, or toxicity as defined in 40 CFR 261.21-261.24. Although acrylamide is not specifically listed as a hazardous waste under the Resource Conservation and Recovery Act (RCRA) [40 USC 6901 et seq.], EPA requires employers to treat any waste as hazardous if it exhibits any of the characteristics discussed above.

Providing detailed information about the removal and disposal of specific chemicals is beyond the scope of this guideline. The U.S. Department of Transportation, EPA, and State and local regulations should be followed to ensure that removal, transport, and disposal of this substance are conducted in accordance with existing regulations. To be certain that chemical waste disposal meets EPA regulatory requirements, employers should address any questions to the RCRA hotline at (800) 424-9346 or at (202) 382-3000 in Washington, D.C. In addition, relevant State and local authorities should be contacted for information about their requirements for waste removal and disposal.

RESPIRATORY PROTECTION

- **Conditions for respirator use**

Good industrial hygiene practice requires that engineering controls be used where feasible to reduce workplace concentrations of hazardous materials to the prescribed exposure limit. However, some situations may require the use of respirators to control exposure. Respirators must be worn if the ambient concentration of acrylamide exceeds prescribed exposure limits. Respirators may be used (1) before engineering controls have been installed, (2) during work operations such as maintenance or repair activities that involve unknown exposures, (3) during operations that require entry into tanks or closed vessels, and (4) during emergencies. Workers should use only respirators that have been approved by NIOSH and the Mine Safety and Health Administration (MSHA).

- **Respiratory protection program**

Employers should institute a complete respiratory protection program that, at a minimum, complies with the requirements of OSHA's respiratory protection standard [29 CFR 1910.134]. Such a program must include respirator selection, an evaluation of the worker's ability to perform the work while wearing a respirator, the regular training of personnel, fit testing, periodic workplace monitoring, and regular respirator maintenance, inspection, and cleaning. The implementation of an adequate respiratory protection program (including selection of the correct respirator) requires that a knowledgeable person be in charge of the program and that the program be evaluated regularly. For additional information on the selection and use of respirators and on the medical screening of respirator users, consult the *NIOSH Respirator Decision Logic* [NIOSH 1987b] and the *NIOSH Guide to Industrial Respiratory Protection* [NIOSH 1987a].

PERSONAL PROTECTIVE EQUIPMENT

Protective clothing should be worn to prevent any possibility of skin contact with acrylamide. Gloves, apron, boots, and a chemical protective suit should be worn when workers are handling this substance. Chemical protective clothing should be selected on the basis of available performance data, manufacturers' recommendations, and evaluation of the clothing under actual conditions of use. Polyethylene/ethylene vinyl alcohol has been tested against permeation by acrylamide and has demonstrated good-to-excellent resistance for periods of 4 to 8 hr.

If acrylamide is dissolved in water or an organic solvent, the permeation properties of both the solvent and the mixture must be considered when selecting personal protective equipment and clothing.

Safety glasses, goggles, or face shields should be worn during operations in which acrylamide might contact the eyes (e.g., through dust particles or splashes of solution). Eyewash fountains and emergency showers should be available within the immediate work area whenever the potential exists for eye or skin contact with acrylamide. Contact lenses should not be worn if the potential exists for acrylamide exposure.

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RDS
Metal Fabricators
Rockwell Dust Systems

RDS Metal Fabricators
8 N. First Street
Garland, TX 75040
(972) 272-7310 971-272-7310
Fax (972) 272-6341 Fed ID# 75-2323134
GARLAND TX

ATTACHMENT A

Quotation

Quote Number: 71202

Quote Date: Jul 20, 1998

Page: 1

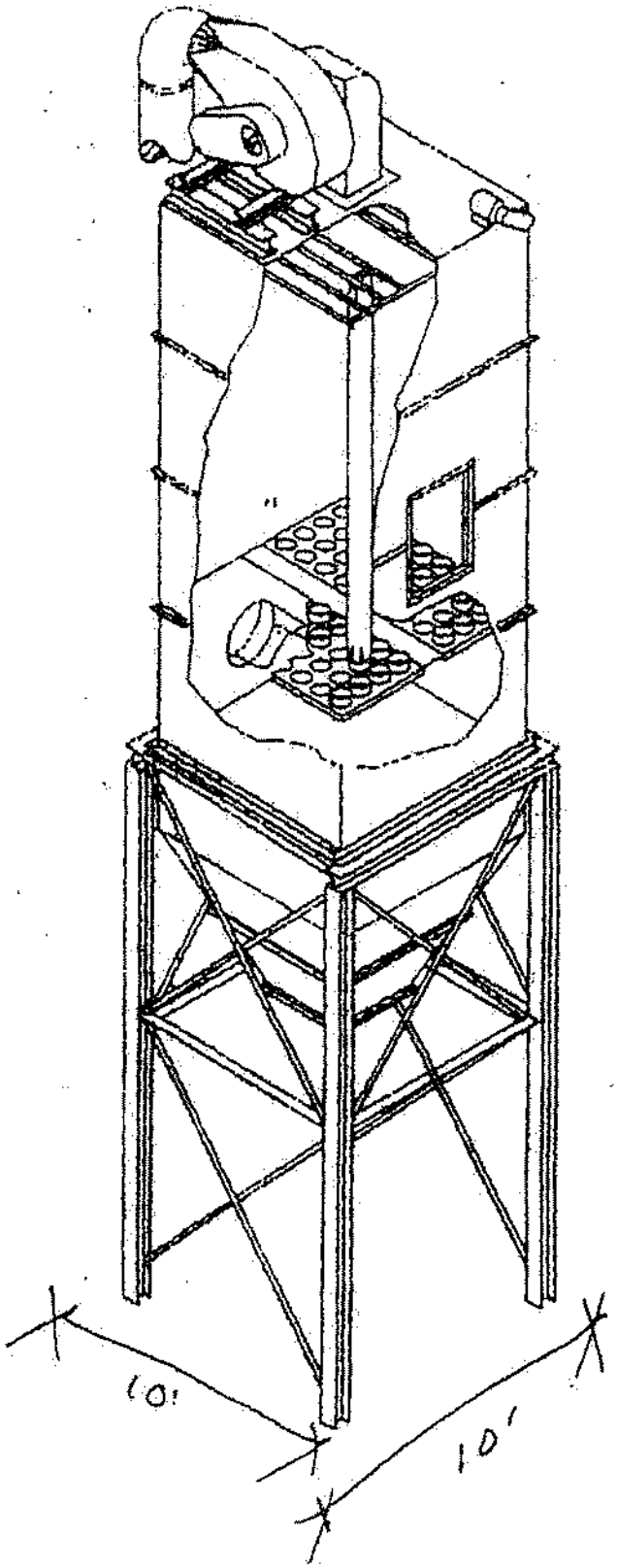
Quoted to: Champion Homes
P.O. 190
Weiser, ID 83672

Phone: 208-549-1410
Fax: 208-549-0060

Dear Sylvester Koronka:

We are pleased to quote the following for your approval. We have included the items and work as you requested. Based on our understanding of your planned requirements, we believe RDS can provide what you need at a considerable savings. We will follow up in the near future to answer any questions. Thank you.

Quantity	Description	Unit Price	Extension
	Re: Dust Collector		
	25 HP Dust Collector 6500 CFM 1080 Sq Ft, 10 Cubic Yard Hopper, Cloth Gate, and Explosion Doors.		18,000.00
	Installation		14,500.00
	Total:		32,500.00
	Price does not include: Electrical or Starter.		
	Price does not include sales tax if applicable.		
	Sincerely.		
	Bill Willard		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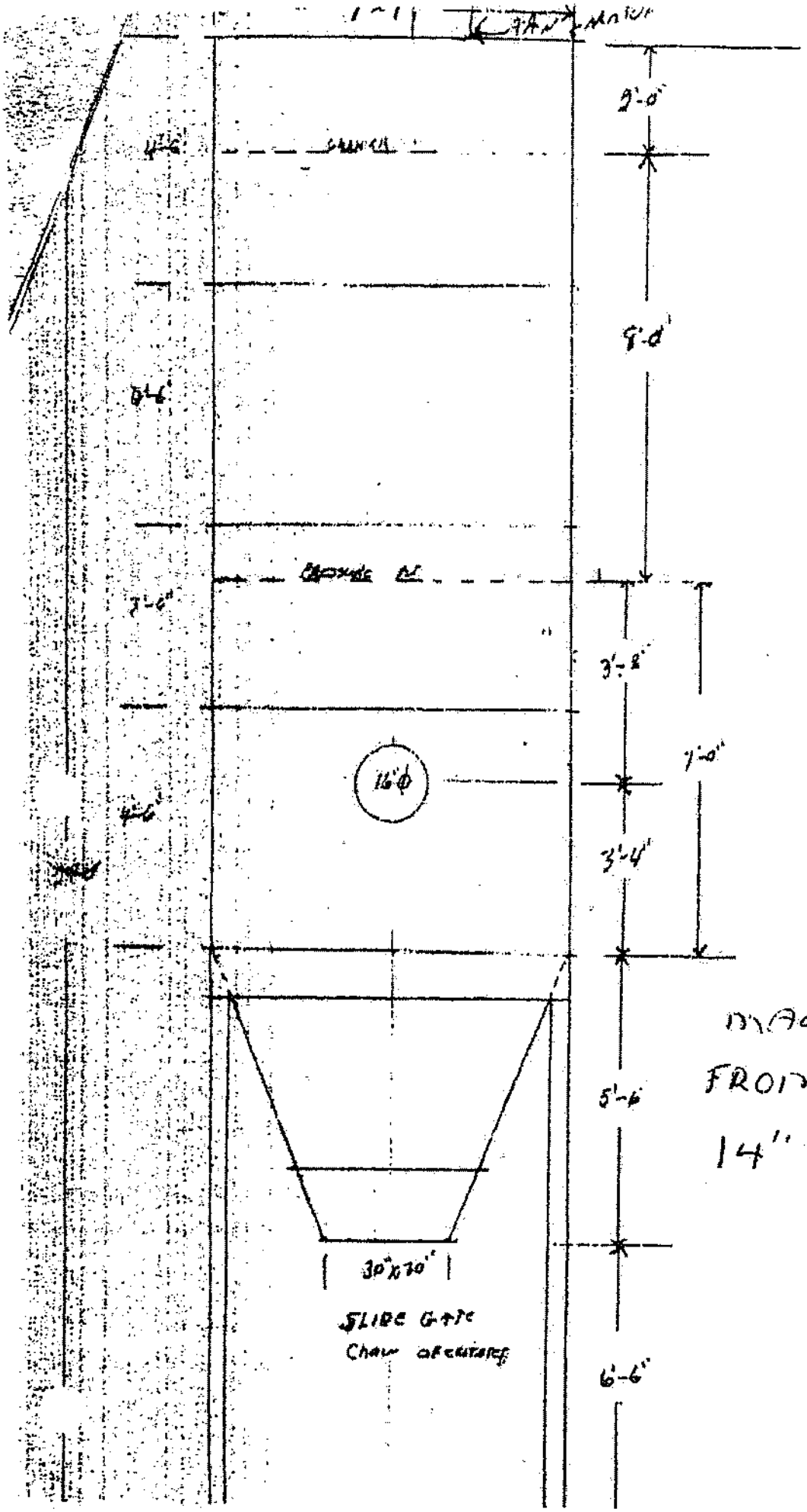

MACH APROX. 15'6"
FROM BUILDING
14" INLET PIPE

Mill Baghouse Operating Manual

All data and instructions in this manual were generated by the use and operation of this machine from the time the machine was installed in 1998.

Daily operation: At the start of each daily operating shift mill employees start the machine. It is run continually through the day. At the end of daily shifts the mill employees turn the machine off, this starts a 60 second bag shaker cycle that occurs every time the machine is stopped.

Mill employees monitor the accumulation of sawdust in the lower collection hopper of the machine and dump the sawdust into a bin as needed. This sawdust is then taken to our local landfill for disposal.

With the implementation in 2000 of our Tier II Air Quality Permit a pressure differential meter was placed on the machine to monitor the operating condition of the machine. The pressure differential meter monitors the difference in the incoming air pressure the cyclone blower creates coming into the baghouse and the pressure in the collection hopper with the drop gate closed. This gate should remain closed during normal operating conditions and only be open with the machine off and sawdust is dumped to a bin. The gauge was installed by Terry Baskett in October of 2000. The first data reading was taken on the 24th of October in 2000.

Data reading for the machine are taken at the end of shift Friday every week the plant runs production. The data readings are taken in the following manner: Before the machine is shut down at the end of a shift a reading is taken. These reading are a 0- 10 p.s.i. measurement. The machine is shut down and allowed to run a 60 second bag shaker cycle that loosens any dust that accumulates on the bags during operation and allows it to drop into the lower collection hopper. The machine is then restarted and a second reading is taken, the machine is then shut down and is ready to be started on the next shift. The data is then recorded on a computer Excel sheet and stored on the company's computer servers.

The readings taken indicate that a differential reading of 1.8 to 3. p.s.i. Indicate that the machine is operating normally. Readings in the 3.6 to 4.6 p.s.i. or higher range indicate a problem with the machine that needs attention. The following problems cause high reading and are corrected as needed as noted on the attached pressure differential log. Cause #1-shaker cycles due not keep the bags clean. This is an ongoing event that is shown on the log. Extra shaker cycles are run by stopping and starting the machine until reading goes down to the normal range, this usually takes 2-3 cycles. Occasionally the machine needs to be locked and tagged out and a maintenance employee enters the baghouse and cleans the bags by hand. This is accomplished with short section of broom handle to carefully knock the accumulated dust loose from the bags and allow it to drop into the collection hopper. This is followed by a shaker cycle. Cause #2-sawdust accumulates in the drop gate track; this keeps the door from closing completely. The machine is shut down and locked out. The drop gate is opened and the track scraped clean with a screwdriver. The gate is then closed and a shaker cycle is run. Occasionally, extreme cold weather will freeze either the differential gauge or the tubing and ports that connect it to the baghouse. This is also recorded on the log, normal reading take place as temperatures rise.

Maintenance: the cyclone blower motor bearings are lubricated according to the motor manufacturer's specifications. The gear reducer that runs the shaker is topped off with gear oil as needed. All other bearings in the machine are sealed and require no lubricant. No other maintenance is usually needed.

Idaho DEQ Impact Modeling Analyses Report Form

1.0 Summary

This air quality modeling protocol documents the proposed methodology used to prepare an air quality analysis in support of an Idaho Department of Environmental Quality (IDEQ) Permit to Construct (PTC) application for manufacturing of homes at the Champion Home Builders (Champion) facility located in Weiser, ID. This is a modification of two older Tier II permits (087-00007 and 087-00008) and converting them into one comprehensive Permit to Construct (PTC).

All criteria pollutants have no change or a net reduction of annual emissions. Additionally, the particulate hourly emission rate does have a slight increase, but it is less than both the $PM_{2.5}$ and PM_{10} modeling threshold. Therefore, criteria pollutant modeling was not performed as part of this permitting action. In contrast, there are several new toxic air pollutants (TAPs) that exceed the screening levels outlined in IDAPA 58.01.01.585-586. As a result, those pollutants are also modeled.

2.0 Project Description and Background as it relates to Modeling Analyses

Champion Home Builders in Weiser, Idaho fabricates modules (boxes) on an assembly line to create single family homes and light commercial projects such as office buildings, apartments and hotels. The modules are constructed in an enclosed 148,000 square foot facility. The assembly line is organized into 31 stations where the construction process takes place. The design of the plant allows two section or three section modules/homes to travel side by side until reaching the final stations where they are split apart for completion and close up.

The modules/homes are constructed from lumber with a steel chasse/undercarriage for support during transportation. A portion of the lumber arrives pre-cut (PT'ed) to fit the specific module design. Other lumber is cut within the factory mill to meet the specific needs of the project.

The floor department constructs the modular floor's frames utilizing wood, decks them with 4 foot x 8 foot sub-flooring, installs floor insulation and electrical wiring, installs necessary plumbing, installs HVAC ducting, and lays linoleum and or carpet flooring.

The cabinet shop assembles and installs cabinet doors into base and overhead cabinets. The countertops are manufactured and finished with laminates, granite and/or quartz. The completed cabinets are then placed and secured into the modules.

The wall department frames the walls with pre-cut lumber, white glue and/or two part foam adhesive and gypsum board. The roofing department uses pre-manufactured trusses and lumber with gypsum installed with two-part foam adhesive.

Electrical wiring is installed. Interior and exterior walls are prepped, textured and painted, where necessary. All interior painting is conducted with the units fully enclosed within the plant and

encapsulated with plastic. Exterior painting occurs without the plastic covering, but enclosed within the manufacturing building.

Following the completion of a modular unit, electrical and water checks are performed. Lastly, all units are cleaned, prepped for shipping and moved into the yard via tractor.

2.1 General Facility/Project Descriptions

Emissions sources at the facility will include the following:

- Adhesives and Glues
- Caulking
- Paints, Lacquer and Thinners
- Welding
- Mill and Cabinet Shops
- Dust Collection (baghouse, cyclone)

Adhesives and Glues

The Champion facility utilizes a number of adhesives and glues throughout the construction process. All emissions are based on daily usage rates and applicable Safety Data Sheets (SDS), environmental data sheet information. All usage rates are based on the assumption that maximum production rates are met (10 floors per day).

Caulking

Similar to adhesives, all caulking emissions are derived from applicable daily usage and SDS (or EDS or MSDS) information. Again maximum production was assumed. Annual usage assumes 12 hour work days, 6 day work week and 313 total days per year. This is consistent for all material.

Paints, Lacquers and Thinners

All interior paints are utilized within the units with plastic covering to capture nearly all potential overspray. Only exterior paints do not implement the use of plastic covering, but all painting is conducted within the plant. As all other material, emissions are determined via daily usage and applicable SDS information.

Welding

Champion periodically performs some welding onsite within the Frame Shop. A Shielded Metal Arc Welding process and an E70S electrode are utilized. Total usage is not expected to exceed 240 lb/day. This assumes a maximum of 200 lb plus a 20% safety factor included. Previous permits (Redman Homes) included welding which included chromium, cobalt, manganese and nickel. The difference between the previous emissions and the new totals demonstrate that the net change for all four TAPs is below the applicable EL.

Mill & Cabinet Shop

Raw lumber used to construct each home is cut to size in the mill. Each saw includes an enclosed vacuum system that collects and conveys PM to a baghouse. A fan, located at the baghouse (South building), induces the airflow for the vacuum system. Emissions from this process are controlled. Previous permitting identifies that the baghouse controls PM at a rate of 99.8%. This permit assumes the same control rate to ensure consistency. Based on average weekly collection rates the total weight assumed is 1200 lbs. This is consistent with Appendix C of the previous Statement of Basis (SOB) calculations. Based on "Scamper-N-Go" certified scale in Weiser, sawdust was weighed on March 27, 2000 for a total of 700 lbs. A 300 lb "add-on estimate" was assumed. An additional 20% was added to the add-on estimate for a total of 1200 lbs. of sawdust collected/disposed of per week.

The north side building controls dust via cyclone. Per the SOB calculations from permit T-200072, the cyclone has a flow rate of 4,200 cubic feet per minute and a grain loading of 0.015gr/scf. After applying a conversation of 7000 grains per pound, the resulting controlled PM rate from the cyclone is 0.54 lb/hr.

The Cabinet Shop creates special cabinetry and soffit production. PM emissions from the cabinet shop were estimated using the capture efficiency of the dust collection system and the amount of sawdust and sander dust removed from the hopper. Per the previous permit SOB, the dust collection system's collection efficiency is 98% for particulate matter 3 microns or less. The average amount of sawdust and sander dust removed per month is approximately 600 lbs., which takes into account heavy production periods. In addition, a 20% safety factor is added. The 720 lb/month was based on current operation (1.86 floors) and is scaled up to the proposed 10 floors per day.

Natural Gas Heaters

Champion periodically utilizes natural gas heaters for comfort. The usage rates have not varied since the previous permitting action. Therefore, the associated emissions are not included in this modification application.

2.2 Location of Project

AERMOD includes rural and urban algorithm options. These options affect the wind speed profile, dispersion rates, and mixing-height formula used in calculating ground-level pollutant concentrations. A protocol was developed by USEPA to classify an area as either rural or urban for dispersion modeling purposes. The classification is based on average heat flux, land use, or population density within a three-km radius from the plant site. Of these techniques, the USEPA has specified that land use is the most definitive criterion (USEPA, 1987). The urban/rural classification scheme based on land use is as follows:

> *The land use within the total area, A_0, circumscribed by a 3-km circle about the source, is classified using the meteorological land use typing scheme proposed by Auer (1978). The classification scheme requires that more than 50% of the area, A0, be from the following land use types in order to be considered urban for dispersion modeling purposes: heavy industrial (I1); light-moderate industrial (I2); commercial (C1); single-family compact residential (R2); and multi-family compact residential (R3). Otherwise, the use of rural dispersion coefficients is appropriate.*

The Champion facility is located in a rural area, in Weiser, ID. Although the immediate vicinity of the site is industrial and commercial, site and map reconnaissance showed that the area A_0 within a 3-km circle of the source is below the 50% urban land use criteria necessary for use of urban dispersion coefficients. Rural dispersion coefficients were therefore used in the air quality dispersion modeling.

Washington County is designated as an attainment area or unclassified for all criteria pollutants. The facility is located at 504,395 mE and 4,896,027 mN, UTM zone 11 NAD 83. A map showing the geographical location of the facility is provided within Appendix A of the application.

2.3 Existing Permits and Modeling Analyses Performed

The existing permits are expired Tier II permits issued on December 19, 2000. One was issued to Champion Home Builders (the current North Facility) and the other to Redman Homes (the current South facility). The permit numbers are 087-00007 and 087-00008. Prior modeling included screening evaluations of particulate matter and some TAPs that exceed the EL.

3.0 Modeling Analyses Applicability

As discussed in Sections 2.4 and 2.5 of the associated application, all criteria pollutants emissions associated with this project either create a net negative change, no change or are below the applicable modeling threshold. As stated in the Idaho State modeling guidance, Table 2 identifies the hourly Level I particulate thresholds to be 0.22 lb and 0.054 lb for PM_{10} and $PM_{2.5}$, respectively. As shown in the associated application and emission inventory, the maximum hourly increase from this project is 0.022 lb ($PM_{2.5}$ is assumed equivalent to PM_{10}). Therefore, no criteria pollutants were modeled.

However, there are several TAPs that exceeded the applicable screening level which requires ambient analysis for those pollutants. Six TAPs were modeled and demonstrated compliance with both the AAC and AACC.

3.1 Applicable Standards

Criteria pollutant NAAQS are listed in Table 1, along with significant impact levels (SILs).

Table 1 APPLICABLE REGULATORY LIMITS

Pollutant	Averaging Period	Significant Impact Levels[a] (µg/m^3)[b]	Regulatory Limit[c] (µg/m^3)	Modeled Design Value Used[d]
PM_{10}[e]	24-hour	5.0	150[f]	Maximum 6th highest[g]
$PM_{2.5}$[h]	24-hour	1.2	35[i]	Mean of maximum 8th highest[j]
	Annual	0.3	12[k]	Mean of maximum 1st highest[l]
Carbon monoxide (CO)	1-hour	2,000	40,000[m]	Maximum 2nd highest[n]
	8-hour	500	10,000[m]	Maximum 2nd highest[n]
Sulfur Dioxide (SO_2)	1-hour	3 ppb[o] (7.8 µg/m^3)	75 ppb[p] (196 µg/m^3)	Mean of maximum 4th highest[q]
	3-hour	25	1,300[m]	Maximum 2nd highest[n]
	24-hour	5	365[m]	Maximum 2nd highest[n]
	Annual	1.0	80[r]	Maximum 1st highest[n]
Nitrogen Dioxide (NO_2)	1-hour	4 ppb (7.5 µg/m^3)	100 ppb[s] (188 µg/m^3)	Mean of maximum 8th highest[t]
	Annual	1.0	100[r]	Maximum 1st highest[n]

Lead (Pb)	3-month[u]	NA	0.15[r]	Maximum 1st highest[n]
	Quarterly	NA	1.5[r]	Maximum 1st highest[n]
Ozone (O_3)	8-hour	40 TPY VOC[v]	70 ppb[w]	Not typically modeled

a. Idaho Air Rules Section 006 (definition for significant contribution) or as incorporated by reference as per Idaho Air Rules Section 107.03.b.
b. Micrograms/cubic meter.
c. Incorporated into Idaho Air Rules by reference, as per Idaho Air Rules Section 107.
d. The maximum 1st highest modeled value is always used for the significant impact analysis unless indicated otherwise. Modeled design values are calculated for each ambient air receptor.
e. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.
f. Not to be exceeded more than once per year on average over 3 years.
g. Concentration at any modeled receptor when using five years of meteorological data.
h. Particulate matter with an aerodynamic diameter less than or equal to a nominal 2.5 micrometers.
i. 3-year mean of the upper 98th percentile of the annual distribution of 24-hour concentrations.
j. 5-year mean of the 8th highest modeled 24-hour concentrations at the modeled receptor for each year of meteorological data modeled. For the SIL analysis, the 5-year mean of the 1st highest modeled 24-hour impacts at the modeled receptor for each year.
k. 3-year mean of annual concentration.
l. 5-year mean of annual averages at the modeled receptor.
m. Not to be exceeded more than once per year.
n. Concentration at any modeled receptor.
o. Interim SIL established by EPA policy memorandum.
p. 3-year mean of the upper 99th percentile of the annual distribution of maximum daily 1-hour concentrations.
q. 5-year mean of the 4th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of 1st highest modeled 1-hour impacts for each year is used.
r. Not to be exceeded in any calendar year.
s. 3-year mean of the upper 98th percentile of the annual distribution of maximum daily 1-hour concentrations.
t. 5-year mean of the 8th highest daily 1-hour maximum modeled concentrations for each year of meteorological data modeled. For the significant impact analysis, the 5-year mean of maximum modeled 1-hour impacts for each year is used.
u. 3-month rolling average.
v. An annual emissions rate of 40 ton/year of VOCs is considered significant for O_3.
w. Annual 4th highest daily maximum 8-hour concentration averaged over three years.

Applicable TAP-specific increment standards are provided in Idaho Air Rules Section 585 and 586. A table of identified TAP emissions resulting from the proposed project is provided in this section of the Modeling Report. TAP emissions increases resulting from the project are identified in Table 2.

Table 2 TAP ELS AND AACS/AACCS

TAP	Non-Carcinogen or Carcinogen	Screening Emissions Level (EL)[a] (lb/hr)	AAC or AACC[b] (µg/m^3)
Acetaldehyde	Carcinogenic	3.0E-03	4.5E-01
Formaldehyde	Carcinogenic	5.1E-04	7.7E-02
Benzene	Carcinogenic	8.0E-04	1.2E-01
Acrylamide	Carcinogenic	5.10E-06	7.7E-04
Vinyl Chloride	Carcinogenic	9.40E-04	1.4E-01
Quartz	Non-carcinogenic	0.0067	5.0

a. ELs from Idaho Air Rules Section 585 and 586 in pounds/hour.
b. Acceptable Ambient Concentration (AAC) or Acceptable Ambient Concentration for a Carcinogen (AACC) from Idaho Air Rules Section 585 and 586, in micrograms/cubic meter or milligrams/cubic meter. Note that AACs listed in Idaho Air Rules Section 585 are expressed in units of milligrams/cubic meter rather than micrograms/cubic meter.

All TAPs identified in the emissions inventory for the project are listed in the TAPs EL and AAC/AACC Table in this section.

3.2 Criteria Pollutant Modeling Applicability

No criteria pollutants were modeled. All are below the Level I threshold. Please see the associated emission Inventory for details.

Table 3 lists criteria pollutants for which site-specific modeling analyses were performed to demonstrate compliance with NAAQS.

Table 3 MODELING APPLICABILITY

Criteria Pollutant	Modeled (yes/no)	Basis for Exclusion from Modeling
$PM_{2.5}$ 24-hour	No	_ __BRC Exempt[a] _X__Emissions Below Level l Thresholds[b] ___Emissions Below Level II Thresholds[c]
$PM_{2.5}$ annual	No	_ __BRC Exempt _X__Emissions Below Level l Thresholds ___Emissions Below Level II Thresholds
PM_{10} 24-hour	No	___BRC Exempt _X_Emissions Below Level l Thresholds ___Emissions Below Level II Thresholds
NO_2 1-hour	No	___BRC Exempt _X_Emissions Below Level l Thresholds ___Emissions Below Level II Thresholds
NO_2 annual	No	___BRC Exempt _X_Emissions Below Level l Thresholds ___Emissions Below Level II Thresholds
SO_2 1-hour, 3-hour	No	___BRC Exempt _X_Emissions Below Level l Thresholds ___Emissions Below Level II Thresholds
SO_2 annual	No	___BRC Exempt _X_Emissions Below Level l Thresholds ___Emissions Below Level II Thresholds
CO 1-hour, 8-hour	No	___BRC Exempt _X_Emissions Below Level l Thresholds ___Emissions Below Level II Thresholds

a. If the project would have qualified for a Category I BRC permitting exemption for the criteria pollutant in question, as per Idaho Air Rules Section 221.01, except for the emissions quantities of another criteria pollutant, then a NAAQS compliance analysis is not required under Section 203.02 or 403.02 for that criteria pollutant.

b. Level I Modeling Thresholds from Table 2 in Section 3 of the DEQ Modeling Guideline. NAAQS compliance is assured through DEQ's non-site-specific modeling analyses.

c. Level II Modeling Thresholds from Table 2 in Section 3 of the DEQ Modeling Guideline. NAAQS compliance is assured through DEQ's non-site-specific modeling analyses. Level II Modeling Thresholds can only be used with prior DEQ approval.

Emissions calculations that clearly show how the modeling applicability determination was performed are provided in Appendix C of the application.

3.3 TAP Modeling Applicability

As stated above, six TAPs exceed the emission screening level (EL). Modeling analysis was conducted for one non-carcinogenic (quartz) and five carcinogenic pollutants (formaldehyde, acetaldehyde, benzene, acrylamide and vinyl chloride).

3.4 Modeling Protocol

A modeling protocol was not submitted for this project as there were time constraints. Also, the modeling approach is very similar to another project of manufactured homes that DEQ is in the process of reviewing.

4.0 Modeled Emissions Sources

Only those sources containing the TAPs stated in Section 3.3 of this report were modeled. Operating hours are 12 hr/day; 6 day/week and 52 week per year for paints, adhesives etc. Also, only one is used at a time. All other operations are assumed to be simultaneous. Sawdust dust is accumulated at a maximum of 1200 pounds per week at the Mill Shop and 3,816 lb/month at the Cabinet Shop.

The modeling emissions inventory and the emissions inventory presented in other parts of the permit application are consistent.

4.1 Criteria Pollutants

No criteria pollutants were modeled as all were less than the Level I threshold.

4.1.1 Modeled Emissions Rates for Cumulative Impact Analyses

All emission rates used in the modeling analysis is equivalent to those rates identified in Appendix C of the application. The Emission Inventory also includes a “Modeling Input - Point” tab that demonstrates how the modeled emission rates were calculated from data provided within the inventory.

4.2 Toxic Air Pollutants

Emissions factors were derived using appropriate SDS information. The contributing processes occur in both the south and north building at a 50/50 rate. Half of the toxic emissions were applied to each building as 5 of the 10 floors built per day will be in each building. Previous modeling associated Redman Home Builders (South building) parameters were used to ensure consistency and they were confirmed by Champion staff. North building data is in part consistent, with previous modeling. However, updates have been made to more accurately simulate the impacts from the source. The South building contains eight stacks, each with identical flow rates and diameters. The North building consists of five similar fans and seven passive vents. All emissions are allocated evenly across each release point.

The passive vents of 8 feet by 1 foot. An equivalent diameter was calculated using the following equation:

$$d_e = \frac{1.30(a * b)^{0.625}}{(a + b)^{0.25}}$$

Where: a is the length of a side and b is the length of the other side

As a result, a calculated equivalent diameter of each of the seven passive vents, as used in the modeling analysis, is 2.75 ft. The velocity for each passive vent was set to 0.001 m/s, consistent with low-flow sources, DEQ modeling guidance/recommendations, and to ensure maximum conservatism. Also, the vents are at roof level. The five "fanned" exhaust points each had an exit diameter of 3.5 feet and a flowrate of 1,548 acfm, consistent with previous modeling. Stack heights for the elevated exhaust points were measured to be 1 foot above roof height (27 feet for the North building and 35 feet for the South building). The South building assumed the original modeled flow rates of 1,548 acfm per unit, and diameters of 3.5 feet. Lastly, all exhaust temperatures are assumed to be ambient.

Table 4 lists TAP emissions rates that were included in modeling analyses. Modeling was performed for each TAP having total project emissions exceeding the TAP-specific screening Emissions Level (EL).

TABLE 4 MODELED EMISSIONS RATES FOR TAP ANALYSES

Source ID	Source Description	TAP	Averaging Period	Emissions[a] (lb/hr)
SB_1	South Building #1	Formaldehyde	24-hour/annual	7.73E-04
		Acetaldehyde	24-hour/annual	4.69E-04
		Benzene	24-hour/annual	4.69E-04
		Quartz	24-hour/annual	4.66E-04
		Acrylamide	24-hour/annual	1.52E-06
		Vinyl Chloride	24-hour/annual	3.05E-04
SB_2	South Building #2	Formaldehyde	24-hour/annual	7.73E-04
		Acetaldehyde	24-hour/annual	4.69E-04
		Benzene	24-hour/annual	4.69E-04
		Quartz	24-hour/annual	4.66E-04
		Acrylamide	24-hour/annual	1.52E-06
		Vinyl Chloride	24-hour/annual	3.05E-04
SB_3	South Building #3	Formaldehyde	24-hour/annual	7.73E-04
		Acetaldehyde	24-hour/annual	4.69E-04
		Benzene	24-hour/annual	4.69E-04
		Quartz	24-hour/annual	4.66E-04
		Acrylamide	24-hour/annual	1.52E-06
		Vinyl Chloride	24-hour/annual	3.05E-04
SB_4	South Building #4	Formaldehyde	24-hour/annual	7.73E-04
		Acetaldehyde	24-hour/annual	4.69E-04
		Benzene	24-hour/annual	4.69E-04
		Quartz	24-hour/annual	4.66E-04
		Acrylamide	24-hour/annual	1.52E-06
		Vinyl Chloride	24-hour/annual	3.05E-04
SB_5	South Building #5	Formaldehyde	24-hour/annual	7.73E-04

TABLE 4 MODELED EMISSIONS RATES FOR TAP ANALYSES				
Source ID	**Source Description**	**TAP**	**Averaging Period**	**Emissions[a] (lb/hr)**
		Acetaldehyde	24-hour/annual	4.69E-04
		Benzene	24-hour/annual	4.69E-04
		Quartz	24-hour/annual	4.66E-04
		Acrylamide	24-hour/annual	1.52E-06
		Vinyl Chloride	24-hour/annual	3.05E-04
SB_6	South Building #6	Formaldehyde	24-hour/annual	7.73E-04
		Acetaldehyde	24-hour/annual	4.69E-04
		Benzene	24-hour/annual	4.69E-04
		Quartz	24-hour/annual	4.66E-04
		Acrylamide	24-hour/annual	1.52E-06
		Vinyl Chloride	24-hour/annual	3.05E-04
SB_7	South Building #7	Formaldehyde	24-hour/annual	7.73E-04
		Acetaldehyde	24-hour/annual	4.69E-04
		Benzene	24-hour/annual	4.69E-04
		Quartz	24-hour/annual	4.66E-04
		Acrylamide	24-hour/annual	1.52E-06
		Vinyl Chloride	24-hour/annual	3.05E-04
SB_8	South Building #8	Formaldehyde	24-hour/annual	7.73E-04
		Acetaldehyde	24-hour/annual	4.69E-04
		Benzene	24-hour/annual	4.69E-04
		Quartz	24-hour/annual	4.66E-04
		Acrylamide	24-hour/annual	1.52E-06
		Vinyl Chloride	24-hour/annual	3.05E-04
NORTH1	North Building #1	Formaldehyde	24-hour/annual	5.16E-04
		Acetaldehyde	24-hour/annual	3.13E-04
		Benzene	24-hour/annual	3.13E-04
		Quartz	24-hour/annual	3.11E-04
		Acrylamide	24-hour/annual	1.02E-06
		Vinyl Chloride	24-hour/annual	2.03E-04
NORTH2	North Building #2	Formaldehyde	24-hour/annual	5.16E-04
		Acetaldehyde	24-hour/annual	3.13E-04
		Benzene	24-hour/annual	3.13E-04
		Quartz	24-hour/annual	3.11E-04
		Acrylamide	24-hour/annual	1.02E-06
		Vinyl Chloride	24-hour/annual	2.03E-04
NORTH3	North Building #3	Formaldehyde	24-hour/annual	5.16E-04
		Acetaldehyde	24-hour/annual	3.13E-04
		Benzene	24-hour/annual	3.13E-04
		Quartz	24-hour/annual	3.11E-04
		Acrylamide	24-hour/annual	1.02E-06
		Vinyl Chloride	24-hour/annual	2.03E-04
NORTH4	North Building #4	Formaldehyde	24-hour/annual	5.16E-04
		Acetaldehyde	24-hour/annual	3.13E-04
		Benzene	24-hour/annual	3.13E-04
		Quartz	24-hour/annual	3.11E-04
		Acrylamide	24-hour/annual	1.02E-06

TABLE 4 MODELED EMISSIONS RATES FOR TAP ANALYSES				
Source ID	**Source Description**	**TAP**	**Averaging Period**	**Emissions[a] (lb/hr)**
		Vinyl Chloride	24-hour/annual	2.03E-04
NORTH5	North Building #5	Formaldehyde	24-hour/annual	5.16E-04
		Acetaldehyde	24-hour/annual	3.13E-04
		Benzene	24-hour/annual	3.13E-04
		Quartz	24-hour/annual	3.11E-04
		Acrylamide	24-hour/annual	1.02E-06
		Vinyl Chloride	24-hour/annual	2.03E-04
PASSIVE1	Passive Vent North Building #1	Formaldehyde	24-hour/annual	5.16E-04
		Acetaldehyde	24-hour/annual	3.13E-04
		Benzene	24-hour/annual	3.13E-04
		Quartz	24-hour/annual	3.11E-04
		Acrylamide	24-hour/annual	1.02E-06
		Vinyl Chloride	24-hour/annual	2.03E-04
PASSIVE2	Passive vent North Building #2	Formaldehyde	24-hour/annual	5.16E-04
		Acetaldehyde	24-hour/annual	3.13E-04
		Benzene	24-hour/annual	3.13E-04
		Quartz	24-hour/annual	3.11E-04
		Acrylamide	24-hour/annual	1.02E-06
		Vinyl Chloride	24-hour/annual	2.03E-04
PASSIVE3	Passive vent North Building #3	Formaldehyde	24-hour/annual	5.16E-04
		Acetaldehyde	24-hour/annual	3.13E-04
		Benzene	24-hour/annual	3.13E-04
		Quartz	24-hour/annual	3.11E-04
		Acrylamide	24-hour/annual	1.02E-06
		Vinyl Chloride	24-hour/annual	2.03E-04
PASSIVE4	Passive vent North Building #4	Formaldehyde	24-hour/annual	5.16E-04
		Acetaldehyde	24-hour/annual	3.13E-04
		Benzene	24-hour/annual	3.13E-04
		Quartz	24-hour/annual	3.11E-04
		Acrylamide	24-hour/annual	1.02E-06
		Vinyl Chloride	24-hour/annual	2.03E-04
PASSIVE5	Passive vent North Building #5	Formaldehyde	24-hour/annual	5.16E-04
		Acetaldehyde	24-hour/annual	3.13E-04
		Benzene	24-hour/annual	3.13E-04
		Quartz	24-hour/annual	3.11E-04
		Acrylamide	24-hour/annual	1.02E-06
		Vinyl Chloride	24-hour/annual	2.03E-04

a. Pounds/hour emissions rate modeled is the project-specific increase in potential/allowable emissions increase for the averaging period specified for the TAP.

Emissions rates in Table 4 are identical to those in the model input file for TAP analyses.

4.3 Emissions Release Parameters

All emissions release parameters are based on manufacturer data, direct measurement made by the facility or is ambient exhaust temperatures. Table 5 lists stack parameters for all point sources.

Table 5 POINT SOURCE STACK PARAMETERS

Release Point	Description	UTM[a] Coordinates		Stack Height (ft)	Stack Gas Flow Temp. (F)	Stack Gas velocity (m/s)[c]	Modeled Stack Diameter (ft)	Orient. Of Release[d]
		Easting-X (m)[b]	Northing-Y (m)					
SB_1	South Building #1	504350	4895925	36	Ambient	0.817	3.5	Vertical
SB_2	South Building #2	504386	4895925	36	Ambient	0.817	3.5	Vertical
SB_3	South Building #3	504335	4895894	36	Ambient	0.817	3.5	Vertical
SB_4	South Building #4	504371	4895895	36	Ambient	0.817	3.5	Vertical
SB_5	South Building #5	504370	4895867	36	Ambient	0.817	3.5	Vertical
SB_6	South Building #6	504335	4895868	36	Ambient	0.817	3.5	Vertical
SB_7	South Building #7	504424	4895902	36	Ambient	0.817	3.5	Vertical
SB_8	South Building #8	504462	4895901	36	Ambient	0.817	3.5	Vertical
NORTH1	North Building #1	504496	4896111	28	Ambient	0.817	3.5	Vertical
NORTH2	North Building #2	504497	4896100	28	Ambient	0.817	3.5	Vertical
NORTH3	North Building #3	504466	4896092	28	Ambient	0.817	3.5	Vertical
NORTH4	North Building #4	504452	4896089	28	Ambient	0.817	3.5	Vertical
NORTH5	North Building #5	504547	4896094	28	Ambient	0.817	3.5	Vertical
PASSIVE1	North Building passive#1	504382	4896098	27	Ambient	0.01	3.5	Vertical
PASSIVE2	North Building passive#2	504412	4896093	27	Ambient	0.01	3.5	Vertical
PASSIVE3	North Building passive#3	504430	4896092	27	Ambient	0.01	3.5	Vertical
PASSIVE4	North Building passive#4	504447	4896091	27	Ambient	0.01	3.5	Vertical
PASSIVE5	North Building passive#5	504515	4896089	27	Ambient	0.01	3.5	Vertical
PASSIVE6	North Building passive#6	504498	4896090	27	Ambient	0.01	3.5	Vertical
PASSIVE7	North Building passive#7	504481	4896090	27	Ambient	0.01	3.5	Vertical

a. Universal Transverse Mercator.
b. Meters.
c. meters per second.
d. Vertical uninterrupted, rain-capped, or horizontal release.

__X___The specific methods used to determine/calculate given release parameters is described in this section.

__X__The release orientation of all point source stacks (horizontal, rain-capped, or uninterrupted vertical release) has been verified and is documented in this section.

5.0 Modeling Methodology

Table 6 summarizes the key modeling parameters used in the impact analyses.

Table 6 MODELING PARAMETERS		
Parameter	**Description/Values**	**Documentation/Addition Description**
General Facility Location	Boise, Idaho	The area is an attainment, maintenance or unclassified area for all criteria pollutants
Model	AERMOD	AERMOD with the PRIME downwash algorithm, version 15181
Meteorological Data	Boise surface data Boise upper air data	The meteorological model input files for this project were developed by IDEQ. See Section 5.2 of this memorandum for additional details of the meteorological data.
Terrain	Considered	3-dimensional receptor coordinates were obtained from USGS National Elevation Dataset (NED) files and were used to establish elevation of ground level receptors. AERMAP was used to determine each receptor elevation and hill height scale.
Building Downwash	Considered	Plume downwash was considered for the structures associated with the facility. BPIP-PRIME was used to evaluate building dimensions for consideration of downwash effects in AERMOD.
NOx Chemistry	NA	NOx modeling was not required for this project.
Receptor Grid	**TAPs Analyses**	
	Grid 1	10-meter spacing along the ambient air boundary
	Grid 2	10-meter spacing in a 620 meter (easting) by 500 meter (northing) grid centered on the facility
	Grid 3	25-meter spacing in a 725 meter (easting) by 625 meter (northing) grid centered on Grid 2
	Grid 4	50-meter spacing in a 1.1 kilometer (easting) by 1 kilometer (northing) grid centered on Grid 3
	Grid 5	100-meter spacing in a 1.5 kilometer (easting) by 1.5 kilometer (northing) grid centered on Grid 4
	Grid 6	250-meter spacing in a 2.7 kilometer (easting) by 2.7 kilometer (northing) grid centered on Grid 5
	Grid 7	500-meter spacing in a 6.5 kilometer (easting) by 6.0 kilometer (northing) grid centered on Grid 6
	Grid 8	1.0-kilometer spacing in a 11 kilometer (easting) by 12 kilometer (northing) grid centered on Grid 6
	NAAQS Analyses	
	Not included in analysis	
	SILs Analyses	
	Not included in analysis	

5.1 Model Selection

AERMOD version 15181 was used for the modeling analyses to evaluate impacts of the Nashua Homes facility. This is the current version of the regulatory guideline model.

__X__The current versions of all models and associated programs were used in analyses, or alternate versions were specifically approved by DEQ.

____Any non-default model options used were approved by DEQ in advance.

5.2 Meteorological Data

Preprocessed AERMOD ready meteorological files were provided by Darrin Mehr of IDEQ. The data files cover the years 2008 through 2012 from the Boise Regional Airport. The data is hourly from the National Weather Service Automated Surface Observing System (ASOS). The data presented by IDEQ is model-ready, and was used without alteration or processing. These data originated from IDEQ, but has been included as part of this submittal.

__X__Meteorological data files are provided with the application.

5.3 Effects of Terrain

All source base and receptor elevations were calculated from USGS NED data obtained via the National Map Viewer website using the Bee-Line BEEST preprocessing system. A 1/3 arc second NED file was used in the analysis Input and output files from AERMAP will be included on the associated DVD.

__X__The datum of terrain data, building corner locations, emissions sources, and the ambient air boundary are specified and are consistent such that the modeled plot plan accurately represents the facility and surroundings.

5.4 Facility Layout

The image shown below identifies the general location of the Nashua Homes facility.

__X__The facility layout plot plan is provided in this section that clearly and accurately depicts buildings, emissions points, and the ambient air boundary.

5.5 Effects of Building Downwash

Building downwash effects were determined using the BPIP – Prime algorithm. There are several buildings that were incorporated into the analysis. These include: the main Champion Homes buildings, the frame shop, attachment to both the north and south buildings, and a nearby neighbor.

5.6 Ambient Air Boundary

The ambient air boundary is defined by Sunnyside Road, surrounding fence line of the South building and original property boundary of the current Champion Homes tier II permit (North building). The east side of the north building is adjacent to the Highway 95. There is no fence along surrounding the north building, but Champion will post private property/no trespassing signage where necessary. Washington county parcels are owned by Champion are RP10N05W094810 (20 acres) and RP10N05W48001A (14.3 acres).

__X__This section thoroughly describes how the facility can legally preclude public access (and practically preclude access) to areas excluded from ambient air in the modeling analyses.

5.7 Receptor Network

__X__This section of the Modeling Report provides justification that receptor spacing used in the air impact analyses was adequate to reasonably resolve the maximum modeled concentrations to the point that NAAQS or TAP compliance is assured.

The facility is located in a rural area in Weiser, ID. The property covers approximately 34.3 acres. Consistent with IDEQ guidance, the ambient air boundary used in this analysis is the owned property boundary, which also serves as the public access boundary.

Receptor density will be set to a spacing of 10 meters along the ambient air boundary, 10 meters for the first 50 meters past the boundary, then receptors were set at a density of one per 25 meters out to 100 meters away from the ambient air boundary, 50 meters out to 200 meters from the ambient air boundary, 100 meters out to another 500 meters, 250 meter spacing for another 1 kilometer, 500 meters out to 2.0 kilometers past the ambient air boundary and 1.0 kilometer spacing another 3.0 kilometers out.

The receptor network ensures that the analysis meets or exceeds EPA receptor network requirements and captures the maximum impact from the facility. Therefore, no supplemental receptor network or expansion of the model domain is included.

5.8 Background Concentrations

Only TAPs were necessary to model. Therefore, no background values were applied.

__X__ Background concentrations have been thoroughly documented and justified for all criteria pollutants where a cumulative NAAQS impact analysis was performed.

5.9 NOx Chemistry

NO_x chemistry was not evaluated because NO2 compliance was not required for this project.

6.0 Results and Discussion

The air quality impact limits applicable to this analysis are the Idaho ambient impact limits for Toxic Air Pollutants. All TAPs that exceed the emission screening level are considered either daily non-carcinogenic or annual carcinogenic pollutants.

6.1 Criteria Pollutant Impact Results

All applicable criteria pollutants were determined to be below the Level I modeling threshold and were not evaluated against any standard.

6.1.1 Significant Impact Level Analyses

A significance analysis is not necessary for this project because criteria pollutant modeling was not required.

6.1.2 Cumulative NAAQS Impact Analyses

A NAAQS analysis was not performed.

6.2 TAP Impact Analyses

Table 7 provides results for TAP impact analyses.

Table 12. RESULTS FOR TAP IMPACT ANALYSES			
TAP	**Averaging Period**	**Maximum Modeled Impact (µg/m^3)[a]**	**AAC or AACC (µg/m^3)**
Formaldehyde	Annual	7.38E-02	7.70E-02
Acetaldehyde	Annual	4.48E-02	4.50E-01
Benzene	Annual	4.48E-02	1.20E-01
Acrylamide	Annual	1.90E-04	7.70E-04
Vinyl Chloride	Annual	3.87E-02	1.40E-01
Quartz	24-hr	0.20	5

[a.] Micrograms/cubic meter.

7.0 Quality Assurance/Control

All modeling has been reviewed and expected to be accurate and complete. The results of all ambient modeling suggest that all emissions are compliant with applicable AAC or AACC.

SAFETY DATA SHEET

Date of issue/Date of revision 30 June 2015
Version 4

Section 1. Identification

Product name	: UH 150 HB PWTB 1472-0200
Product code	: 00406526
Other means of identification	: Not available.
Product type	: Liquid.

High build 1472

Relevant identified uses of the substance or mixture and uses advised against

Product use	: Industrial applications, Used by spraying.
Use of the substance/ mixture	: Coating.
Uses advised against	: Not applicable.

Supplier	: PPG Industries, Inc. One PPG Place Pittsburgh, PA 15272
Emergency telephone number	: (412) 434-4515 (U.S.) (514) 645-1320 (Canada) 01-800-00-21-400 (Mexico)
Technical Phone Number	: 1-800-441-9695 (8:00 am to 5:00 pm EST)

Section 2. Hazards identification

OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	: CARCINOGENICITY - Category 2

GHS label elements

Hazard pictograms :

Signal word	: Warning
Hazard statements	: Suspected of causing cancer.

Precautionary statements

Section 2. Hazards identification

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing.

Response : IF exposed or concerned: Get medical attention.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Emits toxic fumes when heated.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : UH 150 HB PWTB 1472-0200

Ingredient name	%	CAS number
Titanium dioxide	≥10 - <25	13463-67-7
Kaolin	≥5 - <10	1332-58-7
Silicic acid, aluminum sodium salt	≥1 - <3	1344-00-9

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Section 4. First aid measures

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Do not store below the following temperature: 5°C (41°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
titanium dioxide	**OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust **ACGIH TLV (United States, 4/2014).** TWA: 10 mg/m³ 8 hours.
Kaolin	**ACGIH TLV (United States, 4/2014).** TWA: 2 mg/m³ 8 hours. Form: Respirable fraction **OSHA PEL (United States, 2/2013).** TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust
Silicic acid, aluminum sodium salt	**ACGIH TLV (United States, 4/2014).** TWA: 1 mg/m³ 8 hours. Form: Respirable fraction **ACGIH TLV (United States, 1/2007).** TWA: 2 mg/m³, (as Al) 8 hours. Form: Soluble

Key to abbreviations

A = Acceptable Maximum Peak
ACGIH = American Conference of Governmental Industrial Hygienists.
C = Ceiling Limit
F = Fume
IPEL = Internal Permissible Exposure Limit
OSHA = Occupational Safety and Health Administration.
R = Respirable
Z = OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances
S = Potential skin absorption
SR = Respiratory sensitization
SS = Skin sensitization
STEL = Short term Exposure limit values
TD = Total dust
TLV = Threshold Limit Value
TWA = Time Weighted Average

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Section 8. Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses with side shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Characteristic.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : 100°C (212°F)

Flash point : Closed cup: Not applicable. [Product does not sustain combustion.]

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Upper: 0%

Section 9. Physical and chemical properties

Evaporation rate	: Not available.
Vapor pressure	: Not available.
Vapor density	: Not available.
Relative density	: 1.2
Density (lbs / gal)	: 10.01
Solubility	: Soluble in the following materials: cold water.
Partition coefficient: n-octanol/water	: Not available.
Viscosity	: Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)
Volatility	: 66% (v/v), 54.612% (w/w)
% Solid. (w/w)	: 45.388

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.
Incompatible materials	: Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.
Hazardous decomposition products	: Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Titanium dioxide	LD50 Oral	Rat	>10 g/kg	-
Kaolin	LD50 Oral	Rat	>5000 mg/kg	-
Silicic acid, aluminum sodium salt	LD50 Oral	Rat	>27 g/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Section 11. Toxicological information

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Product/ingredient name	OSHA	IARC	NTP
titanium dioxide	-	2B	-

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Target organs : Contains material which causes damage to the following organs: eyes.
Contains material which may cause damage to the following organs: lungs, the nervous system, upper respiratory tract, skin, stomach.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Section 11. Toxicological information

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Titanium dioxide	Acute LC50 >100 mg/l Fresh water	Daphnia - Daphnia magna	48 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class (es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

Additional information

DOT : None identified.

IMDG : None identified.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States

United States inventory (TSCA 8b) : All components are listed or exempted.

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
titanium dioxide	No.	No.	No.	No.	Yes.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 1 * **Flammability** : 0 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 1 **Flammability** : 0 **Instability** : 0

Date of previous issue : 6/3/2015

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

Section 16. Other information

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

ULTRA-HIDE® 150
High Build Interior Eggshell Primer Finish
1472-XXXX

Previously GLIDDEN™ BUILD-DUR
Latex Spray Eggshell Interior Primer/Finish

DESCRIPTION

GLIDDEN PROFESSIONAL™ ULTRA-HIDE® 150 High Build Interior Eggshell Primer Finish is a heavy bodied thixotropic latex designed for high production airless spray applications of interior surfaces. Built-in features permit application of 10-20 mils without running or sagging. A single pass equals several coats of conventional paint. Ideal for large property maintenance and commercial structures where high speed application is required.

CERTIFICATIONS

AS OF 7/1/2009, COMPLIES WITH	
MPI#	N/A
LEED	Yes
CHPS	No
GREENGUARD	No
AIM	Yes
OTC/LADCO	Yes
CARB	Yes
SCAQMD	Yes

PERFORMANCE DATA

CHARACTERISTIC:	RESULTS:
Airless Spray Touch-Up*	★★★★★★★★☆☆
Dry Hide*	★★★★★★★★★★
Burnish Resistance*	★★★★☆☆☆☆☆☆
Shim Scrub Resistance*	★★★★★☆☆☆☆☆
Washability*	★★★★★★☆☆☆☆
Sag Resistance	20-25 mils wet
Air and Substrate Application Temperature	50º F (10º C) - 90º F (32º C)
Service Temperature Limits	200º F (93º C)
Storage Temperature	40º F (4º C) - 95º F (35º C)

*Performance ratings are based on product comparisons to other products in that sheen range, performed at 77º F (25º C) 50% RH. Rating scale is from 1-10, 10 being the highest rating.

COMPOSITION

- Vinyl-Acrylic Resin
- Titanium Dioxide and Extender Pigments
- Not manufactured with lead or mercury containing materials.

SPECIFICATION

Color:
White, ready mix & custom colors

Clean-up Solvent:
Soap and water

Finish: **Eggshell**
Gloss: 4.5 - 16 units @ 60º

Density:
10.14 lbs/gal (1.22 kg/L)

Solids:
Volume - 33% +/- 1%
Weight - 45% +/- 1%

VOC:
50 g/L (0.42 lbs/gal) maximum
Refer to MSDS for regulatory VOC content of complete product line

Theoretical Coverage @ 1 mil dry:
536 sq ft/gal (13 m^2/L)

Practical Coverage:
Apply at 200-300 sq ft/gal (5-7 m²/L). Actual coverage may vary depending on substrate and application method.

Recommended Film Thickness:
5.3 - 8.0 mils wet
1.7 - 2.6 mils dry

Airless Spray Application:
Pressure - 2000 psi
Tip - .015" - .019"

Dry Time 77°F (25°C) & 50% RH:
To touch - 30-60 minutes
To recoat - 4 hours

Flame Spread Rating:
Class A (0-25) on non-combustible surfaces

Flash Point:
None

Shelf Life:
1 year minimum - unopened

SURFACE PREPARATION

GENERAL SURFACE PREPARATION:
All surfaces must be sound, dry, clean and free of oil, grease, dirt, rust, mildew, form release agents, curing compounds, loose and flaking paint and other foreign substances.

NEW SURFACES:

Drywall:
- Joint compound must dry for two days before priming
- Prime with 1030 PVA Wall Primer Sealer or for poorly finished drywall prime with 1040 Fill & Seal High Build Surfacer Primer or 1070 Fill & Seal Primer
- Product may be used self-priming on drywall, used as a primer under itself

Wood:
- Set nails, fill with latex spackle
- Sand smooth
- Dust clean
- Prime with 3210 GRIPPER® Interior Exterior Primer Sealer or 1110 STAIN JAMMER® Alkyd Primer

Concrete, Plaster and Masonry:
- Cure at least 30 days before painting
- pH must be 10.0 or lower
- Roughen slick poured or precast concrete and remove sealers by chemical cleaning or abrasive method such as sandsweeping
- Rinse thoroughly with water and allow to dry
- Must be internally dry
- Remove loose aggregate
- No primer required
- Product may be used self-priming on concrete, used as a primer under itself
- If smoothness is desired on open texture block walls, fill block with 3010 Concrete Coatings Block Filler

Steel:
- Performance over hand or power tool cleaned surfaces is dependent on the degree of cleaning
- Prime with Devflex 4020PF Direct-to-Metal Primer, DEVGUARD® 4360 Low VOC Universal Primer or DEVGUARD 4160 Multi-Purpose Tank & Structural Primer

Galvanized Metal and Aluminum:
- Clean off oils and other contaminants
- Prime with 3210 GRIPPER Interior Exterior Primer Sealer, Devflex 4020PF Direct-to-Metal Primer, DEVGUARD 4360 Low VOC Universal Primer or DEVGUARD 4160 Multi-Purpose Tank & Structural Primer

PREVIOUSLY PAINTED SURFACES:
- Wash to remove contaminants
- Rinse thoroughly with water and allow to dry
- Dull glossy areas by light sanding
- Remove sanding dust
- Remove loose paint
- Prime bare areas with primer specified under **NEW SURFACES**

WARNING! If you scrape, sand, or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear an NIOSH-approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead.

DIRECTIONS FOR USE

TINTING:
May be tinted with up to four oz/gal of DRAMATONE™ colorants.

SPREADING RATE:
Apply at up to 200-300 sq ft/gal (5-7 m²/L). Actual coverage may vary depending on surface texture and porosity.

APPLICATION:
Mix thoroughly before use. Apply using airless spray for best results. May also be backrolled. No thinning required. For airless spray application, use .015"-019" tip at 2000 psi, adjust pressure as needed. Standard roller application may also be used (two coats may be required to obtain recommended film thickness). Brush application should be limited to small areas only. Application using conventional spray is not recommended. Do not apply when surface or air temperature is below 50ºF (10ºC). Provide good ventilation and warmth for normal drying.

DRYING TIME:
At 77ºF (25ºC) and 50% R.H., dries to touch in 30-60 minutes and to recoat in four hours. Low temperature, high humidity, thick films or poor ventilation will increase these times.

CLEAN-UP:
Clean hands and tools immediately with warm, soapy water. Clean spills right away with a damp cloth.

WASHING INSTRUCTIONS:
After 30 days or when paint has fully cured, areas may be washed using a non-abrasive, mild detergent solution and cellulose sponge.

PRECAUTIONS

WARNING! CAUSES EYE, SKIN AND RESPIRATORY TRACT IRRITATION. MAY BE HARMFUL IF SWALLOWED. WHEN TINTED, CONTAINS ETHYLENE GLYCOL WHICH CAN CAUSE SEVERE KIDNEY DAMAGE WHEN INGESTED AND HAS BEEN SHOWN TO CAUSE BIRTH DEFECTS IN LABORATORY ANIMALS. USE ONLY WITH ADEQUATE VENTILATION. KEEP OUT OF THE REACH OF CHILDREN. For emergency information call (800) 545-2643. **Note: These warnings encompass the product series. Prior to use, read and follow product-specific MSDS and label information.** If sanding, wear a dust mask to avoid breathing of sanding dust. Do not breathe vapors or spray mist. Ensure fresh air entry during application and drying. Avoid contact with eyes and skin. If you experience eye watering, headaches, or dizziness, leave the area. If properly used, a respirator may offer additional protection. Obtain professional advice before using. Close container after each use. **FIRST AID**: For skin contact, wash thoroughly with soap and water. If any product remains, gently rub with petroleum jelly, vegetable or mineral/baby oil then wash again with soap and water. Repeat as needed. Remove contaminated clothing. For eye contact, flush immediately with plenty of water for at least 15 minutes. **Get medical attention**. If swallowed, **get medical attention immediately**. If inhalation causes discomfort, remove to fresh air. If discomfort persists or breathing difficulty occurs, get medical attention. **KEEP FROM FREEZING.** DS10-1005

SHIPPING

FREIGHT CLASSIFICATION:
Paint, Freezable

PACKAGING:
1 gallon (3.785 L)
5 gallons (18.925 L)

FLASH POINT:
None

SAFETY DATA SHEET

Date of issue/Date of revision 14 August 2015
Version 4.01

Section 1. Identification

Product name	: UH 150 HB FL HHWH 1290-1000V
Product code	: 00406334
Other means of identification	: Not available.
Product type	: Liquid.

gm Build Latex Flat 1290

Relevant identified uses of the substance or mixture and uses advised against

Product use	: Industrial applications, Used by spraying.
Use of the substance/ mixture	: Coating.
Uses advised against	: Not applicable.

Supplier	: PPG Industries, Inc. One PPG Place Pittsburgh, PA 15272
Emergency telephone number	: (412) 434-4515 (U.S.) (514) 645-1320 (Canada) 01-800-00-21-400 (Mexico)
Technical Phone Number	: 1-800-441-9695 (8:00 am to 5:00 pm EST)

Section 2. Hazards identification

OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	: CARCINOGENICITY - Category 2 Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 37.4%

GHS label elements

Hazard pictograms :

Signal word	: Warning
Hazard statements	: Suspected of causing cancer.

Precautionary statements

Section 2. Hazards identification

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing.

Response : IF exposed or concerned: Get medical attention.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Emits toxic fumes when heated.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : UH 150 HB FL HHWH 1290-1000V

Ingredient name	%	CAS number
titanium dioxide	≥5 - <10	13463-67-7

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Section 4. First aid measures

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Do not store below the following temperature: 5°C (41°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
titanium dioxide	**OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust **ACGIH TLV (United States, 4/2014).** TWA: 10 mg/m³ 8 hours.

Key to abbreviations

A = Acceptable Maximum Peak
ACGIH = American Conference of Governmental Industrial Hygienists.
C = Ceiling Limit
F = Fume
IPEL = Internal Permissible Exposure Limit
OSHA = Occupational Safety and Health Administration.
R = Respirable
Z = OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances
S = Potential skin absorption
SR = Respiratory sensitization
SS = Skin sensitization
STEL = Short term Exposure limit values
TD = Total dust
TLV = Threshold Limit Value
TWA = Time Weighted Average

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses with side shields.

Section 8. Exposure controls/personal protection

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Characteristic.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : 100°C (212°F)

Flash point : Closed cup: Not applicable. [Product does not sustain combustion.]

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Upper: 0%

Evaporation rate : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 1.44

Density (lbs / gal) : 12.02

Solubility : Soluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Volatility : 65% (v/v), 45.039% (w/w)

Section 9. Physical and chemical properties

% Solid. (w/w) : 54.961

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
titanium dioxide	LD50 Oral	Rat	>10 g/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Product/ingredient name	OSHA	IARC	NTP
titanium dioxide	-	2B	-

Section 11. Toxicological information

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Target organs : Contains material which may cause damage to the following organs: upper respiratory tract.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.
Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.
Potential delayed effects : There are no data available on the mixture itself.

Section 11. Toxicological information

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	176038.2 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
titanium dioxide	Acute LC50 >100 mg/l Fresh water	Daphnia - Daphnia magna	48 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 13. Disposal considerations

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class (es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

Additional information

DOT : None identified.

IMDG : None identified.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States

United States inventory (TSCA 8b) : All components are listed or exempted.

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Delayed (chronic) health hazard

Composition/information on ingredients

Section 15. Regulatory information

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
titanium dioxide	No.	No.	No.	No.	Yes.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 1 * **Flammability** : 0 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 1 **Flammability** : 0 **Instability** : 0

Date of previous issue : **6/30/2015**

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

ULTRA-HIDE® 150 High Build Interior Flat Primer Finish 1290-XXXXV

Previously GLIDDEN™ ULTRA-HIDE®
High-Build Latex Flat Interior Primer/Finish

DESCRIPTION

GLIDDEN PROFESSIONAL™ ULTRA-HIDE® 150 High Build Interior Flat Primer Finish has been developed for airless spray application; it dries to a uniform finish, minimizing surface imperfections. It can be used as a one-coat spray applied coating for new drywall and plaster surfaces.

CERTIFICATIONS

AS OF 7/1/2009, COMPLIES WITH	
MPI#	N/A
LEED	Yes
CHPS	No
GREENGUARD	No
AIM	Yes
OTC/LADCO	Yes
CARB	Yes
SCAQMD	Yes

PERFORMANCE DATA

CHARACTERISTIC:	RESULTS:
Airless Spray Touch-Up*	★★★★★★★★★☆
Dry Hide*	★★★★★★★★★★
Burnish Resistance*	★★★★★★★☆☆☆
Shim Scrub Resistance*	★★☆☆☆☆☆☆☆☆
Washability*	★★★★★☆☆☆☆☆
Sag Resistance	25-30 mils wet
Air and Substrate Application Temperature	50º F (10º C) - 90º F (32º C)
Service Temperature Limits	200º F (93º C)
Storage Temperature	40º (4º C) F - 95º F (35º C)

*Performance ratings are based on product comparisons to other products in that sheen range, performed at 77º F (25º C) 50% RH. Rating scale is from 1-10, 10 being the highest rating.

COMPOSITION

- Vinyl-Acrylic Resin
- Titanium Dioxide and Extender Pigments
- Not manufactured with lead or mercury containing materials.

SPECIFICATION

Color:
White, ready mix & custom colors

Clean-up Solvent:
Soap and water

Finish: **Flat**
Sheen: 0.2 - 2 units @ 85º

Density:
12.08 lbs/gal (1.45 kg/L)

Solids:
Volume - 34% +/- 1%
Weight - 55% +/- 1%

VOC:
50 g/L (0.42 lbs/gal) maximum
Refer to MSDS for regulatory VOC content of complete product line

Theoretical Coverage @ 1 mil dry:
551 sq ft/gal (13 m^2/L)

Practical Coverage:
Apply at up to 200-300 sq ft/gal (5-7 m^2/L). Actual coverage may vary depending on substrate and application method.

Recommended Film Thickness:
5.3 - 8.0 mils wet
1.8 - 2.7 mils dry

Airless Spray Application:
Pressure - 2000 psi
Tip - .015" - .019"

Dry Time 77°F (25°C) & 50% RH:
To touch - 30-60 minutes
To recoat - 4 hours

Flame Spread Rating:
Class A (0-25) on non-combustible surfaces

Flash Point:
None

Shelf Life:
1 year minimum - unopened

SURFACE PREPARATION

GENERAL SURFACE PREPARATION:
All surfaces must be sound, dry, clean and free of oil, grease, dirt, rust, mildew, form release agents, curing compounds, loose and flaking paint and other foreign substances.

NEW SURFACES:

Drywall:
- Joint compound must dry for two days before priming
- Prime with 1030 PVA Wall Primer Sealer or for poorly finished drywall prime with 1040 Fill & Seal High Build Surfacer Primer or 1070 Fill & Seal Primer
- Product may be used self-priming on drywall, used as a primer under itself

Wood:
- Set nails, fill with latex spackle
- Sand smooth
- Dust clean
- Prime with 3210 GRIPPER® Interior Exterior Primer Sealer or 1110 STAIN JAMMER® Alkyd Primer.

Concrete, Plaster and Masonry:
- Cure at least 30 days before painting
- pH must be 10.0 or lower
- Roughen slick poured or precast concrete and remove sealers by chemical cleaning or abrasive method such as sandsweeping
- Rinse thoroughly with water and allow to dry
- Must be internally dry
- Remove loose aggregate
- No primer required
- Product may be used self-priming on concrete, used as a primer under itself
- If smoothness is desired on open texture block walls, fill block with 3010 Concrete Coatings Block Filler

Steel:
- Performance over hand or power tool cleaned surfaces is dependent on the degree of cleaning
- Prime with Devflex 4020PF Direct-to-Metal Primer, DEVGUARD® 4360 Low VOC Universal Primer or DEVGUARD 4160 Multi-Purpose Tank & Structural Primer

Galvanized Metal and Aluminum:
- Clean off oils and other contaminants
- Prime with 3210 GRIPPER Interior Exterior Primer Sealer, Devflex 4020PF Direct-to-Metal Primer, DEVGUARD 4360 Low VOC Universal Primer or DEVGUARD 4160 Multi-Purpose Tank & Structural Primer

PREVIOUSLY PAINTED SURFACES:
- Wash to remove contaminants
- Rinse thoroughly with water and allow to dry
- Dull glossy areas by light sanding
- Remove sanding dust
- Remove loose paint
- Prime bare areas with primer specified under **NEW SURFACES**

WARNING! If you scrape, sand, or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear an NIOSH-approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead.

DIRECTIONS FOR USE

TINTING:
White tint base may be tinted with up to 3 oz/gal of DRAMATONE™ colorants. (For optimum touch-up, tint to colors with a light reflectance value of 70 or greater. See MASTER PALETTE® color notation for light reflectance value.)

SPREADING RATE:
Apply at up to 200-300 sq ft/gal (5-7 m²/L). Actual coverage may vary depending on surface texture and porosity.

APPLICATION:
Mix thoroughly before use. Apply using airless spray for best results. May also be backrolled. No thinning required. For airless spray application, use .015"-.019" tip at 2000 psi, adjust pressure as needed. Standard roller application may also be used (two coats may be required to obtain recommended film thickness). Brush application should be limited to small areas only. Application using conventional spray is not recommended. Do not apply when surface or air temperature is below 50ºF (10ºC). Provide good ventilation and warmth for normal drying.

DRYING TIME:
At 77ºF (25ºC) and 50% R.H., dries to touch in 30-60 minutes and to recoat in four hours. Low temperature, high humidity, thick films or poor ventilation will increase these times.

CLEAN-UP:
Clean hands and tools immediately with warm, soapy water. Clean spills right away with a damp cloth.

WASHING INSTRUCTIONS:
After 30 days or when paint has fully cured, areas may be washed using a non-abrasive, mild detergent solution and cellulose sponge.

PRECAUTIONS

WARNING! CAUSES EYE, SKIN AND RESPIRATORY TRACT IRRITATION. MAY BE HARMFUL IF SWALLOWED. WHEN TINTED, CONTAINS ETHYLENE GLYCOL WHICH CAN CAUSE SEVERE KIDNEY DAMAGE WHEN INGESTED AND HAS BEEN SHOWN TO CAUSE BIRTH DEFECTS IN LABORATORY ANIMALS. USE ONLY WITH ADEQUATE VENTILATION. KEEP OUT OF THE REACH OF CHILDREN. For emergency information call (800) 545-2643. **Note: These warnings encompass the product series. Prior to use, read and follow product-specific MSDS and label information.** If sanding, wear a dust mask to avoid breathing of sanding dust. Do not breathe vapors or spray mist. Ensure fresh air entry during application and drying. Avoid contact with eyes and skin. If you experience eye watering, headaches, or dizziness, leave the area. If properly used, a respirator may offer additional protection. Obtain professional advice before using. Close container after each use. **FIRST AID**: For skin contact, wash thoroughly with soap and water. If any product remains, gently rub with petroleum jelly, vegetable or mineral/baby oil then wash again with soap and water. Repeat as needed. Remove contaminated clothing. For eye contact, flush immediately with plenty of water for at least 15 minutes. **Get medical attention**. If swallowed, **get medical attention immediately**. If inhalation causes discomfort, remove to fresh air. If discomfort persists or breathing difficulty occurs, get medical attention. **KEEP FROM FREEZING.** DS10-1005

SHIPPING

FREIGHT CLASSIFICATION:
Paint, Freezable

PACKAGING:
5 gallons (18.925 L)

FLASH POINT:
None

WELD-ON

GHS SAFETY DATA SHEET

Date Revised: APR 2015
Supersedes: OCT 2014

WELD-ON® 773™ Low VOC Pipe Cement for ABS Plastic Pipe

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: WELD-ON® 773™ Low VOC Pipe Cement for ABS Plastic Pipe

PRODUCT USE: Low VOC Solvent Cement for ABS Plastic Pipe

SUPPLIER:

MANUFACTURER: IPS Corporation
17109 South Main Street, Gardena, CA 90248-3127
P.O. Box 379, Gardena, CA 90247-0379
Tel. 1-310-898-3300

EMERGENCY: Transportation: CHEMTEL Tel. 800-255-3924,+1 813-248-0585 (International) **Medical:** CHEMTEL Tel. 800-255-3924,+1 813-248-0585 (International)

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Health		Environmental		Physical	
Acute Toxicity:	Category 4	Acute Toxicity:	None Known	Flammable Liquid	Category 2
Skin Irritation:	Category 3	Chronic Toxicity:	None Known		
Skin Sensitization:	NO				
Eye:	Category 2B				

GHS LABEL: 

Signal Word:
Danger

WHMIS CLASSIFICATION: CLASS B, DIVISION 2

Hazard Statements	Precautionary Statements
H225: Highly flammable liquid and vapor	P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
H319: Causes serious eye irritation	P261: Avoid breathing dust/fume/gas/mist/vapors/spray
H336: May cause drowsiness or dizziness	P280: Wear protective gloves/protective clothing/eye protection/face protection
EUH 066: Repeated exposure may cause skin dryness or cracking	P337+P313: Get medical advice/attention
	P403+P233: Store in a well ventilated place. Keep container tightly closed
	P501: Dispose of contents/container in accordance with local regulation

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

	CAS#	EINECS # *	REACH Pre-registration Number	CONCENTRATION % by Weight
Methyl Ethyl Ketone (MEK)	78-93-3	201-159-0	05-2116297728-24-0000	40 - 55
Acetone	67-64-1	200-662-2	05-2116297713-35-0000	10 - 15

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.
* Indicates this chemical is subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (40CFR372).
# indicates that this chemical is found on Proposition 65's List of chemicals known to the State of California to cause cancer or reproductive toxicity.

SECTION 4 - FIRST AID MEASURES

Contact with eyes: Flush eyes immediately with plenty of water for 15 minutes and seek medical advice immediately.
Skin contact: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If irritation develops, seek medical advice.
Inhalation: Remove to fresh air. If breathing is stopped, give artificial respiration. If breathing is difficult, give oxygen. Seek medical advice.
Ingestion: Rinse mouth with water. Give 1 or 2 glasses of water or milk to dilute. Do not induce vomiting. Seek medical advice immediately.

Likely Routes of Exposure: Inhalation, Eye and Skin Contact

Acute symptoms and effects:
Inhalation: Severe overexposure may result in nausea, dizziness, headache. Can cause drowsiness, irritation of eyes and nasal passages.
Eye Contact: Vapors slightly uncomfortable. Overexposure may result in severe eye injury with corneal or conjunctival inflammation on contact with the liquid.
Skin Contact: Liquid contact may remove natural skin oils resulting in skin irritation. Dermatitis may occur with prolonged contact.
Ingestion: May cause nausea, vomiting, diarrhea and mental sluggishness.

Chronic (long-term) effects: Low level chronic exposure has been shown to cause decreased memory and impairment of the central nervous system.

SECTION 5 - FIREFIGHTING MEASURES

Suitable Extinguishing Media: Dry chemical powder, carbon dioxide gas, foam, Halon, water fog.
Unsuitable Extinguishing Media: Water spray or stream.
Exposure Hazards: Inhalation and dermal contact
Combustion Products: Oxides of carbon and smoke

	HMIS	NFPA	0-Minimal
Health	2	2	1-Slight
Flammability	3	3	2-Moderate
Reactivity	0	0	3-Serious
PPE	B		4-Severe

Protection for Firefighters: Self-contained breathing apparatus or full-face positive pressure airline masks.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal precautions: Keep away from heat, sparks and open flame.
Provide sufficient ventilation, use explosion-proof exhaust ventilation equipment or wear suitable respiratory protective equipment.
Prevent contact with skin or eyes (see section 8).
Environmental Precautions: Prevent product or liquids contaminated with product from entering sewers, drains, soil or open water course.
Methods for Cleaning up: Clean up with sand or other inert absorbent material. Transfer to a closable steel vessel.
Materials not to be used for clean up: Aluminum or plastic containers

SECTION 7 - HANDLING AND STORAGE

Handling: Avoid breathing of vapor, avoid contact with eyes, skin and clothing.
Keep away from ignition sources, use only electrically grounded handling equipment and ensure adequate ventilation/fume exhaust hoods.
Do not eat, drink or smoke while handling.

Storage: Store in ventilated room or shade below 44°C (110°F) and away from direct sunlight.
Keep away from ignition sources and incompatible materials: caustics, ammonia, inorganic acids, chlorinated compounds, strong oxidizers and isocyanates.
Follow all precautionary information on container label, product bulletins and solvent cementing literature.

SECTION 8 - PRECAUTIONS TO CONTROL EXPOSURE / PERSONAL PROTECTION

EXPOSURE LIMITS:

Component	ACGIH TLV	ACGIH STEL	OSHA PEL	OSHA STEL	OSHA PEL-Ceiling	CAL/OSHA PEL	CAL/OSHA Ceiling	CAL/OSHA STEL
Methyl Ethyl Ketone (MEK)	200 ppm	300 ppm	200 ppm	N/E	N/E	200 ppm	N/E	300 ppm
Acetone	500 ppm	750 ppm	1000 ppm	N/E	N/E	500 ppm	3000 ppm	750 ppm

Engineering Controls: Use local exhaust as needed.
Monitoring: Maintain breathing zone airborne concentrations below exposure limits.
Personal Protective Equipment (PPE):
Eye Protection: Avoid contact with eyes, wear splash-proof chemical goggles, face shield, safety glasses (spectacles) with brow guards and side shields, etc. as may be appropriate for the exposure.
Skin Protection: Prevent contact with the skin as much as possible. Butyl rubber gloves should be used for frequent immersion.
Use of solvent-resistant gloves or solvent-resistant barrier cream should provide adequate protection when normal adhesive application practices and procedures are used for making structural bonds.
Respiratory Protection: Prevent inhalation of the solvents. Use in a well-ventilated room. Open doors and/or windows to ensure airflow and air changes. Use local exhaust ventilation to remove airborne contaminants from employee breathing zone and to keep contaminants below levels listed above. With normal use, the Exposure Limit Value will not usually be reached. When limits approached, use respiratory protection equipment.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Black, medium syrupy liquid		
Odor:	Ketone	**Odor Threshold:**	1 ppm (Acetone)
pH:	Not Applicable		
Melting/Freezing Point:	-95°C (-139°F) Based on first melting component: Acetone	**Boiling Range:**	56°C (133°F) to 80°C (176°F)
Boiling Point:	56°C (133°F) Based on first boiling component: Acetone	**Evaporation Rate:**	>1.0 (BUAC = 1)
Flash Point:	-20°C (-4°F) T.C.C. based on Acetone	**Flammability:**	Category 2
Specific Gravity:	0.890 @23°C (73°F)	**Flammability Limits:**	**LEL:** 1.4% based on MEK
Solubility:	Solvent portion soluble in water. Resin portion separates out.		**UEL:** 12.8% based on Acetone
Partition Coefficient n-octanol/water:	Not Available	**Vapor Pressure:**	190 mm Hg @ 20°C (68°F): Acetone
Auto-ignition Temperature:	404°C (759°F): MEK	**Vapor Density:**	> 2.0 (Air = 1)
Decomposition Temperature:	Not Applicable	**Other Data: Viscosity:**	Medium bodied
VOC Content:	When applied as directed, per SCAQMD Rule 1168, Test Method 316A,VOC content is: ≤ 325 g/l.		

SECTION 10 - STABILITY AND REACTIVITY

Stability:	Stable
Hazardous decomposition products:	None in normal use. When forced to burn, this product gives off oxides of carbon and smoke.
Conditions to avoid:	Keep away from heat, sparks, open flame and other ignition sources.
Incompatible Materials:	Oxidizers, strong acids and bases, amines, ammonia

SECTION 11 - TOXICOLOGICAL INFORMATION

Toxicity:	LD_{50}	LC_{50}
Methyl Ethyl Ketone (MEK)	Oral: 2737 mg/kg (rat), Dermal: 6480 mg/kg (rabbit)	Inhalation 8 hrs. 23,500 mg/m^3 (rat)
Acetone	Oral: 5800 mg/kg (rat)	Inhalation 50,100 mg/m^3 (rat)

Reproductive Effects	Teratogenicity	Mutagenicity	Embryotoxicity	Sensitization to Product	Synergistic Products
Not Established	Not Established	Not Established	Not Established	Not Established	Not Established

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:	None Known
Mobility:	In normal use, emission of volatile organic compounds (VOC's) to the air takes place, typically at a rate of ≤ 325 g/l.
Degradability:	Not readily biodegradable
Bioaccumulation:	Minimal to none.

SECTION 13 - WASTE DISPOSAL CONSIDERATIONS

Follow local and national regulations. Consult disposal expert.

SECTION 14 - TRANSPORT INFORMATION

Proper Shipping Name:	Adhesives
Hazard Class:	3
Secondary Risk:	None
Identification Number:	UN 1133
Packing Group:	PG II
Label Required:	Class 3 Flammable Liquid
Marine Pollutant:	NO

EXCEPTION for Ground Shipping
DOT Limited Quantity: Up to 5L per inner packaging. 30 kg gross weight per package.
Consumer Commodity: Depending on packaging, these quantities may qualify under DOT as "ORM-D".

TDG INFORMATION	
TDG CLASS	FLAMMABLE LIQUID 3
SHIPPING NAME	ADHESIVES
UN NUMBER/PACKING GROUP	UN 1133, PG II

SECTION 15 - REGULATORY INFORMATION

Precautionary Label Information:	Highly Flammable, Irritant	Ingredient Listings:	USA TSCA, Europe EINECS, Canada DSL, Australia AICS, Korea ECL/TCCL, Japan MITI (ENCS)
Symbols:	F, Xi		
Risk Phrases:	R11: Highly flammable.		R66: Repeated exposure may cause skin dryness or cracking
	R36/37: Irritating to eyes and respiratory system.		R67: Vapors may cause drowsiness and dizziness
Safety Phrases:	S2: Keep out of the reach of children		S25: Avoid contact with eyes.
	S9: Keep container in a well-ventilated place.		S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
	S16: Keep away from sources of ignition - No smoking.		S33: Take precautionary measures against static discharges.

SECTION 16 - OTHER INFORMATION

Specification Information:		
Department issuing data sheet:	IPS, Safety Health & Environmental Affairs	All ingredients are compliant with the requirements of the European Directive on RoHS (Restriction of Hazardous Substances).
E-mail address:	<EHSinfo@ipscorp.com>	
Training necessary:	Yes, training in practices and procedures contained in product literature.	
Reissue date / reason for reissue:	4/7/2015 / Updated GHS Standard Format	
Intended Use of Product:	Solvent Cement for ABS Plastic Pipe	

This product is intended for use by skilled individuals at their own risk. The information contained herein is based on data considered accurate based on current state of knowledge and experience. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof.

SAFETY DATA SHEET

1. Identification

Product identifier	**Regulare Clear Cement**
Other means of identification	
Product code	1100EB
Synonyms	Part Numbers: 31016RB, 31958RB, 31960RB, 31961RB, 31959RB
Recommended use	Joining PVC Pipes
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Company Name	Oatey Co.
Address	4700 West 160th St. Cleveland, OH 44135
Telephone	216-267-7100
E-mail	info@oatey.com
Transport Emergency	Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)
Emergency First Aid	1-877-740-5015
Contact person	MSDS Coordinator

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Aspiration hazard	Category 1

OSHA defined hazards Not classified.

Label elements

Signal word	Danger
Hazard statement	Highly flammable liquid and vapor. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.
Precautionary statement	
Prevention	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.
Response	If swallowed: Immediately call a poison center/doctor. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center/doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish.

Storage	Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. May form explosive peroxides. Contains a chemical classified by the US EPA as a suspected possible carcinogen.

Supplemental information

Not applicable.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Furan, Tetrahydro-	109-99-9	40-60
Acetone	67-64-1	10-25
Polyvinyl chloride	9002-86-2	12-20
Cyclohexanone	108-94-1	5-15
Methyl ethyl ketone	78-93-3	5-15

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Skin contact	Take off immediately all contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	Call a physician or poison control center immediately. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Aspiration may cause pulmonary edema and pneumonitis.
Most important symptoms/effects, acute and delayed	Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Highly flammable liquid and vapor. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Use water spray to reduce vapors or divert vapor cloud drift. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components	Type	Value
Polyvinyl chloride (CAS 9002-86-2)	STEL	5 ppm
	TWA	1 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Acetone (CAS 67-64-1)	PEL	2400 mg/m3	
		1000 ppm	
Cyclohexanone (CAS 108-94-1)	PEL	200 mg/m3	
		50 ppm	
Furan, Tetrahydro- (CAS 109-99-9)	PEL	590 mg/m3	
		200 ppm	
Methyl ethyl ketone (CAS 78-93-3)	PEL	590 mg/m3	
		200 ppm	
Polyvinyl chloride (CAS 9002-86-2)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	750 ppm	
	TWA	500 ppm	
Cyclohexanone (CAS 108-94-1)	STEL	50 ppm	
	TWA	20 ppm	
Furan, Tetrahydro- (CAS 109-99-9)	STEL	100 ppm	
	TWA	50 ppm	
Methyl ethyl ketone (CAS 78-93-3)	STEL	300 ppm	
	TWA	200 ppm	
Polyvinyl chloride (CAS 9002-86-2)	TWA	1 mg/m3	Respirable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	590 mg/m3
		250 ppm
Cyclohexanone (CAS 108-94-1)	TWA	100 mg/m3
		25 ppm
Furan, Tetrahydro- (CAS 109-99-9)	STEL	735 mg/m3
		250 ppm
	TWA	590 mg/m3
		200 ppm
Methyl ethyl ketone (CAS 78-93-3)	STEL	885 mg/m3
		300 ppm
	TWA	590 mg/m3
		200 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	50 mg/l	Acetone	Urine	*
Cyclohexanone (CAS 108-94-1)	80 mg/l	1,2-Cyclohexanediol, with hydrolysis	Urine	*
	8 mg/l	Cyclohexanol, with hydrolysis	Urine	*
Furan, Tetrahydro- (CAS 109-99-9)	2 mg/l	Tetrahydrofuran	Urine	*
Methyl ethyl ketone (CAS 78-93-3)	2 mg/l	MEK	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Cyclohexanone (CAS 108-94-1) Skin designation applies.

US - Tennessee OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

Furan, Tetrahydro- (CAS 109-99-9) Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

Appropriate engineering controls	Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection	Face shield is recommended. Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves.
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Opaque liquid.
Color	Gray.
Odor	Solvent.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	151 °F (66.11 °C)
Flash point	-4.0 °F (-20.0 °C)
Evaporation rate	5.5 - 8
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1.8
Flammability limit - upper (%)	11.8
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	145 mm Hg @ 20 C
Vapor density	2.5
Relative density	0.9 +/- 0.02
Solubility(ies)	
Solubility (water)	Negligible
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	80 - 500 cP
Other information	
VOC (Weight %)	488 g/l SCAQMD 1168/M316A

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Acids. Strong oxidizing agents. Ammonia. Amines. Isocyanates. Caustics.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May be fatal if swallowed and enters airways. Headache. Nausea, vomiting. May cause irritation to the respiratory system. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	May be fatal if swallowed and enters airways. Harmful if swallowed. Harmful if swallowed. Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms related to the physical, chemical and toxicological characteristics	Irritation of nose and throat. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways. Narcotic effects. May cause respiratory irritation.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
Acute		
Dermal		
LD50	Rabbit	20 ml/kg
Inhalation		
LC50	Rat	50 mg/l, 8 Hours
Oral		
LD50	Rat	5800 mg/kg
Cyclohexanone (CAS 108-94-1)		
Acute		
Dermal		
LD50	Rabbit	948 mg/kg
Inhalation		
LC50	Rat	8000 ppm, 4 hours
Oral		
LD50	Rat	1540 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

In 2012 USEPA Integrated Risk Information System (IRIS) reviewed a two species inhalation lifetime study on THF conducted by NTP (1998). Male rats developed renal tumors and female mice developed liver tumors while neither the female rats nor the male mice showed similar results. Because the carcinogenic mechanisms could not be identified clearly in either species for either tumor, the EPA determined that the male rat and female mouse findings are relevant to the assessment of carcinogenic potential in humans. Therefore, the IRIS review concludes that these data in aggregate indicate that there is "suggestive evidence of carcinogenic potential" following exposure to THF by all routes of exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

Cyclohexanone (CAS 108-94-1)	3 Not classifiable as to carcinogenicity to humans.
Polyvinyl chloride (CAS 9002-86-2)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Polyvinyl chloride (CAS 9002-86-2)	Cancer

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Narcotic effects. May cause drowsiness and dizziness. Respiratory tract irritation.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Acetone (CAS 67-64-1)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hours
Cyclohexanone (CAS 108-94-1)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	481 - 578 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Acetone (CAS 67-64-1)	-0.24
Cyclohexanone (CAS 108-94-1)	0.81
Furan, Tetrahydro- (CAS 109-99-9)	0.46
Methyl ethyl ketone (CAS 78-93-3)	0.29

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1993
UN proper shipping name	Flammable liquids, n.o.s. (Methyl ethyl ketone RQ = 37202 LBS, Acetone RQ = 37397 LBS)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	IB2, T7, TP1, TP8, TP28
Packaging exceptions	150
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN1993
UN proper shipping name	Flammable liquid, n.o.s. (Methyl ethyl ketone, Acetone)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	3H
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S. (Methyl ethyl ketone, Acetone)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-E
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not available.

15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Polyvinyl chloride (CAS 9002-86-2)	Cancer Central nervous system Liver Blood Flammability

CERCLA Hazardous Substance List (40 CFR 302.4)

Acetone (CAS 67-64-1)	LISTED
Cyclohexanone (CAS 108-94-1)	LISTED
Furan, Tetrahydro- (CAS 109-99-9)	LISTED
Methyl ethyl ketone (CAS 78-93-3)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Acetone (CAS 67-64-1)	6532
Methyl ethyl ketone (CAS 78-93-3)	6714

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Acetone (CAS 67-64-1)	35 %WV
Methyl ethyl ketone (CAS 78-93-3)	35 %WV

DEA Exempt Chemical Mixtures Code Number

Acetone (CAS 67-64-1)	6532
Methyl ethyl ketone (CAS 78-93-3)	6714

US state regulations

US. Massachusetts RTK - Substance List

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)

US. New Jersey Worker and Community Right-to-Know Act

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)
Polyvinyl chloride (CAS 9002-86-2)

US. Pennsylvania Worker and Community Right-to-Know Law

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)

US. Rhode Island RTK

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 05-28-2015

Revision date -

Version # 01

HMIS® ratings
Health: 2
Flammability: 3
Physical hazard: 0

NFPA ratings

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available. Oatey Co. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.

Revision Number: 003.2

Issue date: 10/10/2014

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Loctite PL 510 Wood Construction Adhesive
Product type: Water based adhesive
Restriction of Use: None identified
Company address:
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

IDH number: 1538750

Region: United States
Contact information:
Telephone: +1 (800) 624-7767
MEDICAL EMERGENCY Phone: Poison Control Center 1-877-671-4608 (toll free) or 1-303-592-1711 TRANSPORT EMERGENCY Phone: CHEMTREC 1-800-424-9300 (toll free) or 1-703-527-3887

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING: ABRASION COULD RELEASE RESPIRABLE PARTICLES OF SILICA QUARTZ, A CANCER HAZARD BY INHALATION. NORMAL USE OF THIS PRODUCT CAUSES NO SUCH RELEASE.

CAUSES SERIOUS EYE IRRITATION.

HAZARD CLASS	HAZARD CATEGORY
EYE IRRITATION	2A

PICTOGRAM(S)

Precautionary Statements

Prevention: Wash thoroughly after handling. Wear eye and face protection.

Response: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. If eye irritation persists: Get medical attention.

Storage: Not prescribed

Disposal: Not prescribed

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
Limestone	1317-65-3	30 - 60
Kaolin	1332-58-7	1 - 5
Quartz (SiO2)	14808-60-7	0.1 - 1

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation:	If inhaled, immediately remove the affected person to fresh air. Get immediate medical attention.
Skin contact:	Wash affected area immediately with soap and water.
Eye contact:	Immediately flush eyes with plenty of water for at least 15 minutes. If symptoms develop and persist, get medical attention.
Ingestion:	Consult a physician if necessary. Do not induce vomiting.
Symptoms:	See Section 11.
Notes to physician:	Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Extinguishing media:	Water spray (fog), foam, dry chemical or carbon dioxide.
Special firefighting procedures:	Wear full protective clothing. Wear self contained breathing apparatus.
Unusual fire or explosion hazards:	May liberate large quantities of dense, foul-smelling smoke which may contain unidentified toxic gasses.
Hazardous combustion products:	Oxides of carbon. Oxides of nitrogen.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions:	Prevent further leakage or spillage if safe to do so. Do not allow product to enter sewer or waterways.
Clean-up methods:	Scrape up spilled material and place in a closed container for disposal. Dispose of according to Federal, State and local governmental regulations.

7. HANDLING AND STORAGE

Handling:	Keep out of the reach of children.
Storage:	For safe storage, store at or above 0 °C (32°F) Keep from freezing. Store in a cool, dry area. Keep containers closed when not in use.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Limestone	10 mg/m3 TWA Total dust.	5 mg/m3 PEL Respirable fraction. 15 mg/m3 PEL Total dust.	None	None
Kaolin	2 mg/m3 TWA Respirable fraction.	15 mg/m3 PEL Total dust. 5 mg/m3 PEL Respirable fraction.	None	None
Quartz (SiO2)	0.025 mg/m3 TWA Respirable fraction.	2.4 MPPCF TWA Respirable. 0.1 mg/m3 TWA Respirable. 0.3 mg/m3 TWA Total dust.	None	None

Engineering controls: Ventilation should effectively remove and prevent buildup of any dust generated from the handling of this product.

Respiratory protection: When dusts or thermal processing fumes are generated and ventilation is not sufficient to effectively remove them, appropriate NIOSH/MSHA approved respiratory protection must be provided.

Eye/face protection: Safety goggles or safety glasses with side shields.

Skin protection: Wear impervious gloves for prolonged contact. Use of impervious apron and boots are recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Paste
Color: Tan
Odor: Mild, Acrylic
Odor threshold: Not available.
pH: 7.2 - 7.8
Vapor pressure: 15.0000000 mm hg (20.0 °C (68°F))
Boiling point/range: 100 °C (212°F)
Melting point/ range: Not available.
Specific gravity: 1.224
Vapor density: Heavier than air
Flash point: No flash point up to 100°C. Aqueous preparation.
Flammable/Explosive limits - lower: Not available.
Flammable/Explosive limits - upper: Not available.
Autoignition temperature: Not available.
Evaporation rate: < 0.6 (Butyl acetate = 1)
Solubility in water: Soluble
Partition coefficient (n-octanol/water): Not available.
VOC content: < 0.1 %; 47 g/l (by weight, calculated using CARB method; g/L less water, less exempts calculated using SCAQMD method)
Viscosity: Not available.
Decomposition temperature: Not available.

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions of storage and use.

Hazardous reactions: Will not occur.

Hazardous decomposition products: Oxides of carbon. Oxides of nitrogen.

Incompatible materials: None

Reactivity: Not available.

Conditions to avoid: Heat. Do not freeze.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Inhalation, Skin contact

Potential Health Effects/Symptoms

Inhalation: May cause irritation to nose and throat. Abrasion of cured material such as by sanding or grinding could release respirable particles of silica quartz, a cancer hazard by inhalation. Normal use of this product causes no such release.

Skin contact: May cause slight irritation to skin.

Eye contact: May cause slight irritation to eyes on contact.

Ingestion: Not expected to be harmful by ingestion. Ingestion of large amounts may produce gastrointestinal disturbances including irritation, nausea, and diarrhea.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Limestone	None	Nuisance dust
Kaolin	Oral LD50 (RAT) = > 5,000 mg/kg Dermal LD50 (RAT) = > 5,000 mg/kg	Nuisance dust
Quartz (SiO2)	None	Immune system, Lung, Some evidence of carcinogenicity

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Limestone	No	No	No
Kaolin	No	No	No
Quartz (SiO2)	Known To Be Human Carcinogen.	Group 1	No

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Dispose of according to Federal, State and local governmental regulations.

Hazardous waste number: It is the responsibility of the user to determine if an item is hazardous as defined in the Resource Conservation and Recovery Act (RCRA) at the time of disposal. Product uses, transformations, mixtures, processes, etc., may render the resulting material hazardous, under the criteria of ignitability, corrosivity, reactivity and toxicity characteristics of the Toxicity Characteristics Leaching Procedure (TCLP) 40 CFR 261.20-24.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

International Air Transportation (ICAO/IATA)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

Water Transportation (IMO/IMDG)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.

TSCA 12 (b) Export Notification: None above reporting de minimis

CERCLA/SARA Section 302 EHS: None above reporting de minimis
CERCLA/SARA Section 311/312: Immediate Health, Delayed Health
CERCLA/SARA Section 313: None above reporting de minimis

California Proposition 65: This product contains a chemical known in the State of California to cause cancer. This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Canada Regulatory Information

CEPA DSL/NDSL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Material Safety Data Sheet format.

Prepared by: Mary Ellen Roddy, Sr. Regulatory Affairs Specialist

Issue date: 10/10/2014

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Palmer Mirro-Mastic ®

Safety Data Sheet

according to the Hazardous Products Regulations (HPR) WHMIS 2015

Date of issue: 06/26/2015 Revision date: 06/26/2015 Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : Palmer Mirro-Mastic ®

Product code : Not available

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Mirror Adhesive

1.3. Details of the supplier of the safety data sheet

Manufacturer
Palmer Products Corporation
146 St. Matthews Avenue
Louisville, KY 40207 - USA
T 502.893.3668
palmer@mirro-mastic.com

1.4. Emergency telephone number

Medical Emergency Phone Number : (CHEMTREC): 1-800-424-9300 (24 Hours)

Transport Emergency Phone Number : (CHEMTREC): 1-800-424-9300 (24 Hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-CA classification

Flammable Liquid 4 H227

Full text of H-statements: see section 16

2.2. Label elements

GHS-CA labelling

Signal word (GHS-CA) : Warning

Hazard statements (GHS-CA) : H227 - Combustible liquid.

Precautionary statements (GHS-CA) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 - Wear protective gloves, protective clothing, eye protection, face protection.
P403 - Store in a well-ventilated place.
P501 - Dispose of contents or container in accordance with local, regional, national, international regulations.

2.3. Other hazards

No additional information available.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable.

3.2. Mixture

Name	Product identifier	%	GHS-CA classification
Petroleum distillates, hydrotreated light	(CAS No) 64742-47-8	11	Flam. Liq. 3, H226 Asp. Tox. 1, H304
Limestone	(CAS No) 1317-65-3	8	Not classified.
Cellulose microcrystalline	(CAS No) 9004-34-6	8	Comb. Dust, H232
Quartz	(CAS No) 14808-60-7	0.808	Carc. 1A, H350[1] STOT RE 1, H372[1]

[1]Only applies to airborne particles of respirable size

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

First-aid measures after skin contact : If irritation occurs, flush skin with plenty of water. Get medical attention if irritation persists.

First-aid measures after eye contact : In case of contact, immediately flush eyes with plenty of water. Remove contact lenses, if worn. If irritation persists, get medical attention.

First-aid measures after ingestion : If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : May cause respiratory tract irritation.

Symptoms/injuries after skin contact : May cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.

Symptoms/injuries after eye contact : May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Symptoms/injuries after ingestion : May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

4.3. Indication of any immediate medical attention and special treatment needed

Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Powder, water spray, foam, carbon dioxide.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Combustible liquid. Products of combustion may include, and are not limited to: oxides of carbon.

5.3. Advice for firefighters

Protection during firefighting : Keep upwind of fire. Wear full firefighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Eliminate sources of ignition.

6.2. Environmental precautions

No additional information available

6.3. Methods and material for containment and cleaning up

For containment : Contain and absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for cleaning up : Scoop up material and place in a disposal container. Provide ventilation.

6.4. Reference to other sections

See section 8 for further information on protective clothing and equipment and section 13 for advice on waste disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Keep away from sources of ignition - No smoking. Avoid contact with skin and eyes. Avoid breathing dust, fume, gas, mist, vapours, and spray. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke.

Hygiene measures : Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep out of the reach of children. Keep container tightly closed and in a well-ventilated place. Keep cool.

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Limestone (1317-65-3)		
ACGIH	ACGIH TWA (mg/m³)	10 mg/m³ (total dust)

Cellulose microcrystalline (9004-34-6)		
ACGIH	ACGIH TWA (mg/m³)	10 mg/m³

Quartz (14808-60-7)		
ACGIH	ACGIH TWA (mg/m³)	0.025 mg/m³ (respirable fraction)
IDLH	US IDLH (mg/m³)	50 mg/m³ (respirable dust)
NIOSH	NIOSH REL (TWA) (mg/m³)	0.05 mg/m³ (respirable dust)

8.2. Exposure controls

Appropriate engineering controls : Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

Hand protection	:	None necessary under normal conditions of use. Wear gloves if handling large quantities.
Eye protection	:	Safety glasses or goggles are recommended when using product.
Skin and body protection	:	None necessary under normal conditions of use.
Respiratory protection	:	In case of insufficient ventilation, wear suitable respiratory equipment
Environmental exposure controls	:	Maintain levels below community environmental protection thresholds.
Other information	:	Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking. Handle according to established industrial hygiene and safety practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	Heavy Paste
Colour	:	Black
Odour	:	Solvent
Odour threshold	:	No data available
pH	:	No data available
Relative evaporation rate (butylacetate=1)	:	No data available
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	71.1 °C (160 °F)
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability (solid, gas)	:	Flammable
Vapour pressure	:	No data available
Relative vapour density at 20 °C	:	No data available
Relative density	:	1.2
Solubility	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Log Kow	:	No data available
Viscosity, kinematic	:	> 20.5 cSt
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available
Oxidising properties	:	No data available
Explosive limits	:	No data available

9.2. Other information

No additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reaction known under conditions of normal use.

10.2. Chemical stability

Stable under normal storage conditions. May form flammable/explosive vapour-air mixture.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

Heat. Incompatible materials. Sources of ignition

10.5. Incompatible materials

Strong acids. Oxidizers.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified.

Palmer Mirro-Mastic ®	
LD50 oral rat	> 2000 mg/kg

Palmer Mirro-Mastic ®	
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat	> 20 mg/l/4h

Petroleum distillates, hydrotreated light (64742-47-8)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat	> 5.2 mg/l/4h

Limestone (1317-65-3)	
LD50 oral rat	6450 mg/kg

Cellulose microcrystalline (9004-34-6)	
LD50 oral rat	>5000 mg/kg
LD50 dermal rabbit	>2000 mg/kg
LC50 inhalation rat	>5800 mg/m³/4h

Skin corrosion/irritation : Based on available data, the classification criteria are not met.
Serious eye damage/irritation : Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation : Based on available data, the classification criteria are not met.
Germ cell mutagenicity : Based on available data, the classification criteria are not met.
Carcinogenicity : Based on available data, the classification criteria are not met.

Quartz (14808-60-7)	
IARC group	1 - Carcinogenic to humans (airborne particles of respirable size)
National Toxicology Program (NTP) Status	2 - Known Human Carcinogens (airborne particles of respirable size)

Reproductive toxicity : Based on available data, the classification criteria are not met.
Specific target organ toxicity (single exposure) : Based on available data, the classification criteria are not met.
Specific target organ toxicity (repeated exposure) : Based on available data, the classification criteria are not met.
Aspiration hazard : Based on available data, the classification criteria are not met.

Symptoms/injuries after inhalation : May cause respiratory tract irritation.
Symptoms/injuries after skin contact : May cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.
Symptoms/injuries after eye contact : May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.
Symptoms/injuries after ingestion : May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

12.2. Persistence and degradability

Palmer Mirro-Mastic ®	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Palmer Mirro-Mastic ®	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available.

12.5. Other adverse effects

No additional information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : This material must be disposed of in accordance with all local, state, provincial, and federal regulations. The generation of waste should be avoided or minimized wherever possible.
Additional information : Handle empty containers with care because residual vapours are flammable.

SECTION 14: Transport information

Transport of Dangerous Goods (TDG)

In accordance with TDG
Not regulated for transport.

SECTION 15: Regulatory information

Petroleum distillates, hydrotreated light (64742-47-8)
Listed on the Canadian DSL (Domestic Sustances List)

Limestone (1317-65-3)
Listed on the Canadian NDSL (Non-Domestic Substances List)

Cellulose microcrystalline (9004-34-6)
Listed on the Canadian DSL (Domestic Sustances List)

Quartz (14808-60-7)
Listed on the Canadian DSL (Domestic Sustances List)

SECTION 16: Other information

Date of issue : 06/26/2015
Indication of changes : None.
Other information : None.

Full text of H-statements:

Asp. Tox. 1	Aspiration hazard, Category 1
Carc. 1A	Carcinogenicity, Category 1A
Comb. Dust	Combustible Dust
Flam. Liq. 3	Flammable liquids, Category 3
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
H226	Flammable liquid and vapour
H227	Combustible liquid
H304	May be fatal if swallowed and enters airways
H350	May cause cancer
H372	Causes damage to organs through prolonged or repeated exposure

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

Palmer MIRRO-MASTIC®

TECHNICAL INFORMATION

1. Product Name

Mirror Mastic: **Mirro-Mastic®**

2. Manufacturer

Palmer Products Corporation
P.O. Box 7155
Louisville, KY 40257
Phone: 800.431.6151
502.893.3668
Fax: 502.895.9253
Web site: www.mirro.mastic.com
E-mail: palmer@mirro.mastic.com

3. Product Description

Basic Use: Mirro-Mastic® is a high quality adhesive mastic formulated for adhering plate glass mirror and acrylic mirror to various substrates.

4. Technical Data

Composition and Materials: Mirro-Mastic® is an asphalt base adhesive.

Flash point: Over 160ºF (71.1ºC)

VOC Content: 230g/L

Color: Black

Application: Electric Applicator, Mastic Stik or caulking gun

Curing Time: Curing time will depend on temperature, humidity, type of substrate and amount of air that can reach the mastic.

Coverage: With **minimum** coverage, one gallon will install approximately 130 square feet (12 square meters) of mirror, one 29 ounce cartridge will install approximately 30 square feet (2.8 square meters) of mirror, and one 11 ounce cartridge will install approximately 12 square feet (1.1 square meters) of mirror.

Clean up: Mineral spirits

Storage: Ideal storage 50ºF to 85ºF (10º to 29.4ºC)

Shelf Life: Two years from the date on an unopened can. One year from the date on an unopened cartridge.

Packaging: 11 oz. cartridges (24 per case)
29 oz. cartridges (12 per case)
1 gallon cans (4 per case)
5 gallon drums

WARNING

All Palmer products must be used only for approved purposes, and must be applied in accordance with Palmer's installation instructions. The user bears all risk of damage, injury or other loss arising out of any non-approved use and/or improper installation of any Palmer product. If Palmer's installation instructions are not followed, in whole or part, for whatever reason, then mechanical fasteners of sufficient size and strength must immediately be used to insure safety of the installation pending prompt proper reinstallation by the product user. Any failure to properly utilize or apply any Palmer product may result in property damage, bodily injury or death. Palmer shall not be responsible for these or any other types of misuse of its products.

Safety Data Sheet

24 Hour Emergency Phone Numbers:

Medical/Poison Control:

In U.S.: Call 1-800-222-1222
Outside U.S.: Call your local poison control center

Transportation/National Response Center:

1-800-535-5053
1-352-323-3500

NOTE: The National ResponseCenter emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

IMPORTANT: Provide this information to employees, customers, and users of this product. Read this SDS before handling or disposing of this product. This product is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard. All abbreviated terms used in this MSDS are further described in Section 16.

1. Identification

This Material Safety Data Sheet is available in American Spanish upon request.
Los Datos de Serguridad del Producto pueden obtenerse en Espanol si lo riquiere.

Product Name:	Alex Painters Acrylic Latex Caulk	**Revision Date:**	5/14/2015
Product UPC Number:	18065	**Supercedes Date:**	4/20/2014
Product Use/Class:	Caulking Compound	**SDS No:**	00010011001
Manufacturer:	DAP Products Inc. 2400 Boston Street Suite 200 Baltimore, MD 21224-4723 888-327-8477 (non-emergency matters)		
Preparer:	Regulatory Department		

2. Hazards Identification

EMERGENCY OVERVIEW: Under normal use conditions, this product is not expected to cause adverse health effects.

GHS Classification
Not a hazardous substance or mixture.

Symbol(s) of Product

Not a hazardous substance or mixture.

Signal Word
Not a hazardous substance or mixture.

3. Composition/Information on Ingredients

Chemical Name	CAS-No.	Wt. %	GHS Symbols	GHS Statements
Limestone	1317-65-3	50-75	GHS07	H332
Petroleum distillates	64741-88-4	2.5-10	GHS06	H331

Diethylene glycol dibenzoate	120-55-8	1.0-2.5	GHS07	H312
Solvent ref. light paraffinic	64741-89-5	1.0-2.5	GHS06	H331
Quartz	14808-60-7	0.1-1.0	GHS07	H302
Titanium dioxide	13463-67-7	0.1-1.0	No Information	No Information

The text for GHS Hazard Statements shown above (if any) is given in the "Other information" Section.

4. First-aid Measures

FIRST AID - INHALATION: Material is not likely to present an inhalation hazard at ambient conditions. If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical attention immediately.

FIRST AID - SKIN CONTACT: No health hazards are known to exist. In case of contact, wash skin immediately with soap and water.

FIRST AID - EYE CONTACT: In case of contact, immediately flush eyes with large quantities of water for at least 15 minutes until irritation subsides. Get medical attention immediately.

FIRST AID - INGESTION: If swallowed, DO NOT INDUCE VOMITING. Get medical attention immediately.

5. Fire-fighting Measures

UNUSUAL FIRE AND EXPLOSION HAZARDS: None known.

SPECIAL FIREFIGHTING PROCEDURES: Wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear. Use water spray to cool exposed surfaces.

EXTINGUISHING MEDIA: Carbon Dioxide, Dry Chemical, Foam, Water Fog

6. Accidental Release Measures

ENVIRONMENTAL MEASURES: No Information

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations. Scrape up dried material and place into containers. Use personal protective equipment as necessary. In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations.

7. Handling and Storage

HANDLING: KEEP OUT OF REACH OF CHILDREN!DO NOT TAKE INTERNALLY. Use only with adequate ventilation. Ensure fresh air entry during application and drying. Wash thoroughly after handling.

STORAGE: Avoid excessive heat and freezing. Do not store at temperatures above 120 degrees F. Store away from caustics and oxidizers.

8. Exposure Controls/Personal Protection

Ingredients with Occupational Exposure Limits

Chemical Name	ACGIH TLV-TWA	ACGIH-TLV STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Limestone	N.E.	N.E.	15 mg/m3 TWA total dust, 5 mg/m3 TWA respirable fraction	N.E.
Petroleum distillates	N.E.	N.E.	N.E.	N.E.
Diethylene glycol dibenzoate	N.E.	N.E.	N.E.	N.E.
Solvent ref. light paraffinic	N.E.	N.E.	N.E.	N.E.
Quartz	0.025 mg/m3 TWA respirable fraction	N.E.	N.E.	N.E.
Titanium dioxide	10 mg/m3 TWA	N.E.	15 mg/m3 TWA total dust	N.E.

Further Advice: MEL = Maximum Exposure Limit OES = Occupational Exposure Standard SUP = Supplier's Recommendation Sk = Skin Sensitizer N.E. = Not Established

Personal Protection

RESPIRATORY PROTECTION: No personal respiratory protective equipment normally required. National Institute for Occupational Safety and Health (NIOSH) has recommended that the permissible exposure limit be changed to 50 micrograms respirable free silica per cubic meter of air (0.05 mg/m3) as determined by a full shift sample up to 10-hour work shift.

SKIN PROTECTION: Rubber gloves.

EYE PROTECTION: Goggles or safety glasses with side shields.

OTHER PROTECTIVE EQUIPMENT: Not required under normal use.

HYGIENIC PRACTICES: Wash hands before breaks and at the end of workday. Remove and wash contaminated clothing before re-use.

9. Physical and Chemical Properties

Appearance:	White to Off-White	**Physical State:**	Paste
Odor:	Very Slight Ammonia	**Odor Threshold:**	Not Established
Density, g/cm3:	1.51 - 1.61	**pH:**	Between 7.0 and 12.0
Freeze Point, °C:	Not Established	**Viscosity (mPa.s):**	Not Established
Solubility in Water:	Not Established	**Partition Coeff., n-octanol/water:**	Not Established
Decomposition Temperature, °C:	Not Established	**Explosive Limits, %:**	N.I. - N.I.
Boiling Range, °C:	N.I. - N.I.	**Auto-Ignition Temperature, °C**	Not Established
Minimum Flash Point, °C:	93.3	**Vapor Pressure, mmHg:**	No Information
Evaporation Rate:	Slower Than n-Butyl Acetate	**Flash Method:**	Seta Closed Cup
Vapor Density:	Heavier Than Air		
Combustibility:	Does not Support Combustion		

(See "Other information" Section for abbreviation legend)
(If product is an aerosol, the flash point stated above is that of the propellant.)

10. Stability and Reactivity

STABILITY: Stable under recommended storage conditions.

CONDITIONS TO AVOID: Excessive heat and freezing.

INCOMPATIBILITY: Incompatible with strong bases and oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Normal decomposition products, i.e., COx, NOx.

11. Toxicological Information

EFFECT OF OVEREXPOSURE - INHALATION: Under normal use conditions, this product is not expected to cause adverse health

effects. Inhalation of vapors in high concentration may cause mild irritation of respiratory system (nose, mouth, mucous membranes).

EFFECT OF OVEREXPOSURE - SKIN CONTACT: Under normal use conditions, this product is not expected to cause adverse health effects. Prolonged or repeated contact with skin may cause mild irritation.

EFFECT OF OVEREXPOSURE - EYE CONTACT: Under normal use conditions, this product is not expected to cause adverse health effects. Direct eye contact may cause irritation.

EFFECT OF OVEREXPOSURE - INGESTION: Under normal use conditions, this product is not expected to cause adverse health effects. Single dose oral toxicity is very low. Amounts ingested incidental to industrial handling are not likely to cause injury; however, ingestion of large amounts may cause injury.

CARCINOGENICITY: No Information

PRIMARY ROUTE(S) OF ENTRY: Inhalation, Skin Contact

Acute Toxicity Values
The acute effects of this product have not been tested. Data on individual components are tabulated below

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
1317-65-3	Limestone	6450 mg/kg Rat	>2000 mg/kg	>20 mg/L
64741-88-4	Petroleum distillates	>5000 mg/kg Rat	>2000 mg/kg Rabbit	2.18 mg/L Rat
120-55-8	Diethylene glycol dibenzoate	2830 mg/kg Rat	2000 mg/kg Rabbit	> 200 mg/L Rat
64741-89-5	Solvent ref. light paraffinic	>5000 mg/kg Rat	>5000 mg/kg Rabbit	2.18 mg/L Rat
14808-60-7	Quartz	500 mg/kg Rat	>2000 mg/kg	>20 mg/L
13463-67-7	Titanium dioxide	>10000 mg/kg Rat	>5000 mg/kg Rabbit	>20 mg/L

N.I. = No Information

12. Ecological Information

ECOLOGICAL INFORMATION: Ecological injuries are not known or expected under normal use.

13. Disposal Information

DISPOSAL METHOD: This product does not meet the definition of a hazardous waste according to U.S. EPA Hazardous Waste Management Regulation, 40 CFR Section 261. Dispose as hazardous waste according to all local, state, federal and provincial regulations. State and Local regulations/restrictions are complex and may differ from Federal regulations. Responsibility for proper waste disposal is with the owner of the waste.

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Contain spilled material and remove with inert absorbent. Dispose of contaminated absorbent, container and unused contents in accordance with local, state and federal regulations. Scrape up dried material and place into containers. Use personal protective equipment as necessary. In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations.

14. Transport Information

SPECIAL TRANSPORT PRECAUTIONS: No Information

DOT Proper Shipping Name: Not Regulated.
DOT Technical Name: N.A.
DOT Hazard Class: N.A.
Packing Group: N.A.
Hazard SubClass: N.A.
DOT UN/NA Number: N.A.

15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Acute Health Hazard, Chronic Health Hazard

SARA SECTION 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

No Sara 313 components exist in this product.

TOXIC SUBSTANCES CONTROL ACT:

All ingredients in this product are either on TSCA inventory list, or otherwise exempt.
This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA12(b) components exist in this product in concentrations at or above their thresholds.

CALIFORNIA PROPOSITION 65 CARCINOGENS

WARNING: This product contains chemicals known to the State of California to cause cancer.

CALIFORNIA PROPOSITION 65 REPRODUCTIVE TOXINS

This product does not contain any chemicals known to the State of California to cause birth defects or other reproductive harm.

International Regulations: As follows -

CANADIAN WHMIS:

This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

WHMIS Class Consumer Commodity

16. Other Information

Revision Date: 5/14/2015 **Supersedes Date:** 4/20/2014

Reason for revision: HazCom2012/GHS Conversion

Datasheet produced by: Regulatory Department

HMIS Ratings:

Health:	1	Flammability:	0	Reactivity:	0	Personal Protection:	X

VOC Less Water Less Exempt, g/L: 58.4

VOC, Material, g/L: 37

VOC as Defined by California Consumer Product Regulation, Wt/Wt%: 1.0

Text for GHS Hazard Statements shown in Section 3 describing each ingredient:

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H331	Toxic if inhaled.
H332	Harmful if inhaled.

Icons for GHS Pictograms shown in Section 3 describing each ingredient:

GHS06 

GHS07 

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

DAP believes the data and statements contained herein are accurate as of the date hereof. They are offered in good faith as typical values and not as a product specification. NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE WITH REGARD TO THE INFORMATION HEREIN PROVIDED OR THE PRODUCT TO WHICH THE INFORMATION REFERS. Since thisdocument is intended only as a guide to the appropriate use and precautionary handling of the referenced product by a properly trained person, it is therefore the responsibility of the user to (i) review the recommendations with due consideration for the specific context of the intended use and (ii) determine if they are appropriate.

Revision Number: 003.2

Issue date: 10/28/2014

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: **OSI® H2U® High Performance Acrylic Urethane Sealant Window, Door & Siding White 001**

IDH number: 1256934

Product type: Sealant

Restriction of Use: None identified

Region: United States

Company address:
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

Contact information:
Telephone: +1 (800) 624-7767
MEDICAL EMERGENCY Phone: Poison Control Center 1-877-671-4608 (toll free) or 1-303-592-1711 TRANSPORT EMERGENCY Phone: CHEMTREC 1-800-424-9300 (toll free) or 1-703-527-3887

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING: ABRASION COULD RELEASE RESPIRABLE PARTICLES OF SILICA QUARTZ, A CANCER HAZARD BY INHALATION. NORMAL USE OF THIS PRODUCT CAUSES NO SUCH RELEASE.

CAUSES SERIOUS EYE IRRITATION.

HAZARD CLASS	HAZARD CATEGORY
EYE IRRITATION	2A

PICTOGRAM(S)

Precautionary Statements

Prevention: Wash thoroughly after handling. Wear eye and face protection.

Response: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. If eye irritation persists: Get medical attention.

Storage: Not prescribed

Disposal: Not prescribed

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
Limestone	1317-65-3	10 - 30
Titanium dioxide	13463-67-7	1 - 5

Ethylene glycol	107-21-1	1 - 5
White mineral oil (petroleum), highly refined	8042-47-5	1 - 5
Silica, amorphous, fumed, crystal-free	112945-52-5	1 - 5
Quartz (SiO2)	14808-60-7	0.1 - 1
Aluminium hydroxide	21645-51-2	0.1 - 1

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation: Move to fresh air in case of accidental inhalation of vapours.

Skin contact: Wash affected area immediately with soap and water.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. If symptoms develop and persist, get medical attention.

Ingestion: Consult a physician if necessary. Do not induce vomiting.

Symptoms: See Section 11.

Notes to physician: Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Extinguishing media: Carbon dioxide, foam, powder Water fog.

Special firefighting procedures: Use water spray to keep fire exposed containers cool and disperse vapors.

Unusual fire or explosion hazards: May liberate large quantities of dense, foul-smelling smoke which may contain unidentified toxic gasses.

Hazardous combustion products: Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Oxides of nitrogen.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not allow product to enter sewer or waterways.

Clean-up methods: Absorb spill with inert material. Shovel material into appropriate container for disposal. Dispose of according to Federal, State and local governmental regulations.

7. HANDLING AND STORAGE

Handling: Avoid prolonged or repeated skin contact with this material. Keep out of the reach of children.

Storage: For safe storage, store at or above 0 °C (32°F)
Keep from freezing. Store in a cool, dry area.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Limestone	10 mg/m3 TWA Total dust.	5 mg/m3 PEL Respirable fraction. 15 mg/m3 PEL Total dust.	None	None
Titanium dioxide	10 mg/m3 TWA	15 mg/m3 PEL Total dust.	None	None
Ethylene glycol	100 mg/m3 Ceiling Aerosol.	None	None	None
White mineral oil (petroleum), highly refined	5 mg/m3 TWA Inhalable fraction.	5 mg/m3 TWA mist 5 mg/m3 PEL Mist.	None	None
Silica, amorphous, fumed, crystal-free	10 mg/m3 TWA Inhalable dust. 3 mg/m3 TWA Respirable fraction.	20 MPPCF TWA 0.8 mg/m3 TWA	None	None
Quartz (SiO2)	0.025 mg/m3 TWA Respirable fraction.	2.4 MPPCF TWA Respirable. 0.1 mg/m3 TWA Respirable. 0.3 mg/m3 TWA Total dust.	None	None
Aluminium hydroxide	10 mg/m3 TWA (as Al) Total dust. 1 mg/m3 TWA Respirable fraction.	15 mg/m3 TWA (as Al) Total dust. 5 mg/m3 TWA (as Al) Respirable fraction.	None	None

Engineering controls: Use local ventilation if general ventilation is insufficient to maintain vapor concentration below established exposure limits.

Respiratory protection: If ventilation is not sufficient to effectively prevent buildup of aerosols, mists or vapors, appropriate NIOSH/MSHA respiratory protection must be provided.

Eye/face protection: Safety goggles or safety glasses with side shields.

Skin protection: Use impermeable gloves and protective clothing as necessary to prevent skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Paste
Color: White
Odor: Mild, Acrylic
Odor threshold: Not available.
pH: 7.3 - 8.5
Vapor pressure: 15 mm hg (20.0 °C (68°F))
Boiling point/range: 100 °C (212°F)
Melting point/ range: Not available.
Specific gravity: 1.267
Vapor density: Heavier than air
Flash point: Not applicable
Flammable/Explosive limits - lower: Not available.
Flammable/Explosive limits - upper: Not available.
Autoignition temperature: Not available.
Evaporation rate: < 0.5 (Butyl acetate = 1)
Solubility in water: Soluble
Partition coefficient (n-octanol/water): Not available.
VOC content: 0.3 %; 42 g/l (by weight, calculated using CARB method; g/L less water, less exempts calculated using SCAQMD method)
Viscosity: 200,000 - 300,000 cp
Decomposition temperature: Not available.

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions of storage and use.

Hazardous reactions: Will not occur.

Hazardous decomposition products: Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. Oxides of nitrogen.

Incompatible materials: This product may react with oxidizing agents.

Reactivity: Not available.

Conditions to avoid: Do not freeze.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Inhalation, Skin contact

Potential Health Effects/Symptoms

Inhalation: May cause irritation to nose and throat. Abrasion of cured material such as by sanding or grinding could release respirable particles of silica quartz, a cancer hazard by inhalation. Normal use of this product causes no such release.

Skin contact: May cause slight irritation to skin.

Eye contact: May cause slight irritation to eyes on contact.

Ingestion: Not expected to be harmful by ingestion. Ingestion of large amounts may produce gastrointestinal disturbances including irritation, nausea, and diarrhea.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Limestone	None	Nuisance dust
Titanium dioxide	None	Irritant, Respiratory, Some evidence of carcinogenicity
Ethylene glycol	Oral LD50 (RAT) = 5.89 g/kg Dermal LD50 (RABBIT) = 9,530 mg/kg	Blood, Bone Marrow, Central nervous system, Developmental, Eyes, Irritant, Kidney, Liver, Metabolic
White mineral oil (petroleum), highly refined	None	Irritant
Silica, amorphous, fumed, crystal-free	None	Nuisance dust
Quartz (SiO2)	None	Immune system, Lung, Some evidence of carcinogenicity
Aluminium hydroxide	Oral LD50 (RAT) = > 5,000 mg/kg	Irritant, Lung, Respiratory

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Limestone	No	No	No
Titanium dioxide	No	Group 2B	No
Ethylene glycol	No	No	No
White mineral oil (petroleum), highly refined	No	No	No
Silica, amorphous, fumed, crystal-free	No	No	No
Quartz (SiO2)	Known To Be Human Carcinogen.	Group 1	No
Aluminium hydroxide	No	No	No

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Dispose of according to Federal, State and local governmental regulations.

Hazardous waste number: It is the responsibility of the user to determine if an item is hazardous as defined in the Resource Conservation and Recovery Act (RCRA) at the time of disposal. Product uses, transformations, mixtures, processes, etc., may render the resulting material hazardous, under the criteria of ignitability, corrosivity, reactivity and toxicity characteristics of the Toxicity Characteristics Leaching Procedure (TCLP) 40 CFR 261.20-24.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

International Air Transportation (ICAO/IATA)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

Water Transportation (IMO/IMDG)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.

TSCA 12 (b) Export Notification: None above reporting de minimis

CERCLA/SARA Section 302 EHS: None above reporting de minimis

CERCLA/SARA Section 311/312: Immediate Health, Delayed Health

CERCLA/SARA Section 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Ethylene glycol (CAS# 107-21-1).

California Proposition 65: This product contains a chemical known in the State of California to cause cancer. This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Canada Regulatory Information

CEPA DSL/NDSL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Material Safety Data Sheet format.

Prepared by: Mary Ellen Roddy, Sr. Regulatory Affairs Specialist

Issue date: 10/28/2014

DISCLAIMER: The data contained herein are furnished for information only and are believed to be reliable. However, Henkel Corporation and its affiliates ("Henkel") does not assume responsibility for any results obtained by persons over whose methods Henkel has no control. It is the user's responsibility to determine the suitability of Henkel's products or any production methods mentioned herein for a particular purpose, and to adopt such precautions as may be advisable for the protection of property and persons against any hazards that may be involved in the handling and use of any Henkel's products. In light of the foregoing, Henkel specifically disclaims all warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, arising from sale or use of Henkel's products. Henkel further disclaims any liability for consequential or incidental damages of any kind, including lost profits.

SAFETY DATA SHEET

PVC Cement

1. Identification

Product identifier PVC Medium Clear Cement

Other means of identification

SDS number 1101E

Synonyms Part Numbers: Clear - 30350, 31017, 31018, 31019, 31020, 31021, 31550, 31551, 31552, 31553, 31946, 31947, 31948, 31949, 32222, 32223, 32224, 32225

Recommended use Joining PVC Pipes

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company Name Oatey Co.

Address 4700 West 160th St.
Cleveland, OH 44135

Telephone 216-267-7100

E-mail info@oatey.com

Transport Emergency Chemtrec 1-800-424-9300 (Outside the US 1-703-527-3887)

Emergency First Aid 1-877-740-5015

Contact person MSDS Coordinator

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Acute toxicity, oral	Category 4
	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Aspiration hazard	Category 1

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Highly flammable liquid and vapor. Harmful if swallowed. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only outdoors or in a well-ventilated area. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Avoid breathing mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.

Response Rinse mouth. Do NOT induce vomiting. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish.

Storage Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)

Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. May form explosive peroxides. Contains a chemical classified by the US EPA as a suspected possible carcinogen.

Supplemental information

Not applicable.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Furan, Tetrahydro-	109-99-9	30-50
Acetone	67-64-1	10-25
Methyl ethyl ketone	78-93-3	10-25
Polyvinyl chloride	9002-86-2	12-20
Cyclohexanone	108-94-1	10-20
Fumed Silica	112945-52-5	1-5

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact

Take off immediately all contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion

Call a physician or poison control center immediately. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Aspiration may cause pulmonary edema and pneumonitis.

Most important symptoms/effects, acute and delayed

Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. May cause redness and pain.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information

Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media

Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards

Highly flammable liquid and vapor. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of vapors or mists. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not taste or swallow. Avoid breathing mist or vapor. Avoid contact with skin. Avoid contact with eyes. Avoid prolonged exposure. Avoid contact with clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Keep in an area equipped with sprinklers.

8. Exposure controls/personal protection

Occupational exposure limits

U.S. - OSHA

Components	Type	Value	Form
Fumed Silica (CAS 112945-52-5)	TWA	0.8 mg/m3	Unspecified.
		20 mppcf	Unspecified.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Components	Type	Value
Polyvinyl chloride (CAS 9002-86-2)	STEL	5 ppm
	TWA	1 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Acetone (CAS 67-64-1)	PEL	2400 mg/m3	
		1000 ppm	
Cyclohexanone (CAS 108-94-1)	PEL	200 mg/m3	
		50 ppm	
Furan, Tetrahydro- (CAS 109-99-9)	PEL	590 mg/m3	
		200 ppm	

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Methyl ethyl ketone (CAS 78-93-3)	PEL	590 mg/m3	
		200 ppm	
Polyvinyl chloride (CAS 9002-86-2)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value
Fumed Silica (CAS 112945-52-5)	TWA	0.8 mg/m3
		20 mppcf

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	750 ppm	
	TWA	500 ppm	
Cyclohexanone (CAS 108-94-1)	STEL	50 ppm	
	TWA	20 ppm	
Furan, Tetrahydro- (CAS 109-99-9)	STEL	100 ppm	
	TWA	50 ppm	
Methyl ethyl ketone (CAS 78-93-3)	STEL	300 ppm	
	TWA	200 ppm	
Polyvinyl chloride (CAS 9002-86-2)	TWA	1 mg/m3	Respirable fraction.

U.S. - NIOSH

Components	Type	Value	Form
Fumed Silica (CAS 112945-52-5)	REL	6 mg/m3	Unspecified.

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Acetone (CAS 67-64-1)	TWA	590 mg/m3
		250 ppm
Cyclohexanone (CAS 108-94-1)	TWA	100 mg/m3
		25 ppm
Fumed Silica (CAS 112945-52-5)	TWA	6 mg/m3
Furan, Tetrahydro- (CAS 109-99-9)	STEL	735 mg/m3
		250 ppm
	TWA	590 mg/m3
		200 ppm
Methyl ethyl ketone (CAS 78-93-3)	STEL	885 mg/m3
		300 ppm
	TWA	590 mg/m3
		200 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	50 mg/l	Acetone	Urine	*
Cyclohexanone (CAS 108-94-1)	80 mg/l	1,2-Cyclohexanediol, with hydrolysis	Urine	*
	8 mg/l	Cyclohexanol, with hydrolysis	Urine	*
Furan, Tetrahydro- (CAS 109-99-9)	2 mg/l	Tetrahydrofuran	Urine	*
Methyl ethyl ketone (CAS 78-93-3)	2 mg/l	MEK	Urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Cyclohexanone (CAS 108-94-1) Skin designation applies.

US - Tennessee OELs: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.
Furan, Tetrahydro- (CAS 109-99-9) Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

Cyclohexanone (CAS 108-94-1) Can be absorbed through the skin.

Appropriate engineering controls Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing.

Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using, do not eat, drink or smoke. Wash hands after handling and before eating.

9. Physical and chemical properties

Appearance

Physical state Liquid.

Form Translucent liquid.

Color Clear.

Odor Solvent.

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range 151 °F (66.11 °C)

Flash point 14.0 - 23.0 °F (-10.0 - -5.0 °C)

Evaporation rate 5.5 - 8

Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	1.8
Flammability limit - upper (%)	11.8
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	145 mm Hg @ 20 C
Vapor density	2.5
Relative density	0.93 +/- 0.02
Solubility(ies)	
Solubility (water)	Negligible
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	1200 - 2500 cP
Viscosity temperature	77 °F (25 °C)
Other information	
Bulk density	7.7 lbs/gal
VOC (Weight %)	484 g/l SCAQMD 1168/M316A

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Acids. Strong oxidizing agents. Ammonia. Amines. Isocyanates. Caustics.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May be fatal if swallowed and enters airways. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful. May cause irritation to the respiratory system.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	May be fatal if swallowed and enters airways. Harmful if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Information on toxicological effects

Acute toxicity May be fatal if swallowed and enters airways. Narcotic effects. May cause respiratory irritation.

Components	Species	Test Results
Cyclohexanone (CAS 108-94-1)		
Acute		
Dermal		
LD50	Rabbit	948 mg/kg

Components	Species	Test Results
Inhalation		
LC50	Rat	8000 ppm, 4 hours
Oral		
LD50	Rat	1540 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not available.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Suspected of causing cancer. In 2012 USEPA Integrated Risk Information System (IRIS) reviewed a two species inhalation lifetime study on THF conducted by NTP (1998). Male rats developed renal tumors and female mice developed liver tumors while neither the female rats nor the male mice showed similar results. Because the carcinogenic mechanisms could not be identified clearly in either species for either tumor, the EPA determined that the male rat and female mouse findings are relevant to the assessment of carcinogenic potential in humans. Therefore, the IRIS review concludes that these data in aggregate indicate that there is "suggestive evidence of carcinogenic potential" following exposure to THF by all routes of exposure. This product contains polyvinyl chloride (PVC) that is not a fabricated product, and is therefore, defined and regulated as a toxic and hazardous substance under 29 C.F.R. § 1910.1017 due to the presumed presence of residual vinyl chloride monomer. The concentrations of residual vinyl chloride calculated to be contained in this product are well below the threshold for classification in accordance with 29 C.F.R. § 1910.1200.

IARC Monographs. Overall Evaluation of Carcinogenicity

Cyclohexanone (CAS 108-94-1)	3 Not classifiable as to carcinogenicity to humans.
Fumed Silica (CAS 112945-52-5)	3 Not classifiable as to carcinogenicity to humans.
Polyvinyl chloride (CAS 9002-86-2)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Polyvinyl chloride (CAS 9002-86-2)	Cancer

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Respiratory tract irritation. Narcotic effects.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components		Species	Test Results
Cyclohexanone (CAS 108-94-1)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	481 - 578 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Partition coefficient n-octanol / water (log Kow)

Acetone (CAS 67-64-1)	-0.24
Cyclohexanone (CAS 108-94-1)	0.81
Furan, Tetrahydro- (CAS 109-99-9)	0.46
Methyl ethyl ketone (CAS 78-93-3)	0.29

Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1133
UN proper shipping name	Adhesives
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	II
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	T11, TP1, TP8, TP27
Packaging exceptions	150
Packaging non bulk	201
Packaging bulk	243

IATA

UN number	UN1133
UN proper shipping name	Adhesives
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	No.
ERG Code	3L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1133
UN proper shipping name	ADHESIVES
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	II
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-D
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not available.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Polyvinyl chloride (CAS 9002-86-2)	Cancer Central nervous system Liver Blood Flammability

CERCLA Hazardous Substance List (40 CFR 302.4)

Acetone (CAS 67-64-1)	LISTED
Cyclohexanone (CAS 108-94-1)	LISTED
Furan, Tetrahydro- (CAS 109-99-9)	LISTED
Methyl ethyl ketone (CAS 78-93-3)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Acetone (CAS 67-64-1)	6532
Methyl ethyl ketone (CAS 78-93-3)	6714

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Acetone (CAS 67-64-1)	35 %WV
Methyl ethyl ketone (CAS 78-93-3)	35 %WV

DEA Exempt Chemical Mixtures Code Number

Acetone (CAS 67-64-1)	6532
Methyl ethyl ketone (CAS 78-93-3)	6714

US state regulations

US. Massachusetts RTK - Substance List

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Fumed Silica (CAS 112945-52-5)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)

US. New Jersey Worker and Community Right-to-Know Act

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)

Polyvinyl chloride (CAS 9002-86-2)

US. Pennsylvania Worker and Community Right-to-Know Law

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Fumed Silica (CAS 112945-52-5)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)

US. Rhode Island RTK

Acetone (CAS 67-64-1)
Cyclohexanone (CAS 108-94-1)
Furan, Tetrahydro- (CAS 109-99-9)
Methyl ethyl ketone (CAS 78-93-3)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. This product contains trace amounts of chemicals known to the state of California to cause cancer. Under normal use conditions, exposure to these chemicals at levels above the State of California "No significant Risk Level" (NSRL) are unlikely. The use of proper personal protective equipment (PPE) and ventilation guidelines noted in Section 8 will minimize exposure levels to these chemicals.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 27-May-2015

Revision date -

Version # 01

HMIS® ratings Health: 2
Flammability: 3
Physical hazard: 0

NFPA ratings

Disclaimer The information in the sheet was written based on the best knowledge and experience currently available.

Loctite. ACR caulk

Safety Data Sheet

Revision Number: 001.2

Issue date: 12/01/2014

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: LOCTITE PSS ACWS WH.10OZ=295ML
Product type: Sealant
Restriction of Use: None identified
Company address:
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

IDH number: 1507600

Region: United States
Contact information:
Telephone: +1 (800) 624-7767
MEDICAL EMERGENCY Phone: Poison Control Center 1-877-671-4608 (toll free) or 1-303-592-1711 TRANSPORT EMERGENCY Phone: CHEMTREC 1-800-424-9300 (toll free) or 1-703-527-3887

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING: ABRASION COULD RELEASE RESPIRABLE PARTICLES OF SILICA QUARTZ, A CANCER HAZARD BY INHALATION. NORMAL USE OF THIS PRODUCT CAUSES NO SUCH RELEASE.

CAUSES SERIOUS EYE IRRITATION.

HAZARD CLASS	HAZARD CATEGORY
EYE IRRITATION	2A

PICTOGRAM(S)

Precautionary Statements

Prevention: Wash thoroughly after handling. Wear eye and face protection.
Response: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. If eye irritation persists: Get medical attention.
Storage: Not prescribed
Disposal: Not prescribed

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
Limestone	1317-65-3	30 - 60
Quartz (SiO2)	14808-60-7	0.1 - 1
Titanium dioxide	13463-67-7	0.1 - 1

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation:	Move to fresh air. If symptoms persist, seek medical advice.
Skin contact:	Wash affected area immediately with soap and water. If symptoms develop and persist, get medical attention.
Eye contact:	In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.
Ingestion:	Rinse out mouth. Do not drink. Never give anything by mouth to an unconscious person. If adverse health effects develop seek medical attention.
Symptoms:	See Section 11.

5. FIRE FIGHTING MEASURES

Extinguishing media:	Water spray (fog), foam, dry chemical or carbon dioxide.
Special firefighting procedures:	Water may be unsuitable as an extinguishing media, but may be helpful in keeping adjacent containers cool.
Unusual fire or explosion hazards:	This product is an aqueous mixture which will not burn. If evaporated to dryness, the solid residue may pose a slight fire hazard.
Hazardous combustion products:	Oxides of nitrogen. Oxides of carbon.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions:	Do not let product enter drains.
Clean-up methods:	Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up. Absorb spill with inert material. Shovel material into appropriate container for disposal. Wear appropriate protective equipment and clothing during clean-up.

7. HANDLING AND STORAGE

Handling:	Avoid contact with eyes. Avoid prolonged or repeated skin contact with this material. Keep out of the reach of children.
Storage:	Keep from freezing.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Limestone	10 mg/m3 TWA Total dust.	5 mg/m3 PEL Respirable fraction. 15 mg/m3 PEL Total dust.	None	None
Quartz (SiO2)	0.025 mg/m3 TWA Respirable fraction.	2.4 MPPCF TWA Respirable. 0.1 mg/m3 TWA Respirable. 0.3 mg/m3 TWA Total dust.	None	None
Titanium dioxide	10 mg/m3 TWA	15 mg/m3 PEL Total dust.	None	None

Engineering controls: Use local exhaust ventilation.

Respiratory protection: No personal respiratory protective equipment normally required.

Eye/face protection: None required in normal use.

Skin protection: Use impermeable gloves and protective clothing as necessary to prevent skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: pasty
Color: white
Odor: Acrylic
Odor threshold: Not available.
pH: 7.3 - 8.5
Vapor pressure: 15 mm hg (20 °C (68°F))
Boiling point/range: 100 °C (212°F)
Melting point/ range: Not available.
Specific gravity: 1.69
Vapor density: Heavier than air, (Air = 1)
Flash point: > 93.3 °C (> 199.94 °F)
Flammable/Explosive limits - lower: Not available.
Flammable/Explosive limits - upper: Not available.
Autoignition temperature: Not available.
Evaporation rate: 0.5 (Butyl acetate = 1)
Solubility in water: Soluble
Partition coefficient (n-octanol/water): Not available.
VOC content: 1.5 %; 33 g/l (by weight, calculated using CARB method; g/L less water, less exempts calculated using SCAQMD method)
Viscosity: <= 1,000,000 cp
Decomposition temperature: Not available.

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions of storage and use.

Hazardous reactions: Will not occur.

Hazardous decomposition products: Oxides of nitrogen. Oxides of carbon.

Incompatible materials: None expected.

Reactivity: Not available.

Conditions to avoid: Not available.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Skin

Potential Health Effects/Symptoms

Inhalation: Contains crystalline silica (quartz), which is classified as a possible carcinogen. However, the crystalline silica present in this product is encapsulated in the liquid and will only be liberated if the product is sanded or abraded, and even then what is liberated will not be pure crystalline silica. Appropriate precautions, however, should be taken if the product is sanded or abraded to prevent personnel from breathing the dust.

Skin contact: Prolonged or repeated contact with this product may dry and/or defat the skin.

Eye contact: Contact with uncured product may irritate the eyes.

Ingestion: Ingestion of this product is unlikely. However, ingestion of product may produce gastrointestinal irritation and disturbances.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Limestone	None	Nuisance dust
Quartz (SiO2)	None	Immune system, Lung, Some evidence of carcinogenicity
Titanium dioxide	None	Irritant, Respiratory, Some evidence of carcinogenicity

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Limestone	No	No	No
Quartz (SiO2)	Known To Be Human Carcinogen.	Group 1	No
Titanium dioxide	No	Group 2B	No

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal:	Dispose of according to Federal, State and local governmental regulations.
Hazardous waste number:	It is the responsibility of the user to determine if an item is hazardous as defined in the Resource Conservation and Recovery Act (RCRA) at the time of disposal. Product uses, transformations, mixtures, processes, etc., may render the resulting material hazardous, under the criteria of ignitability, corrosivity, reactivity and toxicity characteristics of the Toxicity Characteristics Leaching Procedure (TCLP) 40 CFR 261.20-24.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

International Air Transportation (ICAO/IATA)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

Water Transportation (IMO/IMDG)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status:	All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification:	None above reporting de minimis
CERCLA/SARA Section 302 EHS:	None above reporting de minimis
CERCLA/SARA Section 311/312:	Delayed Health, Immediate Health
CERCLA/SARA Section 313:	None above reporting de minimis
California Proposition 65:	This product contains a chemical known in the State of California to cause cancer. This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Canada Regulatory Information

CEPA DSL/NDSL Status:	All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Safety Data Sheet format.

Prepared by: Mary Ellen Roddy, Sr. Regulatory Affairs Specialist

Issue date: 12/01/2014

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SAFETY DATA SHEET

Silicone, Caulk
QA40

1. Identification

Product identifier	**RTV Silicone Sealant - Clear (pressurized)**
Other means of identification	
Product code	14055
Recommended use	Sealant and adhesive.
Recommended restrictions	None known.

Manufacturer/Importer/Supplier/Distributor information

Manufactured or sold by:

Company name	CRC Industries, Inc.
Address	885 Louis Dr. Warminster, PA 18974 US
Telephone	
General Information	215-674-4300
Technical Assistance	800-521-3168
Customer Service	800-272-4620
24-Hour Emergency (CHEMTREC)	800-424-9300 (US) 703-527-3887 (International)
Website	www.crcindustries.com

2. Hazard(s) identification

Physical hazards	Gases under pressure	Compressed gas
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2B
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
	Hazardous to the aquatic environment, long-term hazard	Category 3
OSHA defined hazards	Not classified.	

Label elements

Signal word	Warning
Hazard statement	Contains gas under pressure; may explode if heated. Causes skin irritation. Causes eye irritation. Harmful to aquatic life. Harmful to aquatic life with long lasting effects.
Precautionary statement	
Prevention	Do not puncture or incinerate container. Do not expose to heat or store at temperatures above 49°C/120°F. Use with adequate ventilation. Open doors and windows or use other means to ensure a fresh air supply during use and while product is drying. If you experience any symptoms listed on this label, increase ventilation or leave the area. Wash hands thoroughly after handling. Wear protective gloves. Avoid release to the environment.
Response	If on skin: Wash with plenty of water. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash before reuse. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
Storage	Protect from sunlight. Store in a well-ventilated place. Exposure to high temperature may cause can to burst.
Disposal	Dispose of contents/container in accordance with local/regional/national regulations.
Hazard(s) not otherwise classified (HNOC)	None known.

Supplemental information

When heated to temperature above 300°F/150°C in the presence of air, product may form formaldehyde vapors. When exposed to water or humid air, product evolves acetic acid (HOAc).

97.2% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 97.2% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Polydimethylsiloxane, hydroxy-terminated		70131-67-8	>= 70
Amorphous silica		7631-86-9	7 - 13
Distillates (petroleum), Hydrotreated Middle		64742-46-7	5 - 10
Ethyltriacetoxysilane		17689-77-9	1 - 5
Methyltriacetoxysilane		4253-34-3	1 - 5
Polydimethylsiloxane		63148-62-9	1 - 5
Nitrogen		7727-37-9	1 - 3

Specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation
Move to fresh air. Get medical attention immediately.

Skin contact
Remove contaminated clothing immediately and wash skin with soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Eye contact
Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion
Rinse mouth. Get medical attention.

Most important symptoms/effects, acute and delayed
Irritation of eyes and mucous membranes. Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain.

Indication of immediate medical attention and special treatment needed
Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media
Water. Dry chemical, CO2, or water spray.

Unsuitable extinguishing media
None known.

Specific hazards arising from the chemical
Contents under pressure. During fire, gases hazardous to health may be formed. When heated to temperature above 300°F/150°C in the presence of air, product may form formaldehyde vapors. When exposed to water or humid air, product evolves acetic acid (HOAc).

Special protective equipment and precautions for firefighters
Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Wear self-contained breathing apparatus and protective clothing.

Fire-fighting equipment/instructions
In case of fire: Stop leak if safe to do so. Do not move cargo or vehicle if cargo has been exposed to heat. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. In the event of fire, cool tanks with water spray.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. Shovel up and place in a container for salvage or disposal. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbent or cleaning materials appropriately, since spontaneous heating may occur. Prevent entry into waterways, sewer, basements or confined areas. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Pressurized container: Do not pierce or burn, even after use. Do not use if spray nozzle is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Avoid breathing vapor. Avoid contact with skin. Avoid contact with eyes. Avoid contact with clothing. Use only in well-ventilated areas. When heated to temperature above 300°F/150°C in the presence of air, product may form formaldehyde vapors. When exposed to water or humid air, product evolves acetic acid (HOAc). Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Avoid release to the environment. Do not empty into drains. For product usage instructions, please see the product label.

Conditions for safe storage, including any incompatibilities

Level 1 Aerosol.

Keep container closed and store away from water or moisture. Contents under pressure. Do not expose to heat or store at temperatures above 120°F/49°C as can may burst. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Keep out of the reach of children.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Distillates (petroleum), Hydrotreated Middle (CAS 64742-46-7)	PEL	5 mg/m3	Mist.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value
Amorphous silica (CAS 7631-86-9)	TWA	0.8 mg/m3 20 millions of particle

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Distillates (petroleum), Hydrotreated Middle (CAS 64742-46-7)	TWA	5 mg/m3	Inhalable fraction

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Amorphous silica (CAS 7631-86-9)	TWA	6 mg/m3	
Distillates (petroleum), Hydrotreated Middle (CAS 64742-46-7)	STEL	10 mg/m3	Mist.
	TWA	5 mg/m3	Mist.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

Occupational Exposure Limits are not relevant to the current physical form of the product. Acetic acid is formed upon contact with water or humid air. Provide adequate ventilation to control exposures within guidelines of OSHA PEL: TWA 10 ppm and ACGIH TLV: TWA 10 ppm, STEL 15 ppm.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection	Wear protective gloves such as: Nitrile. Butyl rubber.
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. Air monitoring is needed to determine actual employee exposure levels.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Solid.
Form	Paste.
Color	Translucent.
Odor	Acetic acid.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	680 °F (360 °C) estimated
Flash point	275 °F (135 °C) Closed Cup estimated
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapor pressure	4.2 hPa estimated
Vapor density	Not available.
Relative density	1.01
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	500 °F (260 °C) estimated
Decomposition temperature	Not available.
Viscosity (kinematic)	Not available.
Percent volatile	< 3 %

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Heat, flames and sparks. Avoid temperatures exceeding the flash point. Contact with incompatible materials. When exposed to water or humid air, product evolves acetic acid (HOAc). When heated to temperature above 300°F/150°C in the presence of air, product may form formaldehyde vapors.
Incompatible materials	Strong oxidizing agents. Moist air. Water, moisture.
Hazardous decomposition products	Carbon oxides. Traces of incompletely burned carbon compounds. Silicone dioxide. Formaldehyde. Metal oxides. Nitrogen oxides (NOx). Sulfur oxides. Chlorine compounds.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Expected to be a low ingestion hazard.

Inhalation	Inhalation of fumes may result in metal fume fever, a flu-like illness with symptoms of metallic taste, fever and chills, aches, chest tightness, and cough. Material is not likely to present an inhalation hazard at ambient conditions. However, if material is heated or high vapor concentrations are attained, central nervous system depression may occur, which is characterized by drowsiness, dizziness, confusion or loss of coordination.
Skin contact	Causes skin irritation.
Eye contact	Causes eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity	Not available.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes eye irritation.
Respiratory sensitization	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Amorphous silica (CAS 7631-86-9)	3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

Product		Species	Test Results
RTV Silicone Sealant - Clear (pressurized)			
Fish	LC50	Fish	511.3231 mg/l, 96 hours estimated
Components		**Species**	**Test Results**
Polydimethylsiloxane (CAS 63148-62-9)			
Aquatic			
Fish	LC50	Channel catfish (Ictalurus punctatus)	2.36 - 4.15 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability	No data is available on the degradability of this product.
Bioaccumulative potential	No data available.

Partition coefficient n-octanol / water (log Kow)

Nitrogen	0.67

Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal of waste from residues / unused products	This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Consult authorities before disposal. Contents under pressure. Do not puncture, incinerate or crush. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national regulations.
Hazardous waste code	Not regulated.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1950
UN proper shipping name	Aerosols, non-flammable, limited quantity
Transport hazard class(es)	
Class	2.2
Subsidiary risk	-
Label(s)	2.2
Packing group	Not applicable.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

IATA

UN number	UN1950
UN proper shipping name	Aerosols, non-flammable, limited quantity
Transport hazard class(es)	
Class	2.2
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	No.
ERG Code	2L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed.
Cargo aircraft only	Allowed.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS, LIMITED QUANTITY
Transport hazard class(es)	
Class	2
Subsidiary risk	-
Packing group	Not applicable.
Environmental hazards	
Marine pollutant	No.
EmS	F-D, S-U
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

SARA 304 Emergency release notification

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

CERCLA Hazardous Substances: Reportable quantity

Not listed.

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - Yes
Reactivity Hazard - No

SARA 302 Extremely hazardous substance No

US state regulations

US. New Jersey RTK - Substances: Listed substance

Amorphous silica (CAS 7631-86-9)
Nitrogen (CAS 7727-37-9)

US. Massachusetts RTK - Substance List

Amorphous silica (CAS 7631-86-9)
Distillates (petroleum), Hydrotreated Middle (CAS 64742-46-7)
Nitrogen (CAS 7727-37-9)

US. Pennsylvania RTK - Hazardous Substances

Amorphous silica (CAS 7631-86-9)
Distillates (petroleum), Hydrotreated Middle (CAS 64742-46-7)
Nitrogen (CAS 7727-37-9)

US. Rhode Island RTK

None.

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

Volatile organic compounds (VOC) regulations

EPA

VOC content (40 CFR 51.100(s)) < 3 %

Consumer products (40 CFR 59, Subpt. C) Not regulated

State

Consumer products This product is regulated as a Sealant and Caulking Compound. This product is compliant for use in all 50 states.

VOC content (CA) < 3 %

VOC content (OTC) < 3 %

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 12-04-2013

Prepared by Allison Cho

Version # 01

Further information	Not available.
HMIS® ratings	Health: 1 Flammability: 1 Physical hazard: 0 Personal protection: B
NFPA ratings	Health: 1 Flammability: 1 Instability: 0
Disclaimer	The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this (M)SDS consult your supervisor, a health & safety professional, or CRC Industries.

Safety Data Sheet
Spartan Chemical Company, Inc.

Revision Date: 30-Jul-2015

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name: **GREEN SOLUTIONS FLOOR SEAL AND FINISH**
Product Number: 3504
Recommended Use: Floor Finish
Uses Advised Against: For Industrial and Institutional Use Only

Manufacturer/Supplier:
Spartan Chemical Company, Inc.
1110 Spartan Drive
Maumee, Ohio 43537 USA
800-537-8990 (Business hours)
www.spartanchemical.com

24 Hour Emergency Phone Numbers:
Medical Emergency/Information: 888-314-6171
Transportation/Spill/Leak: CHEMTREC 800-424-9300

2. HAZARDS IDENTIFICATION

GHS Classification
Not Classified Not dangerous according to the Globally Harmonized System (GHS)

GHS Label Elements
Signal Word: **No signal word**
Symbols:
Hazard Statements: No hazard statements
Precautionary Statements:
Prevention: Not Applicable
Response:
-Specific Treatment: See Safety Data Sheet Section 4: "FIRST AID MEASURES" for additional information.

Storage: Not Applicable
Disposal: Not Applicable

Hazards Not Otherwise Classified: Not Applicable

Other Information:
- May be harmful if swallowed.
- May cause skin irritation.
- May cause eye irritation.
- Keep out of reach of children.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
water	7732-18-5	60-100
styrene/acrylic copolymer	25987-66-0	10-30
trimethylpentanediol monoisobutyrate	25265-77-4	1-5
tributoxyethyl phosphate	78-51-3	1-5

ethylene copolymer	67892-91-5	1-5
propylene glycol	57-55-6	0.1-1

Specific chemical identity and/or exact percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

-Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

-Skin Contact: Wash with soap and water. If skin irritation occurs: Get medical attention.

-Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison control center or physician if you feel unwell.

-Ingestion: Rinse mouth. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention if you feel unwell.

Note to Physicians: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Product does not support combustion, Use extinguishing agent suitable for type of surrounding fire

Specific Hazards Arising from the Chemical: Dried product is capable of burning. Combustion products are toxic.

Hazardous Combustion Products: May include Carbon monoxide Carbon dioxide and other toxic gases or vapors.

Protective Equipment and Precautions for Firefighters: Wear MSHA/NIOSH approved self-contained breathing apparatus (SCBA) and full protective gear. Cool fire-exposed containers with water spray.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

Environmental Precautions: Do not rinse spill onto the ground, into storm sewers or bodies of water.

Methods for Clean-Up: Prevent further leakage or spillage if safe to do so. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

7. HANDLING AND STORAGE

Advice on Safe Handling: Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling.

Storage Conditions: Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep from freezing.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits: None established.

Engineering Controls: Provide good general ventilation.
If work practices generate dust, fumes, gas, vapors or mists which expose workers to chemicals above the occupational exposure limits, local exhaust ventilation or other engineering controls should be considered.

Personal Protective Equipment

Eye/Face Protection: Not required with expected use.

Skin and Body Protection: Not required with expected use.

Respiratory Protection: Not required with expected use.
If occupational exposure limits are exceeded or respiratory irritation occurs, use of a NIOSH/MSHA approved respirator suitable for the use-conditions and chemicals in Section 3 should be considered.

General Hygiene Considerations: Wash hands and any exposed skin thoroughly after handling. See 29 CFR 1910.132-138 for further guidance.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Physical State:	Liquid
Color:	White emulsion
Odor:	Mild
pH:	8.0-8.5
Melting Point / Freezing Point:	No information available.
Boiling Point / Boiling Range:	100 °C / 212 °F
Flash Point:	> 100 °C / > 212 °F ASTM D56
Evaporation Rate:	< 1 (Butyl acetate = 1)
Flammability (solid, gas)	No information available.
Upper Flammability Limit:	No information available.
Lower Flammability Limit:	No information available.
Vapor Pressure:	No information available.
Vapor Density:	No information available.
Specific Gravity:	1.02
Solubility(ies):	Soluble in water
Partition Coefficient:	No information available.
Autoignition Temperature:	No information available.
Decomposition Temperature:	No information available.
Viscosity:	No information available.

10. STABILITY AND REACTIVITY

Reactivity: This material is considered to be non-reactive under normal conditions of use.
Chemical Stability: Stable under normal conditions.
Possibility of Hazardous Reactions: Not expected to occur with normal handling and storage.
Conditions to Avoid: Extremes of temperature and direct sunlight.
Incompatible Materials: Strong oxidizing agents. Strong acids.
Hazardous Decomposition Products: May include carbon monoxide, carbon dioxide (CO2) and other toxic gases or vapors.

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Eyes, Skin, Ingestion, Inhalation.
Symptoms of Exposure:
-Eye Contact: Pain and redness.
-Skin Contact: Drying of the skin.
-Inhalation: Nasal discomfort and coughing.
-Ingestion: Pain, nausea, vomiting and diarrhea.
Immediate, Delayed, Chronic Effects
Product Information: Data not available or insufficient for classification.

Numerical Measures of Toxicity
The following acute toxicity estimates (ATE) are calculated based on the GHS document.

ATEmix (oral): 76615 mg/kg
ATEmix (inhalation-dust/mist): 81.5 mg/l

Component Acute Toxicity Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
water 7732-18-5	> 90 mL/kg (Rat)	Not Available	Not Available
trimethylpentanediol monoisobutyrate 25265-77-4	= 3200 mg/kg (Rat)	> 15200 mg/kg (Rat)	Not Available

tributoxyethyl phosphate 78-51-3	= 3000 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	> 6.4 mg/L (Rat) 4 h
propylene glycol 57-55-6	= 20000 mg/kg (Rat)	= 20800 mg/kg (Rabbit)	Not Available

Carcinogenicity: No components present at 0.1% or greater are listed as to being carcinogens by ACGIH, IARC, NTP or OSHA.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae/Aquatic Plants	Fish	Toxicity to Microorganisms	Crustacea
trimethylpentanediol monoisobutyrate 25265-77-4	18.4: 72 h Pseudokirchneriella subcapitata mg/L EC50	30: 96 h Pimephales promelas mg/L LC50	Not Available	95: 96 h Daphnia magna mg/L LC50
tributoxyethyl phosphate 78-51-3	Not Available	10.4 - 12.0: 96 h Pimephales promelas mg/L LC50 flow-through	Not Available	Not Available
propylene glycol 57-55-6	19000: 96 h Pseudokirchneriella subcapitata mg/L EC50	51600: 96 h Oncorhynchus mykiss mg/L LC50 static 41 - 47: 96 h Oncorhynchus mykiss mL/L LC50 static 51400: 96 h Pimephales promelas mg/L LC50 static 710: 96 h Pimephales promelas mg/L LC50	Not Available	10000: 24 h Daphnia magna mg/L EC50 1000: 48 h Daphnia magna mg/L EC50 Static

Persistence and Degradability: No information available.
Bioaccumulation: No information available.

Other Adverse Effects: No information available.

13. DISPOSAL CONSIDERATIONS

Disposal of Wastes: Dispose of in accordance with federal, state and local regulations.
Contaminated Packaging: Dispose of in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

DOT: Not Regulated
Proper Shipping Name: Non-Hazardous Product
Special Provisions: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Check with a trained hazardous materials transportation expert for information specific to your situation.

IMDG: Not Regulated
Proper Shipping Name: Non-Hazardous Product

15. REGULATORY INFORMATION

TSCA Status: (Toxic Substance Control Act Section 8(b) Inventory)
All chemical substances in this product are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

SARA 313
This product does not contain listed substances above the "de minimus" level

SARA 311/312 Hazard Categories

Acute Health Hazard:	Yes
Chronic Health Hazard:	No
Fire Hazard:	No
Sudden release of pressure hazard:	No
Reactive Hazard:	No

California Proposition 65
This product is not subject to warning requirements under California Proposition 65.

16. OTHER INFORMATION

NFPA	**Health Hazards:** 1	**Flammability:** 0	**Instability:** 0	**Special:** N/A
HMIS	**Health Hazards:** 1	**Flammability:** 0	**Physical Hazards:** 0	

Revision Date: 30-Jul-2015
Reasons for Revision: Section 14 and 15

Disclaimer:
The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

GREEN® SOLUTIONS
Floor Seal & Finish

environmentally preferrable

With no heavy metals, formaldehyde, VOCs or glycol ether, Green Solutions Floor Seal & Finish is a wise choice with respect for the environment.

An acrylic co-polymer based floor seal and finish formulated to contain only trace amounts of zinc, Green Solutions Floor Seal & Finish is Green Seal™ certified.

Spartan®

Providing Quality Maintenance and Chemical Specialty Solutions with Unparalleled Customer Service

Spartan Chemical Company, Inc.
1110 Spartan Drive
Maumee, OH 43537
1-800-537-8990
www.spartanchemical.com

HIGH SOLIDS/HIGH GLOSS/ NON-YELLOWING:

Modern polymer technology affords formula features that include exceptional clarity, depth of gloss, and superior durability, without yellowing.

GREEN SEAL™ CERTIFIED:

Green Solutions Floor Seal & Finish meets Green Seal's GS-40 standard for industrial and institutional floorcare products based on reduced human and aquatic toxicity and reduced smog production potential.

NO VOCs, GLYCOL ETHER, HEAVY METALS OR ZINC:

A specialty surfactant blend is used as an alternative to glycol ethers in film formation. These surfactants have no VOCs and have been shown not to cause human health concerns. Because of this less aggressive product formulation, this product must be protected from freezing.

CROSSLINKING POLYMERS:

Substituting alternative crosslinking agents to replace zinc, this product does not contribute to the monitoring issues for hazardous or suspect ingredients. Green Solutions Floor Seal & Finish maintains detergent resistance with all-purpose cleaners, yet removes easily with Green Solutions Floor Finish Remover and other various floor finish strippers.

DIRECTIONS FOR USE:

Some individuals may be sensitive to ingredients in this product. Before using, read product label and MSD sheet. Wet floors may be slippery. Prevent pedestrian traffic with signs or barricades.

ISSA MEMBER The Experts on Cleaning and Maintenance

Distributed by:

INITIAL APPLICATION:

1. Completely strip all old floor finish with Spartan Green Solutions Floor Finish Remover.
2. Remove the stripping solution and follow with two to three clear water rinses. Allow to dry.
3. Apply Green Solutions Floor Seal & Finish in a uniform, thin coat. Let dry thoroughly: normal conditions, 30 minutes; high humidity, 45 minutes or longer. Apply subsequent coats in the same manner. Three to five coats are recommended.

N**OTE:** For best results always use Spartan floor cleaners and strippers.

MAINTENANCE:

1. Dust mop or sweep floor as necessary. Spartan water-based Dust Mop/Dust Cloth Treatment is recommended.
2. Damp mop using Green Solutions All Purpose Cleaner or another neutral Spartan cleaner.
3. To easily repair traffic areas between finish applications:

   Conventional Machines: Spray-buff using Spartan's Green Solutions Floor Seal & Finish diluted 1:4. You may also use this product as a mop-on restorer, diluted 1:2. Traffic lanes may be recoated as necessary.

   High Speed Machines: Mix one gallon of Green Solutions Floor Seal & Finish with two gallons of water (1:2). Saturate clean mop and wring thoroughly. Apply thin coat of diluted finish and let dry. Dry buff or burnish using a non-aggressive polishing pad. Traffic lanes may be recoated as necessary.
4. For heavily soiled areas, machine scrub and re-coat or completely strip and re-finish.

Be sure to read all Directions, Precautionary and First Aid Statements on product labels before use of this or any Spartan product. If questions remain, consult your employer or a physician. Material Safety Data Sheets for all Spartan products are available from your authorized Spartan distributor or by visiting www.spartanchemical.com.

SPECIFICATIONS:

Total Solids – 26.5%
Non-Volatile Solids – 21.5%
pH (Concentrate) – 8.0 - 8.5

Stability:

a. Storage @24°C/75°F – One year minimum
b. Accelerated @49°C/120°F – 30 days minimum
c. Protect from freezing

Gloss (Gardner)

a. 1 coat – 80-85
b. 2 coats – 85-90

COVERAGE:

2,000 to 3,000 square feet per gallon depending on application method and porosity of floor.

PACKAGING

350460	275-gallon totes
350455	55-gallon drum
350430	30-gallon drum
350415	15-gallon drum
350405	5-gallon pail
350404	1-gallon (4 per case)

This product meets the Green Seal™ standard for industrial and institutional floor-care products based on its reduced human and aquatic toxicity and reduced smog production potential.

Label copy is available in English, Spanish, and French. Secondary labels are also available.

GUARANTEE: Spartan's modern manufacturing and laboratory control insure uniform quality. If dissatisfied with performance of product, any unused portion may be returned for credit within one year of the date of manufacture. Use product as directed and read all precautionary statements.

Product Available Worldwide. For institutional and industrial use only.

Safety Data Sheet **Firestone Building Products Company**

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name • **Modular Water Based Bonding Adhesive WBA 3781**

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s) • Construction: Adhesive

1.3 Details of the supplier of the safety data sheet

Manufacturer • Firestone Building Products Company
250 West 96th Street
Indianapolis, IN 46260
United States

firestonemsds@bfdp.com

Telephone (General) • 800-428-4442

1.4 Emergency telephone number

Manufacturer • (800) 424-9300 - CHEMTREC

Manufacturer • (703) 527-3887 - CHEMTREC - International

Section 2: Hazards Identification

EU/EEC

According to EU Directive 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]
According to EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

CLP • Eye Irritation 2 - H319
Specific Target Organ Toxicity Single Exposure 3: Respiratory T ract Irritation - H335

DSD/DPD • Irritant (Xi)
R36/37

2.2 Label Elements

CLP

WARNING

Hazard statements • H319 - Causes serious eye irritation
H335 - May cause respiratory irritation

Precautionary statements

Prevention • P261 - Avoid breathing dust, fume, gas, mist, vapours and/or spray.
P271 - Use only outdoors or in a well-ventilated area.
P264 - Wash thoroughly after handling.

P280 - Wear eye/face protection , .

Response • P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312 - Call a POISON CENTER or doctor/physician if you feel unwell.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.

Storage/Disposal • P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P501 - Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

DSD/DPD

Risk phrases • R36/37 - Irritating to eyes and respiratory system.

Safety phrases • S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

2.3 Other Hazards

CLP • According to Regulation (EC) No. 1272/2008 (CLP) this material is considered hazardous.

DSD/DPD • According to European Directive 1999/45/EC this preparation is considered dangerous.

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

OSHA HCS 2012 • Eye Irritation 2A - H319
Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation - H335

2.2 Label elements

OSHA HCS 2012

WARNING

Hazard statements • Causes serious eye irritation - H319
May cause respiratory irritation - H335

Precautionary statements

Prevention • Avoid breathing dust, fume, gas, mist, vapours and/or spray. - P261
Wash thoroughly after handling. - P264
Use only outdoors or in a well-ventilated area. - P271
Wear eye/face protection , . - P280

Response • IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. - P304+P340
Call a POISON CENTER or doctor/physician if you feel unwell. - P312
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. - P305+P351+P338
If eye irritation persists: Get medical advice/attention. - P337+P313

Storage/Disposal • Store in a well-ventilated place. Keep container tightly closed. - P403+P233
Dispose of content and/or container in accordance with local, regional, national, and/or international regulations. - P501

2.3 Other hazards

OSHA HCS 2012 • Under United States Regulations (29 CFR 1910.1200 - Hazard Communication

Standard), this product is considered hazardous.

Canada

According to WHMIS

2.1 Classification of the substance or mixture

WHMIS

- Other Toxic Effects - D2B

2.2 Label elements

WHMIS

- Other Toxic Effects - D2B

2.3 Other hazards

WHMIS

- In Canada, the product mentioned above is considered hazardous under the Workplace Hazardous Materials Information System (WHMIS).

See Section 12 for Ecological Information.

Section 3 - Composition/Information on Ingredients

3.1 Substances

- Material does not meet the criteria of a substance in accordance with Regulation (EC) No 1272/2008.

3.2 Mixtures

Composition					
Chemical Name	**Identifiers**	**%**	**LD50/LC50**	**Classifications According to Regulation/Directive**	**Comments**
Butadiene Styrene Copolymer	NDA	40% TO 50%	NDA	**EU DSD/DPD:** Data Lacking **EU CLP:** Data Lacking **OSHA HCS 2012:** Data Lacking	NDA
1,2-Propanediol	**CAS:**57-55-6 **EC Number:**200-338-0	< 1%	Ingestion/Oral-Rat LD50 • 20 g/kg Skin-Rabbit LD50 • 20800 mg/kg	**EU DSD/DPD:** Not Classified - Criteria Not Met **EU CLP:** Not Classified - Criteria Not Met **OSHA HCS 2012:** Eye Irrit. 2B	NDA

See Section 11 for Toxicological Information.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation

- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing.

Skin

- In case of contact with substance, immediately flush skin with running water for at least 20 minutes. Wash skin with soap and water. Take off contaminated clothing and

wash before reuse. If irritation develops and persists, get medical attention.

Eye
- In case of contact with substance, immediately flush eyes with running water for at least 20 minutes. If eye irritation persists: Get medical advice/attention.

Ingestion
- Do NOT induce vomiting. Do not use mouth-to-mouth method if victim ingested the substance. Get medical attention and advise the physician of the nature of the material. If ingested, monitor for acidosis and central nervous system changes. Those with kidney history of dysfunction may require special treatment.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician
- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media
- Material is non-flammable. Use media appropriate for surrounding materials (e.g., water spray, alcohol foam, or carbon dioxide).

Unsuitable Extinguishing Media
- None known.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- None known.

Hazardous Combustion Products
- Oxides of carbon.

5.3 Advice for firefighters

- Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.
Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
Wear positive pressure self-contained breathing apparatus (SCBA).

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions
- Use only with adequate ventilation. Wear respiratory protection. Wear appropriate protective clothing.

Emergency Procedures
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area) Stay upwind. Keep out of low areas. Keep unauthorized personnel away. Ventilate closed spaces before entering.

6.2 Environmental precautions

- No special precautions necessary.

6.3 Methods and material for containment and cleaning up

Containment/Clean-up Measures
- Stop leak if you can do it without risk.
Absorb liquid on inert material. Transfer to secured container for proper disposal.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal

Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

Handling

- Do not breathe vapors, dust, or spray mist. Use only with adequate ventilation. Avoid contact with eyes. Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities

Storage

- Do not allow product to freeze. Keep container/package tightly closed in a cool, well-ventilated place.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits/Guidelines		
	Result	Canada Ontario
1,2-Propanediol (57-55-6)	TWAs	10 mg/m3 TWA (for assessing the visibility in a work environment where 1,2-Propylene glycol aerosol is present, aerosol only); 50 ppm TWA (aerosol and vapor); 155 mg/m3 TWA (aerosol and vapor)

8.2 Exposure controls

Engineering Measures/Controls

- Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Equipment

Respiratory

- In case of insufficient ventilation, wear suitable respiratory equipment. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face

- Wear splash goggles.

Skin/Body

- Wear appropriate chemical resistant gloves.

General Industrial Hygiene Considerations

- Wash exposed skin prior to eating, drinking or smoking and at the end of each shift. Wash contaminated clothing prior to reuse.

Environmental Exposure Controls

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways. Follow best practice for site management and disposal of waste.

Key to abbreviations

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Section 9 - Physical and Chemical Properties

9.1 Information on Physical and Chemical Properties

Material Description			
Physical Form	Liquid	Appearance/Description	White liquid with slight odor.
Color	White	Odor	Slight
Odor Threshold	Data lacking		

General Properties			
Boiling Point	212 F(100 C)	Melting Point	0 C(32 F)
Decomposition Temperature	Data lacking	pH	7.5 to 9
Specific Gravity/Relative Density	1 Water=1	Density	Data lacking
Water Solubility	Soluble	Solvent Solubility	Data lacking
Viscosity	Data lacking	Explosive Properties	Not explosive.
Oxidizing Properties:	Not an oxidizer.		
Volatility			
Vapor Pressure	Data lacking	Vapor Density	> 1 Air=1
Evaporation Rate	Data lacking		
Flammability			
Flash Point	> 100 C(> 212 F)	UEL	Data lacking
LEL	Data lacking	Autoignition	Data lacking
Flammability (solid, gas)	Not flammable.		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity

10.1 Reactivity

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- Do not allow this product to freeze. Avoid contact with water sensitive materials and strong oxidizers.

10.5 Incompatible materials

- Incompatible Materials: Water sensitive materials

10.6 Hazardous decomposition products

- Burning will produce smoke, carbon monoxide, and carbon dioxide.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

GHS Properties	Classification
Acute toxicity	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Aspiration Hazard	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Carcinogenicity	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met

Germ Cell Mutagenicity	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Skin corrosion/Irritation	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Skin sensitization	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
STOT-RE	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
STOT-SE	**EU/CLP** • Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation **OSHA HCS 2012** • Specific Target Organ Toxicity Single Exposure 3: Respiratory Tract Irritation
Toxicity for Reproduction	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Respiratory sensitization	**EU/CLP** • Classification criteria not met **OSHA HCS 2012** • Classification criteria not met
Serious eye damage/Irritation	**EU/CLP** • Eye Irritation 2 **OSHA HCS 2012** • Eye Irritation 2A

Route(s) of entry/exposure
- Inhalation, Skin, Eye, Ingestion/Oral

Medical Conditions Aggravated by Exposure
- Kidney disorders (via accidental ingestion). Pre-existing skin conditions.

Potential Health Effects

Inhalation

Acute (Immediate)
- May cause respiratory irritation.

Chronic (Delayed)
- No data available.

Skin

Acute (Immediate)
- Under normal conditions of use, no health effects are expected.

Chronic (Delayed)
- Prolonged or repeated skin contact may cause irritation.

Eye

Acute (Immediate)
- Causes serious eye irritation.

Chronic (Delayed)
- No data available.

Ingestion

Acute (Immediate)
- May cause gastrointestinal irritation and central nervous system depression if accidentally ingested.

Chronic (Delayed)
- Lactic acidosis, stupor and seizures from chronic ingestion only.

Carcinogenic Effects
- The ingredients of this product are not classified as carcinogenic by ACGIH or IARC, not regulated as carcinogens by OSHA, and not listed as carcinogens by NTP.

Key to abbreviations

LD = Lethal Dose
MLD = Mild
MOD = Moderate

Section 12 - Ecological Information

12.1 Toxicity

- Material data lacking.

12.2 Persistence and degradability

- Material data lacking.

12.3 Bioaccumulative potential

- Material data lacking.

12.4 Mobility in Soil

- Material data lacking.

12.5 Results of PBT and vPvB assessment

- No PBT and vPvB assessment has been conducted.

12.6 Other adverse effects

- No studies have been found.

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste
- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	NDA	Not regulated	NDA	NDA	NDA
TDG	NDA	Not regulated	NDA	NDA	NDA
IMO/IMDG	NDA	Not regulated	NDA	NDA	NDA
ADN	NDA	Not Regulated	NDA	NDA	NDA
ADR/RID	NDA	Not Regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not regulated	NDA	NDA	NDA

14.6 Special precautions for user
- None known.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
- Not relevant.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications
- Acute

State Right To Know				
Component	CAS	MA	NJ	PA
Butadiene Styrene Copolymer	NDA	No	No	No
Water	7732-18-5	No	No	No
1,2-Propanediol	57-55-6	No	Yes	Yes

Inventory						
Component	CAS	Canada DSL	Canada NDSL	EU EINECS	EU ELNICS	TSCA
Butadiene Styrene Copolymer	NDA	No	No	No	No	No
Water	7732-18-5	Yes	No	Yes	No	Yes
1,2-Propanediol	57-55-6	Yes	No	Yes	No	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

- 1,2-Propanediol 57-55-6 Uncontrolled product according to WHMIS classification criteria
- Water 7732-18-5 Uncontrolled product according to WHMIS classification criteria

Canada - WHMIS - Ingredient Disclosure List

- 1,2-Propanediol 57-55-6 1 %
- Water 7732-18-5 Not Listed

Environment

Canada - CEPA - Priority Substances List

- 1,2-Propanediol 57-55-6 Not Listed
- Water 7732-18-5 Not Listed

Europe

Other

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification

- 1,2-Propanediol 57-55-6 Not Listed
- Water 7732-18-5 Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits

- 1,2-Propanediol 57-55-6 Not Listed
- Water 7732-18-5 Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling

- 1,2-Propanediol 57-55-6 Not Listed
- Water 7732-18-5 Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations

- 1,2-Propanediol 57-55-6 Not Listed
- Water 7732-18-5 Not Listed

EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases

- 1,2-Propanediol 57-55-6 Not Listed
- Water 7732-18-5 Not Listed

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

- 1,2-Propanediol 57-55-6 Not Listed
- Water 7732-18-5 Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

- 1,2-Propanediol 57-55-6 Not Listed
- Water 7732-18-5 Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

- 1,2-Propanediol 57-55-6 Not Listed
- Water 7732-18-5 Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

- 1,2-Propanediol 57-55-6 Not Listed
- Water 7732-18-5 Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

- 1,2-Propanediol 57-55-6 Not Listed
- Water 7732-18-5 Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

- 1,2-Propanediol 57-55-6 Not Listed
- Water 7732-18-5 Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

- 1,2-Propanediol 57-55-6 Not Listed
- Water 7732-18-5 Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

- 1,2-Propanediol 57-55-6 Not Listed
- Water 7732-18-5 Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

- 1,2-Propanediol 57-55-6 Not Listed
- Water 7732-18-5 Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List

- 1,2-Propanediol 57-55-6 Not Listed
- Water 7732-18-5 Not Listed

U.S. - California - Proposition 65 - Developmental Toxicity

- 1,2-Propanediol 57-55-6 Not Listed
- Water 7732-18-5 Not Listed

U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)

- 1,2-Propanediol 57-55-6 Not Listed
- Water 7732-18-5 Not Listed

U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)

- 1,2-Propanediol 57-55-6 Not Listed
- Water 7732-18-5 Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

- 1,2-Propanediol 57-55-6 Not Listed
- Water 7732-18-5 Not Listed

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

- 1,2-Propanediol 57-55-6 Not Listed
- Water 7732-18-5 Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Last Revision Date
- 19/June/2013

Preparation Date
- 09/February/2009

Disclaimer/Statement of Liability
- The information contained herein is based on data considered accurate which has been obtained from other companies and organizations. However, no warranty or representation is expressed or implied that the information, is accurate, complete or representative. Firestone Building Products Company, LLC assumes no responsibility for injury to the buyer, the buyer's employees, or any third persons, if reasonable safety procedures are not followed. Additionally, Firestone Building Products Company assumes no responsibility for injury to buyer, the buyer's employees, or any third persons caused by abnormal use of this material, even if reasonable safety procedures are followed.

Key to abbreviations

NDA = No Data Available

TECHNICAL INFORMATION SHEET

Modular Water Based Bonding Adhesive-WBA 3781

TIS # 823

ITEM NUMBER:

5 Gallon (18.9L) Pail	**W563587037**
55 Gallon (208.2L) Drum	**W563587036**
330 Gallon (1249.2L) Tote	**W563587039**

Description:
Firestone Modular Water Based Bonding Adhesive WBA-3781 is a contact adhesive designed for bonding RubberGard™ EPDM and FormFlash™ to wood, metal, masonry and acceptable substrates for modular installations.

Method of Application:

Preparation:

1. Bonding surfaces must be clean, dry, smooth, free of sharp fins and edges, loose and foreign materials, oil and grease, and any other contaminants.
2. Stir adhesive thoroughly before and during use.
3. Use only when temperatures will not fall below freezing at anytime 48 hours after mating of EPDM to substrate.
4. Contact your Firestone Technical Coordinator at 1-800-428-4511 for specific application information.

Standard Application Method:

Two-side contact cement application.

1. Using a 6 mm to 12 mm nap x 228 mm (¼" to ½" nap x 9") wide solvent resistant paint roller, apply an even coat of WBA-3781 to each bonding substrate (membrane and substrate), simultaneously avoiding globs and puddles of adhesive.
2. Apply at a rate of approximately 2.9-4.9 m²/L (120-200 ft²/gal)/substrate, which results in 1.5-2.5 m²/L (60-100 ft²/gal) coverage when mated.
3. Allow to dry until pushing on the adhesive at an angle with a clean dry finger reveals no movement within the adhesive layer, and that the adhesive layer is solid. If this "push test" reveals movement within the adhesive layer, the adhesive is not ready to be mated. The adhesive will change from a white color to translucent as it evaporates. Drying time will vary depending on ambient air conditions. It is recommended that the application temperature be above 4.4 ºC (40 ºF). Do not over-dry.
4. Roll the membrane into the substrate. Ensure a strong bond by compressing the EPDM to the substrate with a stiff push broom using heavy mating pressure.

Optional Application Method:

Wet-mated application for horizontal plywood and oriented strand board (OSB) substrates only (indoor application only).

1. Using a 6 mm to 12 mm nap x 228 mm (¼" to ½" nap x 9") wide solvent resistant paint roller, apply WBA-3781 over OSB or plywood, taking care to completely cover the substrate evenly to avoid globs and puddles of adhesive.
2. Mate the EPDM to the coated OSB or plywood immediately by rolling the membrane in place over the substrate.
3. To ensure proper contact, compress the bonded portion of the sheet to the substrate with a stiff push broom.
   CAUTION: This method is ONLY applicable when EPDM membrane is bonded indoors and not exposed to wind forces AND freezing temperatures for 48 hours (minimum).

Storage:

- Store in original unopened containers at temperatures between 60 °F (15.6 °C) and 80 °F (26.7 °C) until ready for use. Do not allow to freeze.
- For optimum results, rotate your stock to ensure stored material has not exceeded the shelf life of one year.
- Shelf life of one year can be expected if stored in original sealed container at temperatures between 60 °F (15.6 °C) and 80 °F (26.7 °C). If exposed to lower temperatures, restore to room temperature prior to use.
- Shelf life will be shortened if exposed to elevated temperatures. Rotate stock to insure stored material will not go beyond the shelf life of one year.

Precautions:

- Review Material Safety Data Sheet prior to use.
- Keep out of reach of children.
- Thinning is not permitted and will affect the adhesive performance.
- Do not use for splices
- Stir thoroughly before and during use.
- Keep container closed when not in use.

TECHNICAL INFORMATION SHEET

- Use only in well ventilated areas.
- For professional use only.
- Recommended cleaner is water (while adhesive is fluid).
- Use only when temperatures will not fall below freezing at any time 48 hours after mating.

Compliance:

Post Consumer Recycled Content:	0%
Pre Consumer Recycled Content:	0%
Manufacturing Location:	Greenville, SC

Packaging:	
Coverage:	**Standard Application Method**: 1.5-2.5 m²/L (60-100 ft²/gal) (nominal) – includes both substrates. **Optional Wet-mating Method**: 2.5 m²/L (100 ft²/gal) (nominal)

Physical Properties:	*Minimum Performance*
Base:	Latex
Color:	White (when first applied); Translucent (when water evaporates)
Solids:	49% (minimum)
Viscosity:	3300-3800 Centipiose, R.V.F. Brookfield, #3 Spindle @ 10 RPM
Weight:	8.3 lb/gal (1.0 kg/L) (nominal)
Specific Gravity:	1.0 (nominal)
V.O.C. Content:	17 g/L

Please Contact your Firestone Technical Coordinator at 1-800-428-4511 for further information.

Section 1 - PRODUCT AND COMPANY IDENTIFICATION

Material Name: Solvent Free EPDM Bonding Adhesive
Chemical Family: Mixture
Product Use: Moisture cure sealant.
Restrictions on Use: For industrial use only.

Manufacturer Information

Carlisle SynTec
1285 Ritner Highway
Carlisle, PA 17013
USA
Phone: +1-800-479-6832
Emergency Phone #: +1-800-424-9300 (CHEMTREC)

Section 2 - HAZARDS IDENTIFICATION

Classification in accordance with paragraph (d) of 29 CFR 1910.1200.
Hazardous classification: Irritant Category 2

GHS Label Elements

Symbol(s)

Signal Word: Warning

Hazard Statement(s)
H315 Causes skin irritation
H317 May cause allergic skin reaction
H318 Causes serious eye damage

Precautionary Statement(s)
P273 Avoid release into the environment
P280 Wear protective gloves/protective clothing/eye protection
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 IF IN EYES: Rinse cautiously with water for several minutes.
P338 Remove contact lenses, if present and easy to do. Continue rinsing.
P501 Dispose of contents/container in accordance with local regulation.

R-Phrases

R38 Irritating to skin.
R41 Risk serious damage to eyes.
R43 May cause sensitization by skin contact.

S-Phrases

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S39 Wear eye/face protection.
Carcinogenity: This product contains no ingredient listed as a carcinogen on California Proposition 65 list.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component Name	Percent
1760-24-3	Amino Silane	1-3

Section 4 - FIRST AID MEASURES

Inhalation

An unlikely route of entry. Remove to fresh air. Consult a physician.

Skin

Clean product from affected area with Ethyl alcohol, then wash with soap and water.

Eyes

Flush with large amounts of water for at least 15 minutes. Consult a Physician if ill effects or irritation occurs.

Ingestion

An unlikely route of entry. Consult a physician.

Section 5 - FIRE FIGHTING MEASURES

Extinguishing Media

Water, CO2, Dry Chemical, Foam.

Unusual Fire and Explosion Hazards: None

Flashpoint: N/A.

Upper Falmmability Limit: N/A

Lower Flammability Limit: N/A

Auto Ignition Temperature: N/A

Sensitivity to Impact: N/A

Sensitivity to Static Discharge: N/A

Hazardous Combustion Products: Thermal decomposition may produce toxic fumes of Carbon Monoxide, Carbon dioxide, Sulfur oxides and Hydrogen sulfide.

Section 6 - ACCIDENTAL RELEASE MEASURES

Handling Precautions: Wear personal protective clothing and equipment, see Section 8. Avoid eye, skin and clothing contact.

Cleanup: Collect spill with absorbent material such as cardboard, allow to cure and place into a container approved for waste disposal.

Regulatory Requirements: Follow applicable OSHA regulations (29 CFR 1910.120).

Section 7 - HANDLING AND STORAGE

Handling Precautions: Use personal protection recommended in section 8. Avoid eye, skin and clothing contact.

Prevention of Fires and Explosions: Product is not considered flammable under normal conditions, and product is not considered explosive.

Storage Requirments: Store in a cool dry area (this product polymerizes when in contact with moisture.)

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Eye/face protection: Wear safety glasses or goggles to avoid eye contact.

Skin Protection: Wear appropriate work clothing. Wear protective shoes. Recommended material: protective skin cream.

Environmental Exposure Control: No specific controls are needed.

Hand Protection: Wear impervious gloves such as vinyl to minimize contact with skin.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Paste, mild mint scent	**Physical State**	Water Solubility: Insoluble
Odor Threshold	N/A	**pH**	N/A
Melting Point	N/A	**Flash Point**	N/A
Freezing point	N/A	**Flash Point Method**	Based on FP of the most volatile component
Autoignition	N/A	**Vapor Pressure**	<1
Lower Explosive Limit	N/A	**Specific Gravity (water=1)**	0.97
Upper Explosive Limit	N/A	**% Volatile**	1.16%
Vapor Density (air=1)	>1	**VOC**	11.28 g/l
Density	8.1 lbs./gal. (calculated)		

Other Information
No additional information available.

Section 10 - STABILITY AND REACTIVITY

Chemical Stability
Stable under normal conditions of use.

Conditions to Avoid
None Known

Incompatible Materials
None Known

Hazardous decomposition products
Thermal decomposition may produce toxic fumes of Carbon monoxide (CO) and/or (CO2).

Section 11 - TOXICOLOGICAL INFORMATION

Amino Silane (Refer to sections 2 and 3)
Oral: LD50 > 2,000 mg/kg. Remark: Very low order of toxicity.
Skin Absorption: LD50 > 2,000 mg/kg. Remark: Very low order of toxicity.
Inhalation: LC50 Not acutely Toxic.

Skin Direct Contact: Slight irritation

Eye Direct Contact: Severe irritation. Remark: Causes corneal injury.

Exposure Limits: Not applicable

Sensitization: No

Reproductive Toxicity: No

Mutagenicity: No

Teratogenicity: No

Synergistic Products: None

Section 12 - ECOLOGICAL INFORMATION

No known applicable information.

Section 13 - DISPOSAL CONSIDERATIONS

If this product as supplied becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. This product becomes a firm synthetic rubber when cured. Please allow to cure before disposal.

Section 14 - TRANSPORT INFORMATION

Special shipping information: None

DOT: Not regulated

TDG: Not available

PIN: Not available

Section 15 - REGULATORY INFORMATION

Rotterdam Convention (PIC) Annex III: listed (Tributyl tin compounds (impurities) <2ppm)

U.S. Regulatory information

OSHA 29 CFR 1910-1200 – Irritant.

TSCA – All components of this product are listed on TSCA Inventory.

CERCLA Reportable Quantity – Not applicable.

SARA Title III:

Section 302 Extremely Hazardous Substances – None.

Section 304 – Not applicable.

Section 311/312 – Immediate (acute) health hazard.

Section 313 – None.

RCRA – Refer to section 13.

California Proposition 65 Carcinogens: This product does not contain any chemicals known by the State of California to cause cancer.

California Proposition 65 Reproductive Toxins: This product does not contain any chemicals known by the State of California to cause reproductive harm.

Canadian WHMIS Classification- D2B

Section 16 - OTHER INFORMATION

HMIG Rating

Health: 1 Fire: 0 Reactivity: 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

Summary of Changes
New SDS: April 14, 2015

Key / Legend
ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency

for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of LIsts™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States.

Other Information

Disclaimer:

The information contained herein is based upon data and information available to us, and reflects our best professional judgment. This product may be formulated in part with components purchased from other companies. No warranty of merchantability, fitness for any use, or any other warranty is expressed or implied regarding the accuracy of such data or information. The results to be obtained from the use thereof, or that any such use does not infringe any patent, since the information contained herein may be applied under conditions of use beyond our control and with which we may be unfamiliar, we do not assume responsibility for the results of such application. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular use.

SAFETY DATA SHEET

Section 1: IDENTIFICATION

1.1 PRODUCT IDENTIFIER

Product Name: PolyBlend Ceramic Tile Caulk Non Sanded

Product Code: Not available.

1.2 RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE

Use: Sealant.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Name/Address: Custom Building Products
13001 Seal Beach Blvd
Seal Beach, CA
90740

Telephone Number: (562) 598-8808

1.4 EMERGENCY TELEPHONE NUMBER

Emergency Telephone Number: INFOTRAC 1-800-535-5053 (US and Canada)
INTERNATIONAL + 1-352-323-3500

Section 2: HAZARD(S) IDENTIFICATION

2.1 CLASSIFICATION OF THE CHEMICAL ACCORDING TO OSHA HAZCOM 2012

Hazard class

Carcinogenicity 1A

2.2 LABEL ELEMENTS ACCORDING TO OSHA HAZCOM 2012

Hazard Pictogram:

Signal Word: Danger

Hazard Statement: May cause cancer.

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection.

Response: If exposed or concerned: Get medical advice/attention.

Storage: Store locked up.

Disposal: Dispose of contents and container in accordance with all local, regional, national and international regulations.

2.3 ADDITIONAL INFORMATION

Hazards not otherwise classified: Not applicable.

30 % of the mixture consists of ingredient(s) of unknown acute toxicity.

SAFETY DATA SHEET

WHMIS Classification(s):
Class D2A - Carcinogenicity

WHMIS Hazard Symbols:

WHMIS Signal Word: CAUTION

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 MIXTURES

Ingredient	CAS No	Wt. %
Calcium carbonate	1317-65-3	40 - 70
1,2-Propylene glycol	57-55-6	1 - 5
Titanium dioxide	13463-67-7	0.5 - 1.5
Hydrotreated heavy naphtha (petroleum)	64742-48-9	0.1 - 1
Carbon black	1333-86-4	0.1 - 1
Silica, crystalline, quartz	14808-60-7	0.1 - 1

The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

Section 4: FIRST- AID MEASURES

4.1 DESCRIPTION OF THE FIRST AID MEASURE

Eye: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lenses, if worn. Get medical attention immediately.

Skin: In case of contact, immediately flush skin with plenty of soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician if irritation develops and persists.

Inhalation: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

Ingestion: If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Eye: May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Skin: May cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.

Inhalation: May cause respiratory tract irritation.

Ingestion: May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENTS NEEDED

Note to Physicians: Symptoms may not appear immediately.

Specific Treatments: In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

Section 5: FIRE-FIGHTING MEASURES

5.1 FLAMMABILITY

Flammability: Not flammable by WHMIS/OSHA criteria.

5.2 EXTINGUISHING MEDIA

Suitable Extinguishing Media: Powder, water spray, foam, carbon dioxide.

Unsuitable Extinguishing Media: Not available.

5.3 SPECIAL HAZARDS ARISING FROM THE CHEMICAL

Products of Combustion: May include, and are not limited to: oxides of carbon, oxides of nitrogen.

Explosion Data:

Sensitivity to Mechanical Impact: Not available.

Sensitivity to Static Discharge: Not available.

5.4 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE FIGHTERS

Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

6.2 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING - UP

Methods for Containment: Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for Cleaning-Up: Scoop up material and place in a disposal container. Provide ventilation.

Section 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Handling: Avoid contact with skin and eyes. Do not swallow. Do not breathe fumes/vapors. Handle and open container with care. When using do not eat, drink or smoke. (See section 8)

General Hygiene Advice: Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Storage: Keep out of the reach of children. Keep container tightly closed. Store in a well-ventilated place. Do not store at temperatures above 49 °C / 120 °F. Keep from freezing. (See section 10)

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

Exposure Guidelines

Occupational Exposure Limits		
Ingredient	**OSHA-PEL**	**ACGIH-TLV**
Calcium carbonate	15 mg/m³ (total); 5 mg/m³ (resp)	10 mg/m³
1,2-Propylene glycol	Not available.	Not available.
Titanium dioxide	15 mg/m^3 (total dust)	10 mg/m³
Hydrotreated heavy naphtha (petroleum)	Not available.	Not available.
Carbon black	3.5 mg/m^3	3 mg/m^3
Silica, crystalline, quartz	((10 mg/m^3)/(%SiO_2+2) TWA (resp)) ((30 mg/m^3)/(%SiO_2+2) TWA (total)) ((250)/(%SiO_2+5) mppcf TWA (resp))	0.025 mg/m³

8.2 EXPOSURE CONTROLS

Engineering Controls: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

8.3 INDIVIDUAL PROTECTIVE MEASURES

Personal Protective Equipment:

Eye/Face Protection: Safety glasses or goggles are recommended when using product.

Skin Protection:

Hand Protection: Wear chemical-resistant gloves.

Body Protection: Wear suitable protective clothing.

Respiratory Protection: In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

General Health and Safety Measures: Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking. Wash contaminated clothing before reusing.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Smooth paste.

Color: Various colours.

Odor: Mild acrylic.

Odor Threshold: Not available.

Physical State: Liquid.

pH:	7.0 – 9.0
Melting Point/Freezing Point:	Not available.
Initial Boiling Point and Boiling Range:	Not available.
Flash Point:	> 93.3 °C (> 200 °F) (closed cup)
Evaporation Rate:	Not available.
Flammability:	Not flammable.
Lower Flammability/Explosive Limit:	Not available.
Upper Flammability/Explosive Limit:	Not available.
Vapor Pressure:	Not available.
Vapor Density:	> 1 (Air = 1)
Relative Density/Specific Gravity:	1.50 – 1.70
Solubility:	Not available.
Partition coefficient: n-octanol/water:	Not available.
Auto-ignition Temperature:	Not available.
Decomposition Temperature:	Not available.
Viscosity:	Not available.
Oxidizing Properties:	Not available.
Explosive Properties:	Not available.
VOC content, g/L:	15 g/L (1.5%)

Section 10: STABILITY AND REACTIVITY

10.1 REACTIVITY

No dangerous reaction known under conditions of normal use.

10.2 CHEMICAL STABILITY

Stable under normal storage conditions.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

No dangerous reaction known under conditions of normal use.

10.4 CONDITIONS TO AVOID

Heat. Incompatible materials.

10.5 INCOMPATIBLE MATERIALS

Strong bases. Oxidizers.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

May include, and are not limited to: oxides of carbon, oxides of nitrogen.

Section 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

Likely Routes of Exposure: Skin contact, eye contact, inhalation, and ingestion.

Symptoms related to physical/chemical/toxicological characteristics:

Eye: May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.

Skin: May cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.

Ingestion: May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

Inhalation: May cause respiratory tract irritation.

Acute Toxicity:

Ingredient	LC50	LD50
Calcium carbonate	Not available.	Oral 6450 mg/kg, rat
1,2-Propylene glycol	Not available.	Oral 20000 mg/kg, rat Dermal 20800 mg/kg, rabbit
Titanium dioxide	Not available.	Oral >10000 mg/kg, rat Dermal >10000mg/kg, rabbit
Hydrotreated heavy naphtha (petroleum)	Not available.	Oral >5000 mg/kg, rat Dermal >3160 mg/kg, rabbit
Carbon black	Not available.	Oral >15400 mg/kg, rat Dermal >3 g/kg, rabbit
Silica, crystalline, quartz	Not available.	Oral TD_{lo} 120 g/kg, rat

Calculated overall Chemical Acute Toxicity Values		
LC50 (inhalation)	**LD50 (oral)**	**LD50 (dermal)**
Not available.	>2000 mg/kg, rat	>2000 mg/kg, rabbit

Ingredient	Chemical Listed as Carcinogen or Potential Carcinogen (NTP, IARC, OSHA, ACGIH, CP65)*
Calcium carbonate	Not listed.
1,2-Propylene glycol	Not listed.
Titanium dioxide	G-A4, I-2B, O, CP65
Hydrotreated heavy naphtha (petroleum)	Not listed.
Carbon black	G-A3, I-2B, O, CP65
Silica, crystalline, quartz	G-A2, I-1, N-1, O, CP65

* See Section 15 for more information.

11.2 DELAYED, IMMEDIATE, AND CHRONIC EFFECTS OF SHORT- AND LONG-TERM EXPOSURE

Skin Corrosion/Irritation: Based on available data, the classification criteria are not met.

Serious Eye Damage/Irritation: Based on available data, the classification criteria are not met.

Respiratory Sensitization: Based on available data, the classification criteria are not met.

Skin Sensitization: Based on available data, the classification criteria are not met.

STOT-Single Exposure: Based on available data, the classification criteria are not met.

Chronic Health Effects:

Carcinogenicity: May cause cancer.

Germ Cell Mutagenicity: Based on available data, the classification criteria are not met.

Reproductive Toxicity:

Developmental: Based on available data, the classification criteria are not met.

Teratogenicity: Based on available data, the classification criteria are not met.

Embryotoxicity: Based on available data, the classification criteria are not met.

Fertility: Based on available data, the classification criteria are not met.

STOT-Repeated Exposure: Based on available data, the classification criteria are not met.

Aspiration Hazard: Based on available data, the classification criteria are not met.

Toxicologically Synergistic Materials: Not available.

Other Information: Not available.

Section 12: ECOLOGICAL INFORMATION

12.1 ECOTOXICITY

Acute/Chronic Toxicity: May cause long-term adverse effects in the aquatic environment.

12.2 PERSISTENCE AND DEGRADABILITY

Not available.

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: Not available.

12.4 MOBILITY IN SOIL

Not available.

12.5 OTHER ADVERSE EFFECTS

Not available.

Section 13: DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Disposal Method: This material must be disposed of in accordance with all local, state, provincial, and federal regulations.

Other disposal recommendations: Not available.

Section 14: TRANSPORT INFORMATION

14.1 UN NUMBER

DOT	TDG
Not regulated.	Not regulated.

SAFETY DATA SHEET

14.2 UN PROPER SHIPPING NAME

DOT	TDG
Not applicable.	Not applicable.

14.3 TRANSPORT HAZARD CLASS (ES)

DOT	TDG
Not applicable.	Not applicable.

14.4 PACKING GROUP

DOT	TDG
Not applicable.	Not applicable.

14.5 ENVIRONMENTAL HAZARDS

Not available.

14.6 TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE

Not available.

14.7 SPECIAL PRECAUTIONS FOR USER

Do not handle until all safety precautions have been read and understood.

Section 15: REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/ LEGISLATIONS SPECIFIC FOR THE CHEMICAL

Canada: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

US: MSDS prepared pursuant to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

SARA Title III				
Ingredient	**Section 302 (EHS) TPQ (lbs.)**	**Section 304 EHS RQ (lbs.)**	**CERCLA RQ (lbs.)**	**Section 313**
Calcium carbonate	Not listed.	Not listed.	Not listed.	Not listed.
1,2-Propylene glycol	Not listed.	Not listed.	Not listed.	Not listed.
Titanium dioxide	Not listed.	Not listed.	Not listed.	Not listed.
Hydrotreated heavy naphtha (petroleum)	Not listed.	Not listed.	Not listed.	Not listed.
Carbon black	Not listed.	Not listed.	Not listed.	Not listed.
Silica, crystalline, quartz	Not listed.	Not listed.	Not listed.	Not listed.

State Regulations

California Proposition 65:

This product contains chemicals known to the State of California to cause cancer. (Silica, crystalline; Titanium dioxide; Carbon black)

SAFETY DATA SHEET

Global Inventories:

Ingredient	Canada DSL/NDSL	USA TSCA
Calcium carbonate	NDSL	Yes.
1,2-Propylene glycol	DSL	Yes.
Titanium dioxide	DSL	Yes.
Hydrotreated heavy naphtha (petroleum)	DSL	Yes.
Carbon black	DSL	Yes.
Silica, crystalline, quartz	DSL	Yes.

NFPA National Fire Protection Association:	
Health:	1
Fire:	1
Reactivity:	0

HMIS-Hazardous Materials Identification System	
Health:	1*
Fire:	1
Physical Hazard:	0

Hazard Rating: 0 = minimal, 1 = slight, 2 = moderate, 3 = severe, 4 = extreme

SOURCE AGENCY CARCINOGEN CLASSIFICATIONS:

CP65 **California Proposition 65**

OSHA (O) **Occupational Safety and Health Administration.**

ACGIH (G) **American Conference of Governmental Industrial Hygienists.**
A1 - Confirmed human carcinogen.
A2 - Suspected human carcinogen.
A3 - Animal carcinogen.
A4 - Not classifiable as a human carcinogen.
A5 - Not suspected as a human carcinogen.

IARC (I) **International Agency for Research on Cancer.**
1 - The agent (mixture) is carcinogenic to humans.
2A - The agent (mixture) is probably carcinogenic to humans; there is limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals.
2B - The agent (mixture) is possibly carcinogenic to humans; there is limited evidence of carcinogenicity in humans in the absence of sufficient evidence of carcinogenicity in experimental animals.
3 - The agent (mixture, exposure circumstance) is not classifiable as to its carcinogenicity to humans.
4 - The agent (mixture, exposure circumstance) is probably not carcinogenic to humans.

NTP (N) **National Toxicology Program.**
1 - Known to be carcinogens.
2 - Reasonably anticipated to be carcinogens.

Section 16: OTHER INFORMATION

Date of Preparation: November 13, 2013

Version: 1.0

Revision Date: November 13, 2013

SAFETY DATA SHEET

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

Prepared by: Nexreg Compliance Inc.
Phone: (519) 488-5126
www.nexreg.com

Prepared for: Custom Building Products

End of Safety Data Sheet

SAFETY DATA SHEET

Section 1: IDENTIFICATION

1.1 PRODUCT IDENTIFIER

Product Name: PolyBlend Sanded Grout

Product Code: Not available.

1.2 RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE

Use: Sealant.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Name/Address: Custom Building Products
13001 Seal Beach Blvd
Seal Beach, CA
90740

Telephone Number: (562) 598-8808

1.4 EMERGENCY TELEPHONE NUMBER

Emergency Telephone Number: INFOTRAC 1-800-535-5053 (US and Canada)
INTERNATIONAL + 1-352-323-3500

Section 2: HAZARD(S) IDENTIFICATION

2.1 CLASSIFICATION OF THE CHEMICAL

Hazard class

Skin irritation 2
Serious eye damage 1
Skin sensitization 1
Carcinogenicity 1A
Specific target organ toxicity - Single exposure 3
Specific target organ toxicity - Repeated exposure 1

2.2 LABEL ELEMENTS

Hazard Pictogram:

Signal Word: Danger

Hazard Statement: Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. May cause cancer. May cause respiratory irritation. Causes damage to organs through prolonged or repeated exposure.

Prevention: Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Do not breathe dust. Do not eat, drink or smoke when using this product.

Response: If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell. If exposed or concerned: Get medical advice/attention.

Storage: Store locked up. Store in a well-ventilated place. Keep container tightly closed.

Disposal: Dispose of contents and container in accordance with all local, regional, national and international regulations.

2.3 ADDITIONAL INFORMATION

Hazards not otherwise classified: Not applicable.

30.0 % of the mixture consists of ingredient(s) of unknown acute toxicity.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 MIXTURES

Ingredient	CAS No	Wt. %
Silica, crystalline, quartz	14808-60-7	40 - 70
Portland cement	65997-15-1	15 - 40
Gypsum	13397-24-5	1 - 5
Calcium carbonate	1317-65-3	0.1 - 1

The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

Section 4: FIRST- AID MEASURES

4.1 DESCRIPTION OF THE FIRST AID MEASURE

Eye: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lenses, if worn. Get medical attention immediately.

Skin: In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician if irritation develops and persists.

Inhalation: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.

Ingestion: If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Eye: Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. May cause burns in the presence of moisture.

Skin: Causes skin irritation. May cause burns in the presence of moisture. Skin contact during hydration may slowly develop sufficient heat that may cause severe burns possibly resulting in permanent injury. Do not allow product to harden around any body part or allow continuous, prolonged contact with skin. Handling can cause dry skin. May cause sensitization by skin contact.

Inhalation: May cause respiratory tract irritation.

Ingestion: May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENTS NEEDED

Note to Physicians: Symptoms may not appear immediately.

Specific Treatments: In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

Section 5: FIRE-FIGHTING MEASURES

5.1 FLAMMABILITY

Flammability: Not flammable by WHMIS/OSHA criteria.

5.2 EXTINGUISHING MEDIA

Suitable Extinguishing Media: Treat for surrounding material.

Unsuitable Extinguishing Media: Not available.

5.3 SPECIAL HAZARDS ARISING FROM THE CHEMICAL

Products of Combustion: May include, and are not limited to: oxides of carbon.

Explosion Data:

Sensitivity to Mechanical Impact: Not available.

Sensitivity to Static Discharge: Not available.

5.4 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE FIGHTERS

Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

6.2 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING - UP

Methods for Containment: Pick up large pieces, then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for Cleaning-Up: Vacuum or sweep material and place in a disposal container.

Section 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Handling: Avoid contact with skin and eyes. Do not swallow. Good housekeeping is important to prevent accumulation of dust. Avoid generating dust. The use of compressed air for cleaning clothing, equipment, etc, is not recommended. Use only in well-ventilated areas. Handle and open container with care. When using do not eat or drink. Wash hands before eating, drinking, or smoking. (See section 8)

General Hygiene Advice: Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Storage: Keep out of the reach of children. Store in dust-tight, dry, labeled containers. Keep containers closed when not in use. Avoid any dust buildup by frequent cleaning and suitable construction of the storage area. Do not store in an area equipped with emergency water sprinklers. Use corrosion-resistant structural materials and lighting and ventilation systems in the storage area. (See section 10)

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

Exposure Guidelines

Occupational Exposure Limits		
Ingredient	**OSHA-PEL**	**ACGIH-TLV**
Silica, crystalline, quartz	((10 mg/m^3)/(%SiO_2+2) TWA (resp)) ((30 mg/m^3)/(%SiO_2+2) TWA (total)) ((250)/(%SiO_2+5) mppcf TWA (resp))	0.025 mg/m^3
Portland cement	15 mg/m^3 (total); 5 mg/m^3 (resp)	1 mg/m^3 (no asbestos and <1% crystalline silica, respirable fraction)
Gypsum	15 mg/m^3 TWA (total dust) 5 mg/m^3 TWA (respirable fraction)	10 mg/m^3
Calcium carbonate	15 mg/m^3 (total); 5 mg/m^3 (resp)	10 mg/m^3

8.2 EXPOSURE CONTROLS

Engineering Controls: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.

8.3 INDIVIDUAL PROTECTIVE MEASURES

Personal Protective Equipment:

Eye/Face Protection: Wear approved eye (properly fitted dust- or splash-proof chemical safety goggles) / face (face shield) protection.

Skin Protection:

Hand Protection: Wear suitable gloves.

Body Protection: Wear suitable protective clothing.

Respiratory Protection:	A NIOSH approved dust mask or filtering facepiece is recommended in poorly ventilated areas or when permissible exposure limits may be exceeded. Respirators should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134) and ANSI's standard for respiratory protection (Z88.2).
General Health and Safety Measures:	Handle according to established industrial hygiene and safety practices.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Powder.
Color:	Not available.
Odor:	Not available.
Odor Threshold:	Not available.
Physical State:	Solid.
pH:	Not available.
Melting Point/Freezing Point:	Not available.
Initial Boiling Point and Boiling Range:	Not available.
Flash Point:	Not available.
Evaporation Rate:	Not available.
Flammability:	Not Flammable.
Lower Flammability/Explosive Limit:	Not available.
Upper Flammability/Explosive Limit:	Not available.
Vapor Pressure:	Not available.
Vapor Density:	Not available.
Relative Density/Specific Gravity:	2.7
Solubility:	Partial.
Partition coefficient: n-octanol/water:	Not available.
Auto-ignition Temperature:	Not available.
Decomposition Temperature:	Not available.
Viscosity:	Not available.
Oxidizing Properties:	Not available.
Explosive Properties:	Not available.

Section 10: STABILITY AND REACTIVITY

10.1 REACTIVITY

No dangerous reaction known under conditions of normal use.

10.2 CHEMICAL STABILITY

Stable under normal storage conditions. Keep dry in storage.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

No dangerous reaction known under conditions of normal use.

10.4 CONDITIONS TO AVOID

Heat. Incompatible materials. Moisture.

10.5 INCOMPATIBLE MATERIALS

Acids. Ammonium salts. Aluminum. Alkalis.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

May include, and are not limited to: oxides of carbon.

Section 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

Likely Routes of Exposure: Skin contact, skin absorption, eye contact, inhalation, and ingestion.

Symptoms related to physical/chemical/toxicological characteristics:

Eye: Causes serious eye damage. Symptoms may include discomfort or pain, excess blinking and tear production, with marked redness and swelling of the conjunctiva. May cause burns in the presence of moisture.

Skin: Causes skin irritation. May cause burns in the presence of moisture. Skin contact during hydration may slowly develop sufficient heat that may cause severe burns possibly resulting in permanent injury. Do not allow product to harden around any body part or allow continuous, prolonged contact with skin. Handling can cause dry skin. May cause sensitization by skin contact.

Ingestion: May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

Inhalation: May cause respiratory tract irritation.

Acute Toxicity:

Ingredient	LC50	LD50
Silica, crystalline, quartz	Not available.	Not available.
Portland cement	Not available.	Not available.
Gypsum	Not available.	Not available.
Calcium carbonate	Not available.	Oral 6450 mg/kg, rat

Calculated overall Chemical Acute Toxicity Values		
LC50 (inhalation)	**LD50 (oral)**	**LD50 (dermal)**
Not available.	7191.2 mg/kg, rat	Not available.

Ingredient	Chemical Listed as Carcinogen or Potential Carcinogen (NTP, IARC, OSHA, ACGIH, CP65)*
Silica, crystalline, quartz	G-A2, I-1, N-1, O, CP65
Portland cement	G-A4
Gypsum	Not listed.
Calcium carbonate	Not listed.

11.2 DELAYED, IMMEDIATE, AND CHRONIC EFFECTS OF SHORT- AND LONG-TERM EXPOSURE

Skin Corrosion/Irritation: Causes skin irritation.

Serious Eye Damage/Irritation: Causes serious eye damage.

Respiratory Sensitization: Based on available data, the classification criteria are not met.

Skin Sensitization: May cause an allergic skin reaction.

STOT-Single Exposure: May cause respiratory irritation.

Chronic Health Effects:

Carcinogenicity: May cause cancer.

Germ Cell Mutagenicity: This product is not classified as a mutagen.

Reproductive Toxicity:

Developmental: Based on available data, the classification criteria are not met.

Teratogenicity: Not hazardous by WHMIS/OSHA criteria.

Embryotoxicity: Not hazardous by WHMIS/OSHA criteria.

Fertility: Based on available data, the classification criteria are not met.

STOT-Repeated Exposure: Causes damage to organs through prolonged or repeated exposure.

Aspiration Hazard: Based on available data, the classification criteria are not met.

Toxicologically Synergistic Materials: Not available.

Other Information: Not available.

Section 12: ECOLOGICAL INFORMATION

12.1 ECOTOXICITY

Acute/Chronic Toxicity: May cause long-term adverse effects in the aquatic environment.

12.2 PERSISTENCE AND DEGRADABILITY

Not available.

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: Not available.

12.4 MOBILITY IN SOIL

Not available.

12.5 OTHER ADVERSE EFFECTS

Not available.

Section 13: DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Disposal Method: This material must be disposed of in accordance with all local, state, provincial, and federal regulations.

Other disposal recommendations: Not available.

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Section 14: TRANSPORT INFORMATION

14.1 UN NUMBER

DOT	TDG
Not regulated	Not regulated

14.2 UN PROPER SHIPPING NAME

DOT	TDG
Not applicable.	Not applicable.

14.3 TRANSPORT HAZARD CLASS (ES)

DOT	TDG
Not applicable.	Not applicable.

14.4 PACKING GROUP

DOT	TDG
Not applicable.	Not applicable.

14.5 ENVIRONMENTAL HAZARDS

Not available.

14.6 TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE

Not available.

14.7 SPECIAL PRECAUTIONS FOR USER

Do not handle until all safety precautions have been read and understood.

Section 15: REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/ LEGISLATIONS SPECIFIC FOR THE CHEMICAL

Canada: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

US: MSDS prepared pursuant to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

SARA Title III				
Ingredient	**Section 302 (EHS) TPQ (lbs.)**	**Section 304 EHS RQ (lbs.)**	**CERCLA RQ (lbs.)**	**Section 313**
Silica, crystalline, quartz	Not listed.	Not listed.	Not listed.	Not listed.
Portland cement	Not listed.	Not listed.	Not listed.	Not listed.
Gypsum	Not listed.	Not listed.	Not listed.	Not listed.
Calcium carbonate	Not listed.	Not listed.	Not listed.	Not listed.

State Regulations

California Proposition 65:

This product contains a chemical known to the state of California to cause cancer.

SAFETY DATA SHEET

Global Inventories:

Ingredient	Canada DSL/NDSL	USA TSCA
Silica, crystalline, quartz	DSL	Yes.
Portland cement	DSL	Yes.
Gypsum	DSL	No.
Calcium carbonate	NDSL	Yes.

NFPA National Fire Protection Association:	
Health:	3
Fire:	0
Reactivity:	0

HMIS-Hazardous Materials Identification System	
Health:	3*
Fire:	0
Reactivity:	0

Hazard Rating: 0 = minimal, 1 = slight, 2 = moderate, 3 = severe, 4 = extreme

WHMIS Classification(s):

Class D2A – Carcinogenicity
Class D2A - Chronic Toxic Effects
Class D2B - Skin/Eye Irritant

WHMIS Hazard Symbols:

SOURCE AGENCY CARCINOGEN CLASSIFICATIONS:

CP65 **California Proposition 65**

OSHA (O) **Occupational Safety and Health Administration.**

ACGIH (G) **American Conference of Governmental Industrial Hygienists.**
A1 - Confirmed human carcinogen.
A2 - Suspected human carcinogen.
A3 - Animal carcinogen.
A4 - Not classifiable as a human carcinogen.
A5 - Not suspected as a human carcinogen.

IARC (I) **International Agency for Research on Cancer.**
1 - The agent (mixture) is carcinogenic to humans.
2A - The agent (mixture) is probably carcinogenic to humans; there is limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals.
2B - The agent (mixture) is possibly carcinogenic to humans; there is limited evidence of carcinogenicity in humans in the absence of sufficient evidence of carcinogenicity in experimental animals.
3 - The agent (mixture, exposure circumstance) is not classifiable as to its carcinogenicity to humans.
4 - The agent (mixture, exposure circumstance) is probably not carcinogenic to humans.

NTP (N) **National Toxicology Program.**
1 - Known to be carcinogens.
2 - Reasonably anticipated to be carcinogens.

SAFETY DATA SHEET

Section 16: OTHER INFORMATION

Date of Preparation:	March 15, 2013
Expiry Date:	March 15, 2016
Version:	1.0
Revision Date:	March 15, 2013

Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

Prepared by:	Nexreg Compliance Inc. Phone: (519) 488-5126 www.nexreg.com
Prepared for:	Custom Building Products

End of Safety Data Sheet

Polyblend® Sanded Grout

1 Product Name

Polyblend® Sanded Grout

2 Manufacturer

Custom Building Products
Technical Services
10400 Pioneer Boulevard, Unit 3
Santa Fe Springs, CA 90670
Customer Support: 800-272-8786
Technical Services: 800-282-8786
Fax: 800- 200-7765
Email: contactus@cbpmail.net
custombuildingproducts.com

3 Product Description

A polymer-modified, cement-based sanded grout that produces hard, dense joints that resist shrinking, cracking and wear. Formulated for durability, Polyblend® Sanded Grout accommodates 1/8"-1/2" (3-13 mm) joints for interior or exterior installations, including floors, countertops, walls, ceilings, showers, fountains and pools.

Key Features

- Easy to use - Just mix with water
- Polymer fortified for hard, durable, professional results

Uses

- Use to fill joint widths 1/8" to 1/2" (3.2 to 13 mm)
- May be used for both floor and wall installations
- Interior and exterior applications
- Residential and commercial applications
- Countertops, tub surrounds, showers and high traffic areas
- Submerged conditions (swimming pools, spas, water features and fountains)

Suitable Tile Types

- Vitreous, semi-vitreous or non-vitreous tile: ceramic, mosaic, quarry, cement body tiles
- Impervious porcelain and glass tile
- Brick and stone veneer
- Cement-based precast terrazzo
- Natural stone tile

Composition of Product

Polyblend® Sanded Grout is a dry, Portland cement based grout with silica sand, inorganic aggregates and chemicals.

Benefits of Product in the Installation

- Hard, durable grout joints
- Resists shrinking, cracking, powdering and wear

Limitations to the Product

- Should not be installed when ambient or surface temperature is lower than 50°F (10°C) or higher than 100°F (38°C).
- Some ceramic, glass, marble or stone tiles can be scratched or damaged by the silica aggregate filler. Perform a test on a small area prior to use. Polyblend® Non-Sanded Grout may be appropriate for joints up to 1/8" or for tile not suited for sanded grout.
- Tile or stone with high absorption, surfaces that are porous or rough, textured surfaces and some types of porcelain tile may require sealing prior to grouting to prevent possible staining. Use Aqua Mix® Grout Release or TileLab® SurfaceGard® Sealer to prevent staining when required.
- Color variation can occur due to tile type, tile porosity, jobsite conditions, application and cleaning techniques. Variation can be minimized by following directions and using as little water as possible for cleanup.
- Not for use in either industrial applications or in areas subjected to harsh or continuous chemicals, high heat or high-pressure cleaning. For heavy industrial tile installations, use CEG-IG 100% Solids Epoxy Grout.
- Chemicals in salt-based pool filtration systems can cause a reaction with blue, green and red grouts. Contact Technical Services for recommendations.
- Not for use in movement joints or changes of plane in the tile installation. In these areas, use an appropriate caulk or sealant such as Commercial 100% Silicone Caulk or Polyblend® Ceramic Tile Caulk.

Packaging

Available in 3 sizes:

- 1 lb (.45 kg) tub
- 7 lb (3.17 kg) box
- 25 lb (11.34 kg) bag

25 lb bag and 7 lb box are available in 48 standard colors; color matching is available. 1 lb grout is available in 4 colors.

Published Date: 12/10/2015

Polyblend® Sanded Grout

4 Technical Data

Applicable Standards

American National Standards Institute (ANSI) ANSI A108.10 & A118.6 of the American National Standards for the Installation of Ceramic Tile
ASTM International (ASTM)

- ASTM C109 Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or (50-mm) Cube Specimens)
- ASTM C531 Standard Test Method for Linear Shrinkage
- ASTM C580 Standard Test method for Flexural Strength
- ISO 13007-3

Approvals

Polyblend® Sanded Grout exceeds ANSI A118.6 standards.

Technical Chart

Property	Test Method	Requirement	Typical Results
Pot Life			1 - 2 Hours
Shrinkage	A118.6 Section 4.3	< 0.20%	<0.08%
Water Absorption	A118.6 Section 4.4	< 10%	<8%
28 Day Compressive Strength	A118.6 Section 4.5	> 3000 psi	4650 psi (327 kg/cm sq.)
Tensile Strength	A118.6 Section 4.6	> 300 psi	423 psi (29.7 kg/cm sq.)
Flexural Strength	A118.6 Section 4.7	> 500 psi	990 psi (69.6 kg/cm sq.)

Environmental Consideration

Custom® Building Products is committed to environmental responsibility in both products produced and in manufacturing practices. Use of this product can contribute towards LEED® v3 certification:

- Up to 2 points towards MR Credit 5, Regional Materials
- Up to 1 point towards IEQ Credit 4.1, Low-Emitting Materials – Adhesives & Sealants

5 Instructions

General Surface Prep

USE CHEMICAL-RESISTANT GLOVES, such as nitrile, when handling product.

Tile or stone must be firmly bonded to a sound substrate, and setting material must be cured a minimum 24-48 hours before cement grout is applied, unless rapid-setting mortars are used. See the corresponding data sheet for the bonding mortars used in your application. Remove spacers and ensure that the grout joints are uniform in depth and width and free of loose debris, contaminants and excess mortar. Use TileLab® SurfaceGard® Sealer to seal tile or stone subject to staining or when using a grout that contrasts with the color of the tile.

Mixing Ratios

- Mix 2 qt (1.89 L) clean water to 25 lb (11.34 kg) grout.
- Mix 1 pt (.473 mL) clean water to 7 lb (3.17 kg) grout.
- For 1 lb grout, see package for fill line indicator.

Mixing Procedures

When installing more than 1 container of grout at a time, blend dry powders prior to mixing with water. Mix with a trowel or low speed mixer (less than 300 rpm) to achieve a smooth, lump-free consistency. Let the mixture stand (slake) for 10 minutes, and then remix and use. Periodically remix to keep the mixture workable, but do not add water, which can weaken the grout, cause color variation and possible cause shrinkage, cracks and pinholes. Discard grout when it becomes too stiff to work.

Application of Product

Installation must conform to ANSI A108.10. Lightly dampen absorptive, highly porous tile with clean, cool water, but leave no standing water in the joints. Holding a rubber grout float at a 45° angle, completely fill the joints. Holding the edge of the float at a 90° angle, remove excess grout. At 70° F, do not spread more grout than can be cleaned within 30 minutes of the grout firming and use as little water as possible for grout clean-up (higher temperatures may shorten this time frame). Using a damp, small pore grout sponge in a circular motion, smooth and level joints and remove excess grout. Change the water and rinse the sponge frequently. Haze can be removed after 3 hours with cheesecloth or wrung-out sponge. If haze persists, the installation can be washed after three days with Aqua Mix NanoScrub or after ten days with Aqua Mix® Sulfamic Acid Crystals or TileLab® Sulfamic Acid Cleaner. Perform a test in an inconspicuous area prior to complete application. Movement joints are required for perimeters and other changes of plane in all installations. See TCNA Detail EJ171 for recommendations.

Curing of Product

Curing time is affected by ambient and surface temperatures and humidity. For exterior applications, it is recommended that the installation is misted periodically with clean, cool water for 3 days.

Sealing of Grout

Use a pH-neutral, water-based, penetrating sealer such as AquaMix Sealer's Choice Gold or TileLab Surface Guard.

Cleaning of equipment

Clean tools and hands with water before the material dries.

Health Precautions

This product contains Portland cement. Avoid eye contact or prolonged contact with skin. Wash thoroughly after handling. If eye contact occurs, flush with water for 15 minutes and consult a physician. Use with adequate ventilation; do not breathe dust and wear a NIOSH approved respirator. If ingested, do not induce vomiting; call a physician immediately.

Published Date: 12/10/2015

Polyblend® Sanded Grout

Conformance to Building Codes

Installation must comply with the requirements of all applicable local, state and federal code jurisdictions.

Published Date: 12/10/2015

Polyblend® Sanded Grout

6 Availability & Cost

Location	Grout Color	Item Code	Size	Package	Item Code	Size	Package
USA	#9 Natural Gray	PBG097-4	7 lb (3.17 kg)	Box	PBG0925	25 lb (11.34 kg)	Bag
USA	#10 Antique White	PBG107-4	7 lb (3.17 kg)	Box	PBG1025	25 lb (11.34 kg)	Bag
USA	#11 Snow White	PBG117-4	7 lb (3.17 kg)	Box	PBG1125	25 lb (11.34 kg)	Bag
USA	#19 Pewter	PBG197-4	7 lb (3.17 kg)	Box	PBG1925	25 lb (11.34 kg)	Bag
USA	#22 Sahara Tan	PBG227-4	7 lb (3.17 kg)	Box	PBG2225	25 lb (11.34 kg)	Bag
USA	#45 Summer Wheat	PBG457-4	7 lb (3.17 kg)	Box	PBG4525	25 lb (11.34 kg)	Bag
USA	#50 Nutmeg	PBG507-4	7 lb (3.17 kg)	Box	PBG5025	25 lb (11.34 kg)	Bag
USA	#52 Tobacco Brown	PBG527-4	7 lb (3.17 kg)	Box	PBG5225	25 lb (11.34 kg)	Bag
USA	#59 Saddle Brown	PBG597-4	7 lb (3.17 kg)	Box	PBG5925	25 lb (11.34 kg)	Bag
USA	#60 Charcoal	PBG607-4	7 lb (3.17 kg)	Box	PBG6025	25 lb (11.34 kg)	Bag
USA	#95 Sable Brown	PBG957-4	7 lb (3.17 kg)	Box	PBG9525	25 lb (11.34 kg)	Bag
USA	#101 Quartz	PBG1017-4	7 lb (3.17 kg)	Box	PBG10125	25 lb (11.34 kg)	Bag
USA	#105 Earth	PBG1057-4	7 lb (3.17 kg)	Box	PBG10525	25 lb (11.34 kg)	Bag
USA	#115 Platinum	PBG1157-4	7 lb (3.17 kg)	Box	PBG11525	25 lb (11.34 kg)	Bag
USA	#122 Linen	PBG1227-4	7 lb (3.17 kg)	Box	PBG12225	25 lb (11.34 kg)	Bag
USA	#135 Mushroom	PBG1357-4	7 lb (3.17 kg)	Box	PBG13525	25 lb (11.34 kg)	Bag
USA	#145 Light Smoke	PBG1457-4	7 lb (3.17 kg)	Box	PBG14525	25 lb (11.34 kg)	Bag
USA	#156 Fawn	PBG1567-4	7 lb (3.17 kg)	Box	PBG15625	25 lb (11.34 kg)	Bag
USA	#165 Delorean Gray	PBG1657-4	7 lb (3.17 kg)	Box	PBG16525	25 lb (11.34 kg)	Bag
USA	#172 Urban Putty	PBG1727-4	7 lb (3.17 kg)	Box	PBG17225	25 lb (11.34 kg)	Bag
USA	#180 Sandstone	PBG1807-4	7 lb (3.17 kg)	Box	PBG18025	25 lb (11.34 kg)	Bag
USA	#183 Chateau	PBG1837-4	7 lb (3.17 kg)	Box	PBG18325	25 lb (11.34 kg)	Bag
USA	#185 New Taupe	PBG1857-4	7 lb (3.17 kg)	Box	PBG18525	25 lb (11.34 kg)	Bag
USA	#186 Khaki	PBG1867-4	7 lb (3.17 kg)	Box	PBG18625	25 lb (11.34 kg)	Bag
USA	#333 Alabaster	PBG3337-4	7 lb (3.17 kg)	Box	PBG33325	25 lb (11.34 kg)	Bag
USA	#335 Winter Gray	PBG3357-4	7 lb (3.17 kg)	Box	PBG33525	25 lb (11.34 kg)	Bag
USA	#370 Dove Gray	PBG3707-4	7 lb (3.17 kg)	Box	PBG37025	25 lb (11.34 kg)	Bag
USA	#380 Haystack	PBG3807-4	7 lb (3.17 kg)	Box	PBG38025	25 lb (11.34 kg)	Bag
USA	#381 Bright White	PBG3817-4	7 lb (3.17 kg)	Box	PBG38125	25 lb (11.34 kg)	Bag
USA	#382 Bone	PBG3827-4	7 lb (3.17 kg)	Box	PBG38225	25 lb (11.34 kg)	Bag
USA	#386 Oyster Gray	PBG3867-4	7 lb (3.17 kg)	Box	PBG38625	25 lb (11.34 kg)	Bag
USA	#540 Truffle	PBG5407-4	7 lb (3.17 kg)	Box	PBG54025	25 lb (11.34 kg)	Bag
USA	#541 Walnut	PBG5417-4	7 lb (3.17 kg)	Box	PBG54125	25 lb (11.34 kg)	Bag
USA	#542 Graystone	PBG5427-4	7 lb (3.17 kg)	Box	PBG54225	25 lb (11.34 kg)	Bag
USA	#543 Driftwood	PBG5437-4	7 lb (3.17 kg)	Box	PBG54325	25 lb (11.34 kg)	Bag
USA	#544 Rolling Fog	PBG5447-4	7 lb (3.17 kg)	Box	PBG54425	25 lb (11.34 kg)	Bag
USA	#545 Bleached Wood	PBG5457-4	7 lb (3.17 kg)	Box	PBG54525	25 lb (11.34 kg)	Bag
USA	#546 Cape Gray	PBG5467-4	7 lb (3.17 kg)	Box	PBG54625	25 lb (11.34 kg)	Bag
USA	#547 Ice Blue	PBG5477-4	7 lb (3.17 kg)	Box	PBG54725	25 lb (11.34 kg)	Bag
USA	#548 Surf Green	PBG5487-4	7 lb (3.17 kg)	Box	PBG54825	25 lb (11.34 kg)	Bag
USA - Special Order	All 40 colors				PBGXXX50	50 lb (22.68 kg)	Bag

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Location	Grout Color	Item Code	Size	Package	Item Code	Size	Package
Canada	#9 Natural Gray	CPBG097-4	7 lb (3.17 kg)	Box	CPBG0925	25 lb (11.34 kg)	Bag
Canada	#10 Antique White	CPBG107-4	7 lb (3.17 kg)	Box	CPBG1025	25 lb (11.34 kg)	Bag
Canada	#11 Snow White	CPBG117-4	7 lb (3.17 kg)	Box	CPBG1125	25 lb (11.34 kg)	Bag
Canada	#19 Pewter	CPBG197-4	7 lb (3.17 kg)	Box	CPBG1925	25 lb (11.34 kg)	Bag
Canada	#22 Sahara Tan	CPBG227-4	7 lb (3.17 kg)	Box	CPBG2225	25 lb (11.34 kg)	Bag
Canada	#45 Summer Wheat	CPBG457-4	7 lb (3.17 kg)	Box	CPBG4525	25 lb (11.34 kg)	Bag
Canada	#50 Nutmeg	CPBG507-4	7 lb (3.17 kg)	Box	CPBG5025	25 lb (11.34 kg)	Bag
Canada	#52 Tobacco Brown	CPBG527-4	7 lb (3.17 kg)	Box	CPBG5225	25 lb (11.34 kg)	Bag
Canada	#59 Saddle Brown	CPBG597-4	7 lb (3.17 kg)	Box	CPBG5925	25 lb (11.34 kg)	Bag
Canada	#60 Charcoal	CPBG607-4	7 lb (3.17 kg)	Box	CPBG6025	25 lb (11.34 kg)	Bag
Canada	#95 Sable Brown	CPBG957-4	7 lb (3.17 kg)	Box	CPBG9525	25 lb (11.34 kg)	Bag
Canada	#101 Quartz	CPBG1017-4	7 lb (3.17 kg)	Box	CPBG10125	25 lb (11.34 kg)	Bag
Canada	#105 Earth	CPBG1057-4	7 lb (3.17 kg)	Box	CPBG10525	25 lb (11.34 kg)	Bag
Canada	#115 Platinum	CPBG1157-4	7 lb (3.17 kg)	Box	CPBG11525	25 lb (11.34 kg)	Bag
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Canada	#382 Bone	CPBG3827-4	7 lb (3.17 kg)	Box	CPBG38225	25 lb (11.34 kg)	Bag
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Canada	#540 Truffle	CPBG5407-4	7 lb (3.17 kg)	Box	CPBG54025	25 lb (11.34 kg)	Bag
Canada	#541 Walnut	CPBG5417-4	7 lb (3.17 kg)	Box	CPBG54125	25 lb (11.34 kg)	Bag
Canada	#542 Graystone	CPBG5427-4	7 lb (3.17 kg)	Box	CPBG54225	25 lb (11.34 kg)	Bag
Canada	#543 Driftwood	CPBG5437-4	7 lb (3.17 kg)	Box	CPBG54325	25 lb (11.34 kg)	Bag
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Canada	#547 Ice Blue	CPBG5477-4	7 lb (3.17 kg)	Box	CPBG54725	25 lb (11.34 kg)	Bag
Canada	#548 Surf Green	CPBG5487-4	7 lb (3.17 kg)	Box	CPBG54825	25 lb (11.34 kg)	Bag

Location	Grout Color	Item Code	Size	Package
USA	#9 Natural Gray	PBG-091-4	1 lb	Tub
USA	#122 Linen	PBG-1221-4	1 lb	Tub
USA	#380 Haystack	PBG-3801-4	1 lb	Tub
USA	#382 Bone	PBG-3821-4	1 lb	Tub

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The following colors are discontinued as of March 2015: #92 Admiral Blue, #96 Quarry Red Clay, #99 Burnt Clay, #127 Antique Linen, #168 Slate Gray, #190 Bay Leaf, #301 Arctic Ice, #305 Onyx Green, #311 Moss, #312 Bonsai, #365 Canvas, #384 Camel, #390 Rose Beige

7 Product Warranty

Custom® Building Products warrants to the original consumer purchaser that its product shall be free from defects in material and workmanship under normal and proper usage for a period of one year following the date of original purchase. Custom's® sole liability under this warranty shall be limited to the replacement of the product. Some states, countries or territories do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty will not extend to any product which has been modified in any way or which has not been used in accordance with Custom's® printed instructions. Custom® makes no other warranties either expressed or implied. This warranty gives you specific legal rights, and you may have other rights that vary from state to state or from one country/territory to another. This warranty is not transferrable.

8 Product Maintenance

Clean with a pH-neutral cleaner such as Aqua Mix AquaKleen, Aqua Mix Concentrated Tile & Stone Cleaner or TileLab Grout & Tile Cleaner.

9 Technical Services Information

For technical assistance, contact Custom® technical services at 800-272-8786 or visit custombuildingproducts.com.

10 Filing System

Additional product information is available from the manufacturer upon request.

Related Products

Polyblend® Ceramic Tile Caulk

Commercial 100% Silicone Caulk

TileLab® SurfaceGard® Sealer

StainBlocker for Grout

Polyblend® Non-Sanded Grout

Published Date: 12/10/2015

Polyblend® Sanded Grout

Coverage

Coverage will vary depending on the tile size and joint width. Chart based on 25 lb (11.34 kg) bag.

	Joint Width				
Tile Size	**1/8" (3 mm)**	**3/16" (4.8 mm)**	**1/4" (6 mm)**	**3/8" (9.5 mm)**	**1/2" (13 mm)**
1" x 1" x 1/4" (25 x 25 x 6 mm)	63 ft² (5.9 M²)	40 ft² (3.7 M²)	25 ft² (2.3 M²)	23 ft² (2.1 M²)	20 ft² (1.9 M²)
2" x 2" x 1/4" (50 x 50 x 6 mm)	88 ft² (8.2 M²)	73 ft² (6.8 M²)	50 ft² (4.6 M²)	40 ft² (3.7 M²)	33 ft² (3.1 M²)
3" x 3" x 1/4" (75 x 75 x 6 mm)	150 ft² (14.0 M²)	103 ft² (9.6 M²)	80 ft² (7.4 M²)	55 ft² (5.1 M²)	45 ft² (4.2 M²)
4 1/4" x 4 1/4" x 1/4" (108 x 108 x 6 mm)	210 ft² (19.5 M²)	143 ft² (13.3 M²)	110 ft² (10.2 M²)	75 ft² (7.0 M²)	60 ft² (5.6 M²)
6" x 6" x 1/4" (150 x 150 x 6 mm)	263 ft² (24.4 M²)	178 ft² (16.5 M²)	136 ft² (12.6 M²)	93 ft² (8.6 M²)	70 ft² (6.5 M²)
8" x 8" x 3/8" (200 x 200 x 9.5 mm)	230 ft² (21.4 M²)	155 ft² (14.4 M²)	113 ft² (10.5 M²)	75 ft² (7.0 M²)	50 ft² (4.6 M²)
12" x 12" x 3/8" (300 x 300 x 9.5 mm)	345 ft² (32.1 M²)	230 ft² (21.4 M²)	175 ft² (16.3 M²)	118 ft² (11.0 M²)	90 ft² (8.4 M²)
16" x 16" x 3/8" (400 x 400 x 9.5 mm)	458 ft² (42.5 M²)	305 ft² (28.3 M²)	225 ft² (20.9 M²)	144 ft² (13.4 M²)	94 ft² (8.7 M²)
18" x 18" x 3/8" (450 x 450 x 9.5 mm)	512 ft² (47.5 M²)	343 ft² (31.9 M²)	253 ft² (23.5 M²)	167 ft² (15.5 M²)	118 ft² (11 M²)
20" x 20" x 3/8" (500 x 500 x 9.5 mm)	567 ft² (52.7 M²)	381 ft² (35.4 M²)	280 ft² (26.0 M²)	189 ft² (17.6 M²)	142 ft² (13.2 M²)
24" x 24" x 3/8" (600 x 600 x 9.5 mm)	685 ft² (63.6 M²)	458 ft² (42.5 M²)	325 ft² (30.2 M²)	225 ft² (20.9 M²)	150 ft² (13.9 M²)

Published Date: 12/10/2015

SAFETY DATA SHEET

Date of issue/Date of revision 14 September 2015
Version 5.01

Section 1. Identification

Product name	: UH 150 SAT WH 2412-0100V
Product code	: 00406790
Other means of identification	: Not available.
Product type	: Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use	: Industrial applications, Used by spraying.
Use of the substance/ mixture	: Coating.
Uses advised against	: Not applicable.

Supplier	: PPG Industries, Inc. One PPG Place Pittsburgh, PA 15272
Emergency telephone number	: (412) 434-4515 (U.S.) (514) 645-1320 (Canada) 01-800-00-21-400 (Mexico)
Technical Phone Number	: 1-800-441-9695 (8:00 am to 5:00 pm EST)

Section 2. Hazards identification

OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	: CARCINOGENICITY - Category 2 Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 21.2%

GHS label elements

Hazard pictograms :

Signal word	: Warning
Hazard statements	: Suspected of causing cancer.

Precautionary statements

Section 2. Hazards identification

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing.

Response : IF exposed or concerned: Get medical attention.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Emits toxic fumes when heated.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : UH 150 SAT WH 2412-0100V

Ingredient name	%	CAS number
titanium dioxide	≥10 - <25	13463-67-7
3-iodo-2-propynyl butylcarbamate	≥0.1 - <0.3	55406-53-6
methenamine 3-chloroallylochloride	≥0.1 - <0.3	4080-31-3

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Section 4. First aid measures

Eye contact	: No known significant effects or critical hazards.
Inhalation	: No known significant effects or critical hazards.
Skin contact	: No known significant effects or critical hazards.
Ingestion	: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: No specific data.
Inhalation	: No specific data.
Skin contact	: No specific data.
Ingestion	: No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: No specific treatment.
Protection of first-aiders	: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	: Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: None known.
Specific hazards arising from the chemical	: In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide metal oxide/oxides
Special protective actions for fire-fighters	: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Do not store below the following temperature: 5°C (41°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
titanium dioxide	**OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust **ACGIH TLV (United States, 4/2014).** TWA: 10 mg/m³ 8 hours.
3-iodo-2-propynyl butylcarbamate	None.
methenamine 3-chloroallylochloride	None.

Key to abbreviations

A	= Acceptable Maximum Peak	S	= Potential skin absorption
ACGIH	= American Conference of Governmental Industrial Hygienists.	SR	= Respiratory sensitization
C	= Ceiling Limit	SS	= Skin sensitization
F	= Fume	STEL	= Short term Exposure limit values
IPEL	= Internal Permissible Exposure Limit	TD	= Total dust
OSHA	= Occupational Safety and Health Administration.	TLV	= Threshold Limit Value
R	= Respirable	TWA	= Time Weighted Average
Z	= OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances		

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Section 8. Exposure controls/personal protection

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses with side shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Characteristic.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : 100°C (212°F)

Flash point : Closed cup: Not applicable. [Product does not sustain combustion.]

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Upper: 0%

Evaporation rate : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 1.22

Density (lbs / gal) : 10.18

Section 9. Physical and chemical properties

Solubility : Soluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Volatility : 70% (v/v), 57.5% (w/w)

% Solid. (w/w) : 42.5

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
titanium dioxide	LD50 Oral	Rat	>10 g/kg	-
3-iodo-2-propynyl butylcarbamate	LD50 Dermal	Rabbit	>2 g/kg	-
	LD50 Oral	Rat	1470 mg/kg	-
methenamine 3-chloroallylochloride	LD50 Dermal	Rabbit	565 mg/kg	-
	LD50 Oral	Rat	500 mg/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Section 11. Toxicological information

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Product/ingredient name	OSHA	IARC	NTP
titanium dioxide	-	2B	-

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Name	Category
3-iodo-2-propynyl butylcarbamate	Category 1

Target organs : Contains material which may cause damage to the following organs: upper respiratory tract.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Section 11. Toxicological information

Conclusion/Summary : There are no data available on the mixture itself. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
titanium dioxide	Acute LC50 >100 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
methenamine 3-chloroallylochloride	Acute EC50 27 to 30 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 20.5 to 23 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
methenamine 3-chloroallylochloride	-0.1	-	low

Mobility in soil

Section 12. Ecological information

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class (es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

Additional information

DOT : None identified.

IMDG : None identified.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States

United States inventory (TSCA 8b) : All components are listed or exempted.

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
titanium dioxide	No.	No.	No.	No.	Yes.
3-iodo-2-propynyl butylcarbamate	Yes.	No.	No.	Yes.	Yes.
methenamine 3-chloroallylochloride	Yes.	No.	No.	Yes.	No.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 1 * **Flammability** : 0 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 1 **Flammability** : 0 **Instability** : 0

Date of previous issue : **6/30/2015**

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Section 16. Other information

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

ULTRA-HIDE® 150
Exterior Satin Paint
2412-XXXXV

Previously ICI Paints ULTRA-HIDE® DURUS™
Exterior Acrylic Satin Finish

DESCRIPTION

Our professional best exterior acrylic satin finish specially formulated to provide excellent weathering; easy application and quick curing it can be applied at temperatures as low as 35º F. Provides a mildew resistant coating. Ideal for use on properly prepared wood siding, trim and sash, shakes, shingles, masonry, weathered aluminum siding, weathered vinyl siding, metal and sound painted surfaces.

CERTIFICATIONS

AS OF 7/1/2009, COMPLIES WITH	
MPI#	15
LEED	N/A
CHPS	No
GREENGUARD	No
AIM	Yes
OTC/LADCO	Yes
CARB	Yes
SCAQMD	Yes

PERFORMANCE DATA

CHARACTERISTIC:	RESULTS:
Early Moisture Resistance*	★★★★★★★★☆☆
Dry Hide*	★★★★★★★☆☆☆
Efflorescence Resistance*	★★★★★★★☆☆☆
Airless Spray Touch-Up*	★★★★★☆☆☆☆☆
Chalk Adhesion*	★★★★★★★★☆☆
Mildew Resistance*	★★★★★★★☆☆☆
Weathering*	★★★★★★★☆☆☆
Sag Resistance	20-30 mils wet
Air and Substrate Application Temperature	35º F (2º C) - 90º F (32º C)
Service Temperature Limits	200º F (93º C)
Storage Temperature	40º F (4º C) - 95º F (35º C)

*Performance ratings are based on product comparisons to other products in that sheen range, performed at 77º F (25º C) 50% RH. Rating scale is from 1-10, 10 being the highest rating.

COMPOSITION

- 100% Acrylic Resin
- Titanium Dioxide and Extender Pigments
- Not manufactured with lead or mercury containing materials.

SPECIFICATION

Color:
White & custom colors

Clean-up Solvent:
Soap and water

Finish: **Satin**
Sheen: 20 - 35 units @ 85º
Gloss: 10 - 35 units @ 60º

Density:
10.29 lbs/gal (1.23 kg/L)

Solids:
Volume - 33% +/- 1%
Weight - 43% +/- 1%

VOC:
50 g/L (0.42 lbs/gal) maximum
Refer to MSDS for regulatory VOC content of complete product line

Theoretical Coverage @ 1 mil dry:
529 sq ft/gal (13 m^2/L)

Practical Coverage:
Apply at 350-400 sq ft/gal (9-10 m²/L). Actual coverage may vary depending on substrate and application method.

Recommended Film Thickness:
4.0 - 4.6 mils wet
1.3 - 1.5 mils dry

Airless Spray Application:
Pressure - 2000 psi
Tip - .015" - .019"

Dry Time:
77°F (25°C) & 50% RH
To touch - 30-60 minutes
To recoat - 2-3 hours
35°F (2°C)
To touch - 3-6 hours
To recoat - 24 hours

Flame Spread Rating:
Class A (0-25) on non-combustible surfaces

Flash Point:
None

Shelf Life:
1 year minimum - unopened

SURFACE PREPARATION

GENERAL SURFACE PREPARATION:
All surfaces must be sound, dry, clean and free of oil, grease, dirt, rust, mildew, form release agents, curing compounds, loose and flaking paint and other foreign substances.

NEW SURFACES:

Wood:

- Spot prime pine knots with 6001 Hydrosealer Exterior Primer
- Countersink nails, prime entire surface with 6001 Hydrosealer Exterior Primer
- Slight discoloration on staining woods such as redwood or cedar is normal
- If discoloration is considerable, apply a second coat of 6001 Hydrosealer Exterior Primer or for improved protection prime with 2110 Stain Stomper Exterior Primer Sealer
- Caulk with an acrylic caulk

Preprimed and Unprimed Hardboard:

- Prime entire surface and all edges with 6001 Hydrosealer Exterior Primer or 2110 Stain Stomper Exterior Primer Sealer
- Caulk with an acrylic caulk

Steel, Galvanized Metal and Aluminum:

- Performance over hand or power tool cleaned surfaces is dependent on the degree of cleaning
- Clean off oils and other contaminants
- Prime with Devflex 4020PF Direct-to-Metal Primer, DEVGUARD® 4360 Low VOC Universal Primer or DEVGUARD 4160 Multi-Purpose Tank & Structural Primer

Concrete, Masonry and Stucco:

- Cure at least 30 days before painting
- pH must be 10.0 or lower
- Roughen slick poured or precast concrete and remove sealers by chemical cleaning or abrasive method such as sandsweeping
- Rinse thoroughly with water and allow to dry
- Remove loose aggregate
- Prime with 6001 Hydrosealer Exterior Primer
- Product may be used self-priming on concrete, used as a primer under itself
- Fill concrete block with 3010 Concrete Coatings Block Filler or BLOXFIL® 4000 Interior/Exterior Heavy Duty Acrylic Block Filler

Fiber Cement Board:

- Prime entire surface and all edges with 6001 Hydrosealer Exterior Primer
- Caulk with an acrylic caulk
- Product may be used self-priming on fiber cement board, used as a primer under itself
- Product may be used directly over preprimed fiber cement siding; two coats are recommended for maximum durability

PREVIOUSLY PAINTED SURFACES:

- Wash to remove contaminants
- Rinse thoroughly with water and allow to dry
- Dull glossy areas by light sanding
- Remove sanding dust
- Remove loose paint

SURFACE PREPARATION CONTINUED

- Scrub heavy chalk areas and overhead areas such as eaves with soap and water
- Remove all mildew by washing with a solution of 16 oz (473 mL) liquid household bleach and two oz (59 mL) non-ammoniated liquid detergent per gallon (3.785 L) of water
- Rinse surfaces clean with water and allow to dry for 24 hours
- Prime bare areas with primer specified under **NEW SURFACES**
- **Weathered Aluminum and Vinyl Siding** - Remove dirt and chalk
- Prime with this product
- If chalk remains after cleaning, prime with 6001 Hydrosealer Exterior Primer
- Do not repaint vinyl siding with colors darker than the original color; the siding may warp

NOTE: Blistering and peeling of exterior house paints down to bare wood is usually caused by moisture behind the paint film. Moisture pressure forces the paint away from the surface. Sources of excess moisture in the wood must be eliminated prior to repainting to obtain normal service life of these paints. Old, unsound multiple coat paint systems may be subject to peeling when repainted due to the added weight and stress created by the paint layers. In such cases, all old paint layers must be removed back to the bare wood before repainting.

WARNING! If you scrape, sand, or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear an NIOSH-approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead.

PRECAUTIONS

WARNING! HARMFUL OR FATAL IF SWALLOWED. ASPIRATION HAZARD - CAN ENTER LUNGS AND CAUSE DAMAGE. CAUSES EYE, SKIN AND RESPIRATORY TRACT IRRITATION. POTENTIAL CANCER HAZARD. CONTAINS FORMALDEHYDE WHICH HAS BEEN SHOWN TO CAUSE UPPER RESPIRATORY TRACT CANCER AND ALLERGIC RESPIRATORY REACTION. MAY CAUSE ALLERGIC SKIN REACTION. WHEN TINTED, CONTAINS ETHYLENE GLYCOL WHICH CAN CAUSE SEVERE KIDNEY DAMAGE WHEN INGESTED AND HAS BEEN SHOWN TO CAUSE BIRTH DEFECTS IN LABORATORY ANIMALS. USE ONLY WITH ADEQUATE VENTILATION. KEEP OUT OF THE REACH OF CHILDREN. Note: These warnings encompass the product series. Prior to use, read and follow product-specific MSDS and label information. If sanding, wear a dust mask to avoid breathing of sanding dust. Do not breathe vapors or spray mist. Ensure fresh air entry during application and drying. Avoid contact with eyes and skin. If you experience eye watering, headaches, or dizziness, leave the area. If properly used, a respirator may offer additional protection. Obtain professional advice before using. Close container after each use. **FIRST AID**: For skin contact, wash thoroughly with soap and water. If any product remains, gently rub with petroleum jelly, vegetable or mineral/baby oil then wash again with soap and water. Repeat as needed. Remove contaminated clothing. For eye contact, flush immediately with plenty of water for at least 15 minutes. **Get medical attention**. If swallowed, **get medical attention immediately**. If inhalation causes discomfort, remove to fresh air. If discomfort persists or breathing difficulty occurs, get medical attention. **KEEP FROM FREEZING.**

DS462-0110

DIRECTIONS FOR USE

TINTING:
Tint the appropriate base with DRAMATONE™ colorants.

SPREADING RATE:
Apply at 350-400 sq ft/gal (9-10 m²/L). Actual coverage may vary depending on surface texture, porosity and application method. For best hiding of bright or accent colors, prime with the appropriate grey base. Certain shades of yellow, orange, pink and red may require multiple coats.

APPLICATION:
Mix thoroughly before use. May be applied by brush, roller or airless spray. No thinning required. For airless spray application, use a .015"-.019" tip at 2000 psi, adjust pressure as needed. Establish that air, surface and material temperatures are above 35°F (2°C) and at least 5°F above the dew point prior to painting. Do not apply at temperatures below 35°F or when temperatures are expected to drop below 35°F within 48 hours of application. Do not apply if rain, snow or heavy dew is expected within 48 hours. On large expanses of metal, temperatures must be 50°F (10°C) or higher. Check temperature requirements on any accompanying primer used.

DRYING TIME:
At 77ºF (25ºC) and 50% R.H., dries to touch in one hour and to recoat in four hours. At 35ºF (2ºC), dries to touch in three to six hours and to recoat in 24 hours. High humidity, thick films or poor ventilation will increase these times.

CLEAN-UP:
Clean hands and tools immediately with warm, soapy water. Clean spills right away with a damp cloth.

SHIPPING

FREIGHT CLASSIFICATION:
Paint, Freezable

PACKAGING:
1 gallon (3.785 L)
5 gallons (18.925 L)

FLASH POINT:
None

KOPPERS

Safety Data Sheet

Product Identifier: COAL TAR ROOFING PITCH **SDS ID: 00228355**

* * *Section 1 - IDENTIFICATION* * *

Product Identifier: COAL TAR ROOFING PITCH

Synonyms

COAL TAR PITCH; COAL TAR PITCH-TYPE 1; OLD STYLE ROOFING PITCH

Chemical Family

polynuclear, aromatic hydrocarbons

Recommended Use

building/roofing/waterproofing product

Restrictions on Use

None known.

Manufacturer Information

KOPPERS INC.
436 Seventh Avenue
Pittsburgh, PA 15219-1800
Mfg Contact: 412-227-2001 (SDS Requests: 866-852-5239)

CHEMTREC: 800-424-9300 (Outside USA: +1 703-527-3887)
Emergencies: (Medical in USA): 877-737-9047
Emergencies: (Medical Outside of USA): 651-632-9269
Email: naorgmsds@koppers.com

* * *Section 2 - HAZARD(S) IDENTIFICATION* * *

Classification in accordance with 29 CFR 1910.1200

Skin sensitizer, Category 1
Germ Cell Mutagenicity, Category 1B
Carcinogenicity, Category 1A
Toxic to Reproduction, Category 1B
Hazardous to the Aquatic Environment - Chronic Hazard, Category 4

GHS LABEL ELEMENTS

Symbol(s)

Signal Word

DANGER

Hazard Statement(s)

May cause an allergic skin reaction
May cause genetic defects
May cause cancer
May damage fertility or the unborn child
May cause long lasting harmful effects to aquatic life

Precautionary Statement(s)

Prevention

Avoid breathing vapor or mist. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/clothing and eye/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid release to the environment.

Response

IF exposed or concerned: Get medical advice/attention. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Storage

Store locked up.

Disposal

Dispose in accordance with all applicable regulations.

Hazard(s) Not Otherwise Classified

May cause thermal burns from heated material.

* * *Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS* * *

CAS	Component	Percent (weight)
65996-93-2	HIGH-TEMP. COAL TAR PITCH	100
	The above listed complex substance contains the following constituents	-
206-44-0	FLUORANTHENE	3.0-3.5
85-01-8	PHENANTHRENE	2.6-3.2
129-00-0	PYRENE	2.3-2.6
56-55-3	1,2-BENZANTHRACENE	1.2-1.4
218-01-9	1,2-BENZPHENANTHRENE	1.1-1.4
50-32-8	BENZO(A)PYRENE	1.1-1.3
191-24-2	BENZO(G,H,I)PERYLENE	0.84-1.2
193-39-5	INDENO(1,2,3-CD)PYRENE	0.82-0.99
205-99-2	BENZO(B)FLUORANTHENE	0.81-0.91
189-64-0	DIBENZO(A,H)PYRENE	0.58-0.87
205-82-3	BENZO(J)FLUORANTHENE	0.58-0.64
207-08-9	BENZO(K)FLUORANTHENE	0.54-0.61
86-74-8	CARBAZOLE	0.38-0.48
83-32-9	ACENAPHTHENE	0.28-0.47
192-65-4	DIBENZO(A,E)PYRENE	0.22-0.37
53-70-3	DIBENZ(A,H)ANTHRACENE	0.20-0.25
189-55-9	DIBENZO(A,I)PYRENE	0.20-0.25
91-20-3	NAPHTHALENE	0.03-0.24
3697-24-3	5-METHYLCHRYSENE	0.08-0.13
91-22-5	QUINOLINE	0.0-0.01
92-52-4	DIPHENYL	0.0-0.01

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Aromatic hydrocarbons, polycyclic (130498-29-2).

* * *Section 4 - FIRST-AID MEASURES* * *

Description of Necessary Measures

Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Get immediate medical attention.

Skin

For contact with molten product, do not remove contaminated clothing or solidified material from the skin. For thermal burns, cool affected areas as quickly as possible by drenching or immersing in water. Get medical attention. If dust or fumes from molten material contact the skin, remove contaminated clothing. Wash all affected skin areas with warm soapy water. Skin contact causes photosensitization which can last for 36-72 hours after exposure. Keep out of direct sunlight for the next two to three days to avoid sunburn to the photosensitized skin areas. Use a broad spectrum blockout cream to protect against UV alpha ray exposure. Get medical attention, if needed.

Eyes

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.

Ingestion

Not a likely route of exposure. If burns occur, treat as thermal burns. Get immediate medical attention. Rinse mouth. DO NOT induce vomiting. If a large amount is swallowed, get medical attention. Do not give anything by mouth to unconscious or convulsive person. If vomiting occurs, keep head lower than hips to help prevent aspiration.

Most Important Symptoms/Effects

Acute

thermal burns from heated material, allergic reactions

Delayed

allergic reactions, mutagenic effects, reproductive effects, lung cancer, bladder cancer, skin cancer, scrotal cancer

Indication of Immediate Medical Attention and Special Treatment Needed, if Necessary

Treat symptomatically and supportively.

* * *Section 5 - FIRE-FIGHTING MEASURES* * *

Suitable Extinguishing Media

regular dry chemical, carbon dioxide, regular foam, water spray, fog or mist

Unsuitable Extinguishing Media

Do not use high-pressure water streams.

Specific Hazards Arising from the Chemical

During fire conditions, vapors and decomposition products may be released, forming flammable/explosive mixtures in air. Containers may rupture or explode if exposed to heat.

Hazardous Combustion Products

Combustion Products: oxides of carbon, oxides of nitrogen, polynuclear aromatic hydrocarbons

Fire Fighting Measures

Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Use extinguishing agents appropriate for surrounding fire. Flood with fine water spray. Directly spraying water or foam onto hot burning product may cause frothing. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. When the solid material is heated (as in a fire) it will melt and begin to flow. The molten material may be chilled and solidified using a water fog or fine water spray.

Special Protective Equipment and Precautions for Firefighters

Wear full protective firefighting gear including self-contained breathing apparatus (SCBA) for protection against possible exposure.

Sensitivity to Mechanical Impact

No

Sensitivity to Static Discharge

No

* * *Section 6 - ACCIDENTAL RELEASE MEASURES* * *

Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8. Avoid release to the environment.

Methods and Materials for Containment and Cleaning Up

Stop leak if possible without personal risk. To prevent liquid from flowing into drains, completely contain spilled material with dikes, sandbags, etc. Allow spilled material to cool and solidify before attempting to clean up. Shovel solidified material into containers for recycle if clean or disposal if contaminated. The solid or solidified spillage should be cleaned up as quickly as possible. Spilled material in a traffic area will break down with mechanical contact (e.g. vehicle tires) and become a wind borne dust. Solid material spillage may be wet down with a fine water spray to suppress dust during cleanup. Collect spilled material in appropriate container for disposal. In Canada, report releases to provincial authorities, municipal authorities, or both, as required. Due to the concentration of Benzo(a)pyrene and the CERCLA (40 CFR 302.4) reportable quantity of 1 pound, the release of 76 pounds (7 gallons) of this product requires National Response Center notification. See Section 13 for waste disposal information.

* * *Section 7 - HANDLING AND STORAGE* * *

Precautions for Safe Handling

Avoid breathing vapor or mist. Avoid breathing vapors of heated materials. Avoid contact with eyes, skin and clothing. When using, do not eat, drink or smoke. Wear protective gloves/clothing and eye/face protection. Wash exposed areas thoroughly with soap and water, or a waterless hand cleaner, after skin contact and before eating, drinking, using tobacco products, or restrooms. Use protective skin cream on exposed skin before and during work shift. To reduce sun sensitivity a sun-blocking lotion can also be applied prior to application of a protective cream. Contaminated clothing should be removed and laundered before reuse. Contaminated work clothing should not be allowed out of the workplace unless laundered or decontaminated. After working with the product use warm soapy water and a wash cloth to thoroughly wash all areas of skin that have been contacted with product. After washing, apply a broad spectrum UV blockout cream on exposed skin areas before going into sunlight. Keep out of strong sunlight for two to three days after being affected by the product. Maximum recommended heating temperature during product application is 400 F. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Conditions for Safe Storage, including any Incompatibilities

Store and handle in accordance with all current regulations and standards. Label all containers. Store in metal containers. Avoid use of plastic containers. Keep container in a well-ventilated place. Keep away from heat, sparks and flame. Protect from physical damage. Store locked up. Notify State Emergency Response Commission for storage or use at amounts greater than or equal to the TPQ (U.S. EPA SARA Section 302). SARA Section 303 requires facilities storing a material with a TPQ to participate in local emergency response planning (U.S. EPA 40 CFR 355 Part B).

Incompatibilities: oxidizing materials

* * *Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION* * *

Component Exposure Limits

HIGH-TEMP. COAL TAR PITCH (65996-93-2)

OSHA (US): 0.2 mg/m3 TWA (benzene soluble fraction)

ACGIH: 0.2 mg/m3 TWA (as benzene soluble aerosol)

NAPHTHALENE (91-20-3)

OSHA (US): 10 ppm TWA; 50 mg/m3 TWA

ACGIH: 10 ppm TWA

Skin - potential significant contribution to overall exposure by the cutaneous route

Biological Limit Values

HIGH-TEMP. COAL TAR PITCH (65996-93-2)

ACGIH: Medium: urine Time: end of shift at end of workweek Parameter: 1-Hydroxypyrene with hydrolysis (nonquantitative)

NAPHTHALENE (91-20-3)

ACGIH: Time: end of shift Parameter: 1-Naphthol with hydrolysis plus 2-Naphthol with hydrolysis (nonquantitative, nonspecific)

Appropriate Engineering Controls

Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.

Individual Protection Measures, such as Personal Protective Equipment

Eyes/Face Protection

ANSI Z87.1-1989 approved safety glasses with side shields. Provide an emergency eye wash fountain and quick drench shower in the immediate work area. At elevated temperatures: A face shield is recommended.

Skin Protection

Wear protective clothing to prevent contact. Wear long sleeved shirt or overalls fastened at wrists and neck, with long legged trousers with trouser legs worn outside over boot tops, boots, socks, and safety hat plus gloves. Use protective skin cream on exposed skin before and during work shift. Protective clothing must be changed when it shows signs of contamination. Remove and launder contaminated clothing separately from other laundry before reuse. When material is at an elevated temperature, wear appropriate heat resistant clothing.

Glove Recommendations

Wear appropriate chemical resistant gloves. When material is at an elevated temperature, wear appropriate heat resistant gloves.

Respiratory Protection

If the applicable TLVs and/or PELs are exceeded, use NIOSH-approved multipurpose air-purifying cartridge respirators, for organic vapors and P-100 particulate.

Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

* * *Section 9 - PHYSICAL AND CHEMICAL PROPERTIES* * *

Physical State:	Liquid
Color:	black
Odor:	aromatic odor
pH:	Not applicable
Boiling Point:	>240 °C
Decomposition Temperature:	Not available
Lower Explosive Limit:	Not available
Vapor Pressure:	<0.01 mmHg @ 20 °C
Specific Gravity (water=1):	1.3 @ 15.5 °C
Log Kow:	Not available
Viscosity:	Not available
Volatility:	Not available
OSHA Flammability Cat.:	4

Appearance:	black liquid
Physical Form:	changes from solid to liquid as temperature increases
Odor Threshold:	Not available
Freezing / Melting Point:	Not available
Flash Point:	>190 °C (COC)
Evaporation Rate:	Not available
Upper Explosive Limit:	Not available
Vapor Density:	>1
Water Solubility:	almost insoluble
Autoignition Temp.:	>399 °C
Softening Point:	52 - 60 °C
Flammability (solid, gas):	Not applicable

Other Property Information

No additional information is available.

Solvent Solubility

Soluble: benzene, ether, carbon disulfide, chloroform

Slightly Soluble: alcohol, acetone

* * *Section 10 - STABILITY AND REACTIVITY* * *

Reactivity

No reactivity hazard is expected.

Chemical Stability

Stable at normal temperatures and pressure.

Possibility of Hazardous Reactions

Will not polymerize.

Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition. Avoid contact with incompatible materials. Contact with water at elevated temperatures may cause violent foaming or explosion. Keep out of water supplies and sewers.

Incompatible Materials

oxidizing materials

Hazardous Decomposition

Combustion Products: oxides of carbon, oxides of nitrogen, polynuclear aromatic hydrocarbons

* * *Section 11 - TOXICOLOGICAL INFORMATION* * *

Acute Toxicity (Product)

>15000 mg/kg oral-rat LD50; >2000 mg/kg dermal-rat LD50

Acute Toxicity (Component)

Component Analysis - LD50/LC50

Data may be available for the components (if applicable, see below).

Information on Likely Routes of Exposure

Inhalation

lung cancer, bladder cancer

Ingestion

thermal burns from heated material, reproductive effects

Skin Contact

sensitivity to sunlight, allergic reactions, thermal burns from heated material, skin cancer, scrotal cancer

Eye Contact

sensitivity to sunlight, thermal burns from heated material

Immediate Effects

thermal burns from heated material, allergic reactions

Delayed Effects

allergic reactions, mutagenic effects, reproductive effects, lung cancer, bladder cancer, skin cancer, scrotal cancer

Medical Conditions Aggravated by Exposure

respiratory disorders, skin disorders

Irritation/Corrosivity Data

No data available.

Respiratory Sensitization

No test data available.

Dermal Sensitization

Component data indicate the substance is sensitizing.

Germ Cell Mutagenicity

Available data characterizes this substance as mutagenic. May cause genetic defects.

Carcinogenicity (Product)

May cause cancer.

Component Carcinogenicity

HIGH-TEMP. COAL TAR PITCH (65996-93-2)

ACGIH:	A1 - Confirmed Human Carcinogen
NIOSH:	potential occupational carcinogen
NTP:	Known Human Carcinogen (Select Carcinogen)
IARC:	Monograph 100F [2012]; Supplement 7 [1987]; Monograph 35 [1985] (Group 1 (carcinogenic to humans))

An animal study may suggest an association between lung cancer and pulmonary deposition of particulate matter originating from coal tar pitches. It is not anticipated, however, that use of this product in liquid form will create a respirable dust.

Reproductive Toxicity

Available data characterizes this substance as a reproductive hazard. May cause harm to the unborn child. Possible risk of impaired fertility.

Specific Target Organ Toxicity - Single Exposure

No data available.

Specific Target Organ Toxicity - Repeated Exposure

No data available.

Aspiration Hazard

No data available.

Additional Information (Product)

This product is coal tar pitch. Volume 35 of the IARC monograph states that there is sufficient evidence that coal tar pitches are carcinogenic in humans. IARC's conclusion is based upon studies suggesting an association between skin cancer and chronic occupational dermal exposure to coal tar pitches and upon other historical studies and anecdotal reports showing an association between dermal exposure to coal tar pitch and scrotal cancer in the absence of good hygiene practices.

Epidemiological studies of aluminum reduction workers showed an excess risk of developing bladder cancer for workers with chronic inhalation overexposure to coal tar pitch volatiles in excess of the recommended permissible exposure level. Studies also suggest an association between lung cancer and chronic inhalation overexposure to coal tar pitch volatiles in excess of the recommended permissible exposure level. An animal study may suggest an association between lung cancer and pulmonary deposition of particulate matter originating from coal tar pitches. It is not anticipated, however, that use of this product in liquid form will create a respirable dust.

* * *Section 12 - ECOLOGICAL INFORMATION* * *

Ecotoxicity

May cause long-term adverse effects in the aquatic environment.

Component Analysis - Aquatic Toxicity

PYRENE (129-00-0)

Invertebrate: 48 Hr EC50 water flea: 1.8 mg/L

1,2-BENZANTHRACENE (56-55-3)

Invertebrate: 48 Hr EC50 Daphnia magna: 0.0042 mg/L

ACENAPHTHENE (83-32-9)

Fish: 96 Hr LC50 Pimephales promelas: 0.509 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss: 0.6 - 0.75 mg/L [flow-through]; 96 Hr LC50 Lepomis macrochirus: 1.3 - 2.1 mg/L [static]

Algae: 96 Hr EC50 Pseudokirchneriella subcapitata: 0.23 - 1.15 mg/L

Invertebrate: 48 Hr EC50 Daphnia magna: 41 mg/L; 48 Hr EC50 Daphnia magna: 3.45 mg/L; 48 Hr EC50 Daphnia magna: 1.102 - 1.475 mg/L [Static]

NAPHTHALENE (91-20-3)

Fish: 96 Hr LC50 Pimephales promelas: 5.74 - 6.44 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss: 1.6 mg/L [flow-through]; 96 Hr LC50 Oncorhynchus mykiss: 0.91 - 2.82 mg/L [static]; 96 Hr LC50 Pimephales promelas: 1.99 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 31.0265 mg/L [static]

Invertebrate: 48 Hr LC50 Daphnia magna: 2.16 mg/L; 48 Hr EC50 Daphnia magna: 1.96 mg/L [Flow through]; 48 Hr EC50 Daphnia magna: 1.09 - 3.4 mg/L [Static]

DIPHENYL (92-52-4)

Fish: 96 Hr LC50 Pimephales promelas: 1.65 - 2.29 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas: 1.17 - 1.81 mg/L [static]; 96 Hr LC50 Lepomis macrochirus: 4.3 - 5.1 mg/L [static]; 96 Hr LC50 Oncorhynchus mykiss: 1.4 - 1.6 mg/L [static]

Invertebrate: 48 Hr EC50 Daphnia magna: 0.63 - 0.85 mg/L [Static] (<24 hours old)

QUINOLINE (91-22-5)

Fish: 96 Hr LC50 Pimephales promelas: 77.8 mg/L [flow-through]; 96 Hr LC50 Pimephales promelas: 46 mg/L [static]; 96 Hr LC50 Poecilia reticulata: 40 mg/L [static]

Algae: 72 Hr EC50 Desmodesmus subspicatus: 84 mg/L [static]; 96 Hr EC50 Desmodesmus subspicatus: 90 mg/L [static]

Invertebrate: 48 Hr EC50 Daphnia magna: 28.5 mg/L; 48 Hr EC50 Daphnia magna: 45.9 - 57.3 mg/L [Static]

Fish Toxicity

Not considered toxic to fish. Not toxic at limit of water solubility.

Invertebrate Toxicity

HIGH-TEMP. COAL TAR PITCH:
>100 mg/l 48 hours EC50 Daphnia magna.
EL50 96 hours ~100 mg/l Daphnia
EL50 48 hours >100 mg/l Algae
EL50 72 hours >100 mg/l Daphnia
~100 mg/l Daphnia - NOELR 21 days

~10 mg/l Algae - NOELR 72 hours

Algal Toxicity

HIGH-TEMP. COAL TAR PITCH: >8000 mg/l 72 hours EC50 Scenedesmus subspicatus

Persistence and Degradability

This substance is not expected to biodegrade. Insoluble in water.

Bioaccumulation Potential

Not bioaccumulating due to solubility and chemical structure. This material is believed not to bioaccumulate. Highly insoluble in water.

Mobility

This substance is expected to be immobile in soil. Insoluble in water.

Other Adverse Effects

No data available.

* * *Section 13 - DISPOSAL CONSIDERATIONS* * *

Disposal Methods

Dispose in accordance with all applicable regulations.

Disposal of Contaminated Packaging

Dispose in accordance with all applicable regulations.

* * *Section 14 - TRANSPORT INFORMATION* * *

US DOT Information

Shipping Name: Elevated temperature liquid, n.o.s. (Contains: BENZO(A)PYRENE, BENZO(B)FLUORANTHENE), RQ
UN/NA #: UN3257 **Hazard Class:** 9 **Packing Group:** III
Required Label(s): 3257 HOT
Product in Tank Car or Tank Truck is shipped as 'Elevated temperature liquid, n.o.s.'

US DOT Reportable Quantities

BENZO(A)PYRENE (50-32-8)
1 lbs RQ; 0.454 kg RQ
BENZO(B)FLUORANTHENE (205-99-2)
1 lbs RQ; 0.454 kg RQ

Component Marine Pollutants

This material does not contain any chemicals listed on the Hazardous Materials Table required by US DOT to be identified as a marine pollutant.

TDG Information

Shipping Name: Elevated temperature liquid, n.o.s. (Contains: BENZO(A)PYRENE, BENZO(B)FLUORANTHENE), RQ
UN #: UN3257 **Hazard Class:** 9 **Packing Group:** III
Required Label(s): 3257 HOT

IATA Information

Air shipment is prohibited.

* * *Section 15 - REGULATORY INFORMATION* * *

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

FLUORANTHENE (206-44-0)
SARA 313: 1.0 % Supplier notification limit
CERCLA: 100 lb final RQ; 45.4 kg final RQ

PHENANTHRENE (85-01-8)
SARA 313: 1.0 % de minimis concentration
CERCLA: 5000 lb final RQ; 2270 kg final RQ

PYRENE (129-00-0)
SARA 302: 1000 lb lower TPQ; 10000 lb upper TPQ
SARA 304: 5000 lb EPCRA RQ
CERCLA: 5000 lb final RQ; 2270 kg final RQ

1,2-BENZANTHRACENE (56-55-3)
SARA 313: 0.1 % Supplier notification limit
CERCLA: 10 lb final RQ; 4.54 kg final RQ

1,2-BENZPHENANTHRENE (218-01-9)
SARA 313: 1.0 % Supplier notification limit
CERCLA: 100 lb final RQ; 45.4 kg final RQ

BENZO(A)PYRENE (50-32-8)
SARA 313: 0.1 % Supplier notification limit
CERCLA: 1 lb final RQ; 0.454 kg final RQ

BENZO(G,H,I)PERYLENE (191-24-2)
SARA 313: 1.0 % Supplier notification limit
CERCLA: 5000 lb final RQ; 2270 kg final RQ

INDENO(1,2,3-CD)PYRENE (193-39-5)
SARA 313: 0.1 % Supplier notification limit
CERCLA: 100 lb final RQ; 45.4 kg final RQ

BENZO(B)FLUORANTHENE (205-99-2)
SARA 313: 0.1 % Supplier notification limit
CERCLA: 1 lb final RQ; 0.454 kg final RQ

DIBENZO(A,H)PYRENE (189-64-0)
SARA 313: 0.1 % Supplier notification limit

BENZO(J)FLUORANTHENE (205-82-3)
SARA 313: 0.1 % Supplier notification limit

BENZO(K)FLUORANTHENE (207-08-9)
SARA 313: 0.1 % Supplier notification limit
CERCLA: 5000 lb final RQ; 2270 kg final RQ

ACENAPHTHENE (83-32-9)
CERCLA: 100 lb final RQ; 45.4 kg final RQ

DIBENZO(A,E)PYRENE (192-65-4)
SARA 313: 0.1 % Supplier notification limit

DIBENZO(A,I)PYRENE (189-55-9)
SARA 313: 0.1 % Supplier notification limit
CERCLA: 10 lb final RQ; 4.54 kg final RQ

DIBENZ(A,H)ANTHRACENE (53-70-3)
SARA 313: 0.1 % Supplier notification limit

CERCLA: 1 lb final RQ; 0.454 kg final RQ

NAPHTHALENE (91-20-3)

SARA 313: 0.1 % de minimis concentration

CERCLA: 100 lb final RQ; 45.4 kg final RQ

5-METHYLCHRYSENE (3697-24-3)

SARA 313: 0.1 % Supplier notification limit

DIPHENYL (92-52-4)

SARA 313: 1.0 % de minimis concentration

CERCLA: 100 lb final RQ; 45.4 kg final RQ

QUINOLINE (91-22-5)

SARA 313: 1.0 % de minimis concentration

CERCLA: 5000 lb final RQ; 2270 kg final RQ

SARA 311/312 Hazardous Categories (40 CFR 370 Subparts B and C)

Acute Health: Yes **Chronic Health:** Yes **Fire:** No **Pressure:** No **Reactive:** No

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS#	CA	MA	MN	NJ	PA
HIGH-TEMP. COAL TAR PITCH	65996-93-2	Yes	Yes	Yes	Yes	Yes

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

Canadian Regulations

This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

WHMIS Classification

D2A, D2B.

WHMIS Ingredient Disclosure List

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

HIGH-TEMP. COAL TAR PITCH (65996-93-2)

0.1 %

FLUORANTHENE (206-44-0)

1 %

PHENANTHRENE (85-01-8)

1 %

PYRENE (129-00-0)

1 %

1,2-BENZANTHRACENE (56-55-3)

0.1 %

1,2-BENZPHENANTHRENE (218-01-9)

0.1 %

BENZO(A)PYRENE (50-32-8)

0.1 %

INDENO(1,2,3-CD)PYRENE (193-39-5)

0.1 %

BENZO(B)FLUORANTHENE (205-99-2)

0.1 %

DIBENZO(A,H)PYRENE (189-64-0)
0.1 %
DIBENZO(A,I)PYRENE (189-55-9)
0.1 %
DIBENZ(A,H)ANTHRACENE (53-70-3)
0.1 %

Component Analysis - Inventory

Component	CAS	US	DSL	NDSL
HIGH-TEMP. COAL TAR PITCH	65996-93-2	Yes	Yes	No

U.S. Inventory (TSCA)
Listed on inventory.

Canada Inventory
Listed on DSL.

* * *Section 16 - OTHER INFORMATION* * *

NFPA Ratings: Health= 2 Fire= 1 Reactivity= 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Review date
2/25/2015

Summary of Changes
Updated: 2/25/2015
MSDS SUMMARY OF CHANGES
Multiple changes due to format (GHS) update

Key / Legend
ACGIH - American Conference of Governmental Industrial Hygienists; ANSI - American National Standards Institute; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CPR - Controlled Products Regulations; DOT - Department of Transportation; DSL - Domestic Substances List; EPA - Environmental Protection Agency; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; Kow - Octanol/water partition coefficient; LC50 - Lethal Concentration, 50%; LD50 - Lethal Dose, 50%; LEL - Lower Explosive Limit; LMPE-CT - Maximum Permissible Short Time Exposure Limit (Mexico); LMPE-PPT - Maximum Permissible Time-Weighted Average Exposure Limit (Mexico); LOLI - List Of LIsts™ - ChemADVISOR's Regulatory Database; NDSL - Non-Domestic Substances List; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; OSHA - Occupational Safety and Health Administration; PEL - Permissible Exposure Limit; RCRA - Resource Conservation and Recovery Act; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States; WHMIS - Workplace Hazardous Materials Information System

Other Information

The information set forth in this Safety Data Sheet does not purport to be all-inclusive and should be used only as a guide. While the information and recommendations set forth herein are believed to be accurate, the company makes no warranty regarding such information and recommendations and disclaims all liability from reliance thereon.

End of Sheet 00228355

CASA ADHESIVE, INC.

CASA 3600 PT
ROOFING FELT ADHESIVE

DESCRIPTION:

CASA 3600 PT is a non-flammable, non-toxic, "0" VOC canister adhesive for bonding wide width and standard roofing felts and papers to themselves, or to wood roof decking.

ADVANTAGES:

- No solvent
- Zero VOC
- Water-Based
- Tested and exceeds the requirement of ASTM D 3019
- Provides up to 2500 square feet, per canister
- Ends messy "tar drip" clean up

APPLICATION:

Apply a coat of adhesive to the perimeter of the roof decking and to all seam areas while holding the spraying wand perpendicular to the surface being sprayed. Use a **4001** tip to apply a 6" wide adhesive band. Use a **8002** tip for wider, ice dam adhesive applications. Spray on QuickSeal 3600-PT and roll out roofing paper/felt into the adhesive. QuickSeal 3600-PT allows about 20 minutes of "working time" for repositioning. " Walking down" the roofing paper into the adhesive will strengthen the bond. Clean up wet adhesive and equipment with CASA PT Cleaner or Quick Clean #6.

PACKAGING:

- 38# Pressurized Canister

SHELF LIFE:

Six Months from the date of manufacture in unopened container.

MSDS on the reverse side of page

CASA ADHESIVE, INC.

206 Nance Road N.E.
Calhoun, GA 30701

Phone: 888-685-0025
Fax: 888-781-5255
Email: casaadhesive@comcast.net

CASA ADHESIVE INC

SAFETY DATA SHEET

Revised 12.20.15

CASA 3600-PT

1	Health
0	Flammability
0	Reactivity
0	Special Hazards

Section 1: Product Identification & Company Information

1.1 Product Identifier

CASA 3600-PT

1.2 Manufacturer

CASA Adhesive, Inc
206 Nance Road NE
Calhoun GA 30701
1.888.685.0025

1.3 Emergency Telephone

Chemtrec
1.800.424.9300

1.4 Recommended Use

Adhesive Industrial

1.5 Restrictions

None

Section 2: Hazard Identification

2.1 Hazardous Ingredient

No hazardous ingredients.

2.2 Label Elements

Section 3: Composition Information on Ingredients

Ingredient	C.A.S. No	Percentage by Weight
Water	7732-18-5	40-50 Trade Secret*
Proprietary Mixture	NA	50-60 Trade Secret*

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

Section 4: First Aid

Description of first aid measures

Eye	Possible irritant. Flush with water for 10-15 minutes.
Skin	Possible irritation. Wash with soap and water.
Ingestion	Consult physician.

Section 5: Fire Fighting Measures

5.1 Flash Point

None

5.2 Extinguishing Media

Water, carbon dioxide, or dry chemical

5.3 Special Fire Fighting Features

Wear self contained breathing gear in confined spaces

Section 6: Composition Information on Ingredients

Accidental Release Measures

Spill	Wear appropriate personal protection equipment. Absorb spill with vermiculite or other inert material, then place in container for chemical waste.

Section 7: Handling & Storage

7.1 Handling

None

7.2 Storage

Minimum 60®F and maximum 100®F. Store in dry place. **DO NOT FREEZE.**

Contents under pressure-avoid excessive heat (120®F)

Propellant: UN 1066 2.2 Non-flammable compressed gas n.o.s

Section 8: Exposure Controls & Personal Protection

Ventilation	Local Ventilation
Respiratory	Recommended in poorly vented room
Protective Gloves	Recommended
Eye Protection	Recommended
Hygienic Practices	Wash with soap after exposure

Section 9: Physical & Chemical Properties

Physical Form	Liquid
Boiling Point	212®F
Vapor Density	Heavier than air
Evaporation Rate	Same as water
Appearance	Milky Blue
Odor	Latex
Specific Gravity	1.20
Volatility/Volume	35-37%
Solubility	Soluble
VOC	0 grams/liter

Section 10: Stability & Reactivity

Conditions to avoid	Excessive heat or cold
Stability	Stable
Incompatibility	Not known
Hazardous Polymerization	Will not occur

Section 11: Toxicological Information

Effects

Eye	No published data
Skin	No published data
Inhalation	No published data
Ingestion	No published data

Section 12: Ecological Information

Contact the address or phone number listed on the front page of the SDS for additional Eco toxicological information for this material an/or its components.

Section 13: Disposal Considerations

Care should be taken to ensure the material or its containers are disposed of in an approved facility in accordance with current federal, state, and local regulations.

Section 14: Transportation Information

DOT Hazard Class	2.2 Shipments exceeding 1,000 pounds must be placarded. Surface transportation only.

Section 15: Regulatory Information

US Federal regulations

All components of this product are listed on the United States Environmental Protection Agent Toxic Substances Control Act (TSCA) inventory. Any impurities present in this product are exempt from listing.

Canadian Domestic Substances List (DSL)/Canadian Environmental Protection Act (CEPA)

All components of this product are listed on the DSL. Any impurities present in this product are exempt from listing.

Section 16: Other Information

16.1 Effective Dates

Effective Date	10.12.99
Revised Date	12.20.15

16.2 Manufacturer's Statement

The statements and technical information contained in this safety data sheet are based on tests and data which CASA Adhesive, Inc. believes to be reliable, however the occurring and completeness of such statements and technical information is not guaranteed. CASA Adhesive, Inc. makes no warranty expressed or implied, including, but not limited to any implied warranty of merchantability or fitness for a particular purpose. User is responsible for determining if the product is fit for a particular purpose and is suitable for user's method of application.

Revision Number: 002.1

Issue date: 10/29/2014

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: DORUS FP 7919 formerly XB-7919
Product type: Adhesive
Restriction of Use: None identified
Company address:
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

IDH number: 746729

Region: United States
Contact information:
Telephone: (860) 571-5100
MEDICAL EMERGENCY Phone: Poison Control Center
1-877-671-4608 (toll free) or 1-303-592-1711
TRANSPORT EMERGENCY Phone: CHEMTREC
1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW	
WARNING:	CAUSES SKIN IRRITATION. CAUSES SERIOUS EYE IRRITATION. HARMFUL IF INHALED.

HAZARD CLASS	HAZARD CATEGORY
ACUTE TOXICITY INHALATION	4
SKIN IRRITATION	2
EYE IRRITATION	2A

PICTOGRAM(S)

Precautionary Statements

Prevention: Avoid breathing vapors, mist, or spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear eye and face protection. Wear protective gloves.

Response: IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. Call a poison control center or physician if you feel unwell. If skin irritation occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing.

Storage: Not prescribed

Disposal: Not prescribed

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*

Asphalt	8052-42-4	5 - 10
Limestone	1317-65-3	5 - 10
Kaolin	1332-58-7	1 - 5
Ammonium hydroxide	1336-21-6	0.1 - 1
Hydrogen sulfide	7783-06-4	0.1 - 1
Quartz (SiO2)	14808-60-7	0.1 - 1

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If symptoms develop and persist, get medical attention. If not breathing, give artificial respiration.

Skin contact: Immediately wash skin thoroughly with soap and water. Remove contaminated clothing and footwear. If symptoms develop and persist, get medical attention.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get immediate medical attention.

Ingestion: If material is ingested, immediately contact a physician or poison control center. DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

Symptoms: See Section 11.

5. FIRE FIGHTING MEASURES

Extinguishing media: Water spray (fog), foam, dry chemical or carbon dioxide. Use extinguishing measures appropriate to local circumstances and the surrounding environment.

Special firefighting procedures: Keep unnecessary personnel away. Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

Unusual fire or explosion hazards: This product is an aqueous mixture which will not burn. If evaporated to dryness, the solid residue may pose a slight fire hazard. Closed containers may rupture (due to build up of pressure) when exposed to extreme heat.

Hazardous combustion products: Oxides of carbon.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Prevent contamination of soil and water.

Clean-up methods: Keep unnecessary personnel away. Ensure adequate ventilation. Wear appropriate protective equipment and clothing during clean-up. Small spills can be absorbed with vermiculite, clay or other suitable non-biodegradable absorbent material, scooped up and placed in containers. For large spills dike ahead and collect liquid. Dispose of contaminated material as waste according to Section 13.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Do not taste or swallow. Do not breathe gas/fumes/vapor/spray. Wash thoroughly after handling. Keep container closed.

Storage: For safe storage, store at or above 0 °C (32°F)

For information on product shelf life, please review labels on container or check the Technical Data Sheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Asphalt	0.5 mg/m3 TWA (as benzene solubles) Inhalable fraction.	None	None	None
Limestone	10 mg/m3 TWA Total dust.	5 mg/m3 PEL Respirable fraction. 15 mg/m3 PEL Total dust.	None	None
Kaolin	2 mg/m3 TWA Respirable fraction.	15 mg/m3 PEL Total dust. 5 mg/m3 PEL Respirable fraction.	None	None
Ammonium hydroxide	None	None	None	None
Hydrogen sulfide	1 ppm TWA 5 ppm STEL	20 ppm Ceiling 50 ppm MAX. CONC 10 minutes once, but only if no other measurable exposure occurs.	None	None
Quartz (SiO2)	0.025 mg/m3 TWA Respirable fraction.	2.4 MPPCF TWA Respirable. 0.1 mg/m3 TWA Respirable. 0.3 mg/m3 TWA Total dust.	None	None

Engineering controls: Work should be done in an adequately ventilated area (i.e., ventilation sufficient to maintain concentrations below one half of the PEL and other relevant standards). Local exhaust ventilation is recommended when general ventilation is not sufficient to control airborne contamination.

Respiratory protection: Use NIOSH approved respirator if there is potential to exceed exposure limit(s). Observe OSHA regulations for respirator use (29 CFR 1910.134).

Eye/face protection: Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists.

Skin protection: Use impermeable gloves and protective clothing as necessary to prevent skin contact. Wear suitable protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid
Color: Gray, Black
Odor: Slight
Odor threshold: Not available.
pH: 9.8 - 10.8
Vapor pressure: Not determined
Boiling point/range: 100 °C (212°F)

Melting point/ range:	0 °C (32°F) (Freezing point)
Specific gravity:	1.1
Vapor density:	Heavier than air.
Flash point:	Not applicable
Flammable/Explosive limits - lower:	Not available.
Flammable/Explosive limits - upper:	Not available.
Autoignition temperature:	Not determined
Evaporation rate:	Slower than diethyl ether.
Solubility in water:	Not determined
Partition coefficient (n-octanol/water):	Not determined
VOC content:	8 g/l (minus exempt solvents and water).
Viscosity:	Not available.
Decomposition temperature:	Not available.

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions of storage and use.
Hazardous reactions:	Will not occur.
Hazardous decomposition products:	Oxides of carbon.
Incompatible materials:	Contact with water reactive materials (such as oleum) can cause exothermic reactions.
Reactivity:	Not available.
Conditions to avoid:	Do not freeze.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure:	Skin, Inhalation, Eyes

Potential Health Effects/Symptoms

Inhalation: Inhalation of vapors or mists of the product may be irritating to the respiratory system.
Skin contact: No skin irritation can be expected from single short-term exposure to this product. Prolonged or repeated contact may produce some irritation.
Eye contact: This product may cause irritation to the eyes.
Ingestion: Ingestion of this product is unlikely. However, ingestion of product may produce gastrointestinal irritation and disturbances.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Asphalt	None	Central nervous system, Irritant, Respiratory
Limestone	None	Nuisance dust
Kaolin	Oral LD50 (RAT) = > 5,000 mg/kg Dermal LD50 (RAT) = > 5,000 mg/kg	Nuisance dust
Ammonium hydroxide	Oral LD50 (RAT) = 350 mg/kg	Irritant, Corrosive
Hydrogen sulfide	Inhalation LC50 (RAT) = 1.5 mg/l Inhalation LC50 (RAT) = 0.38 mg/l Inhalation LC50 (RAT, 14 min) = 1.5 mg/l Inhalation LC50 (RAT, 960 min) = > 0.38 mg/l	Blood, Developmental, Eyes, Irritant, Nervous System, Sensory
Quartz (SiO2)	None	Immune system, Lung, Some evidence of carcinogenicity

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Asphalt	No	Group 2B	No
Limestone	No	No	No
Kaolin	No	No	No
Ammonium hydroxide	No	No	No
Hydrogen sulfide	No	No	No
Quartz (SiO2)	Known To Be Human Carcinogen.	Group 1	No

12. ECOLOGICAL INFORMATION

Ecological information: Do not empty into drains, soil or bodies of water.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Legal disposition of wastes is the responsibility of the owner/generator of the waste. Applicable federal, state and/or local regulations must be followed during treatment, storage, or disposal of waste containing this product.

Hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

Water Transportation (IMO/IMDG)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status:	All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12 (b) Export Notification:	None above reporting de minimis
CERCLA/SARA Section 302 EHS:	None above reporting de minimis
CERCLA/SARA Section 311/312:	Immediate Health, Delayed Health
CERCLA/SARA Section 313:	None above reporting de minimis
California Proposition 65:	This product contains a chemical known in the State of California to cause cancer. This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Canada Regulatory Information

CEPA DSL/NDSL Status:	One or more components are not listed on, and are not exempt from listing on either the Domestic Substances List or the Non-Domestic Substances List.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: New Safety Data Sheet format.

Prepared by: Jennifer Altman, Sr. Regulatory Affairs Specialist

Issue date: 10/29/2014

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Technical Data Sheet

AQUENCE KL 7919

Formerly known as
DORUS FD 7919

July 2013

TYPE OF ADHESIVE:

Asphalt and Synthetic Emulsion

FIELD OF APPLICATION:

Manufactured Homes > Metal Frame Coating

TYPICAL TECHNICAL DATA:

Color: Black
Flammability: Non-Flammable
Flash Point: > 212°F
Solids: 25%
Solvent Thinner: Water
Solvent Cleanup: Warm Water or Mineral Spirits
Viscosity: 1,500cps RVT #2 @ 20rpm @ 77°F
Weight/Gal: 9.0lbs/gal

APPLICATION:

AQUENCE KL 7919 Frame Paint is a protective coating for manufactured home metal frames. It is blended product of both asphalt and synthetic water-based emulsions that provides excellent coverage.

HANDLING:

AQUENCE KL 7919 should be stirred prior to use for paint consistency. Recommended application method is with an “airless” spray system using a 30:1 to 40.1 pump ratio with 0.019” to 0.023” orifice spray tip. To clean this paint from spray system prior to use or before extended downtime, flush all lines with soapy water followed by tap water. Dried paint covering pumps and spray equipment, including spray nozzle tips, may be cleaned with mineral spirits. As with any spray coating, routine maintenance of equipment, including thorough cleaning of the system’s functional parts, greatly enhances the coating’s spray pattern while eliminating downtime for repairs. Product meets the Department of Housing and Urban Development regulation 24 CFR 3280 as a protective paint for manufactured home metal frame construction. This product meets California Rule 1107 air emission standard. 0 VOC’S

PRECAUTIONS:

This product is intended for industrial use only. Keep out of the reach of children.
Please refer to the Material Safety Data Sheet for further safety information.

STORAGE CONDITIONS:

Rotate stock, using oldest material first. Keep covered to prevent moisture loss and contamination. Do not freeze. Shelf Life: 6 months @ 77°F. Do not subject to freezing conditions.

Note

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SAFETY DATA SHEET

Date of issue/Date of revision 9 December 2015
Version 6

Section 1. Identification

Product name : CWF-UV5 CEDAR 350 VOC FLD466
Product code : 00409150
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications, Used by spraying.
Use of the substance/ mixture : Coating.
Uses advised against : Not applicable.

Manufacturer : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)

Technical Phone Number : 1-800-441-9695 (8:00 am to 5:00 pm EST)

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture : SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (central nervous system (CNS)) - Category 1
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 23%

GHS label elements
Hazard pictograms :

Signal word : Danger
Hazard statements : Causes damage to organs through prolonged or repeated exposure. (central nervous system (CNS))

Precautionary statements

Section 2. Hazards identification

Prevention : Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response : Get medical attention if you feel unwell.

Storage : Not applicable.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing. Wash thoroughly after handling. Emits toxic fumes when heated. DANGER - RAGS, STEEL WOOL OR WASTE SOAKED WITH THIS PRODUCT MAY SPONTANEOUSLY CATCH FIRE IF IMPROPERLY DISCARDED. IMMEDIATELY AFTER EACH USE, PLACE RAGS, STEEL WOOL OR WASTE IN A SEALED WATER-FILLED METAL CONTAINER.

Hazards not otherwise classified : Prolonged or repeated contact may dry skin and cause irritation.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : CWF-UV5 CEDAR 350 VOC FLD466

Ingredient name	%	CAS number
Solvent naphtha (petroleum), medium aliph.	≥1 - <20	64742-88-7
ethanediol	≥1 - <16	107-21-1
Nonylphenol, branched, ethoxylated	≥1 - <10	68412-54-4
3-iodo-2-propynyl butylcarbamate	≥0.1 - <1	55406-53-6

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Section 4. First aid measures

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : Defatting to the skin. May cause skin dryness and irritation.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
dryness
cracking

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Section 5. Fire-fighting measures

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Section 7. Handling and storage

Special precautions : Materials such as cleaning rags, paper wipes and protective clothing, which are contaminated with the product may spontaneously self-ignite some hours later. To avoid the risks of fires, all contaminated materials should be stored in purpose-built containers or in metal containers with tight-fitting, self-closing lids. Contaminated materials should be removed from the workplace at the end of each working day and be stored outside. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Do not store below the following temperature: 5°C (41°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Solvent naphtha (petroleum), medium aliph.	**ACGIH TLV (United States).** TWA: 400 ppm **OSHA PEL (United States, 2/2013).** TWA: 100 ppm 8 hours. TWA: 400 mg/m³ 8 hours.
ethanediol	**ACGIH TLV (United States, 4/2014).** C: 100 mg/m³ Form: Aerosol
Nonylphenol, branched, ethoxylated	None.
3-iodo-2-propynyl butylcarbamate	None.

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29 CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Section 8. Exposure controls/personal protection

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses with side shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Gloves : For prolonged or repeated handling, use the following type of gloves:

Recommended: nitrile rubber

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Brown.

Odor : Alcohol-like.

Odor threshold : Not available.

pH : 9

Melting point : Not available.

Boiling point : 100°C (212°F)

Flash point : Closed cup: Not applicable. [Product does not sustain combustion.]

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Lower: 0.12%
Upper: 0.14%

Evaporation rate : 0.05 (butyl acetate = 1)

Vapor pressure : 3.3 kPa (25 mm Hg) [room temperature]

Vapor density : Not available.

Relative density : 1.01

Density (lbs / gal) : 8.43

Solubility : Partially soluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Volatility : 74% (v/v), 71.952% (w/w)

% Solid. (w/w) : 28.048

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products.
Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Solvent naphtha (petroleum), medium aliph.	LD50 Dermal	Rabbit	>3000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
ethanediol	LD50 Dermal	Rabbit	9.53 g/kg	-
	LD50 Oral	Rat	4700 mg/kg	-
Nonylphenol, branched, ethoxylated	LD50 Oral	Rat	2.21 g/kg	-
3-iodo-2-propynyl butylcarbamate	LD50 Dermal	Rabbit	>2 g/kg	-
	LD50 Oral	Rat	1470 mg/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Name	Category
Solvent naphtha (petroleum), medium aliph.	Category 3

Specific target organ toxicity (repeated exposure)

Name	Category
Solvent naphtha (petroleum), medium aliph. ethanediol 3-iodo-2-propynyl butylcarbamate	Category 1 Category 2 Category 1

Section 11. Toxicological information

Target organs : Contains material which causes damage to the following organs: brain, skin.
Contains material which may cause damage to the following organs: kidneys, heart, upper respiratory tract, central nervous system (CNS), eye, lens or cornea.

Aspiration hazard

Name	Result
Solvent naphtha (petroleum), medium aliph.	ASPIRATION HAZARD - Category 1

Information on the likely routes of exposure

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : Defatting to the skin. May cause skin dryness and irritation.
Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : Adverse symptoms may include the following:
irritation
dryness
cracking
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Solvents may cause some of the above effects by absorption through the skin. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.
Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.
Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : Causes damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Section 11. Toxicological information

Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	15004.2 mg/kg

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
ethanediol	-1.36	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class (es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

Additional information

DOT : None identified.

IMDG : None identified.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States

United States inventory (TSCA 8b) : All components are listed or exempted.

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Solvent naphtha (petroleum), medium aliph.	Yes.	No.	No.	Yes.	Yes.
ethanediol	No.	No.	No.	Yes.	Yes.
Nonylphenol, branched, ethoxylated	No.	No.	No.	Yes.	No.
3-iodo-2-propynyl butylcarbamate	Yes.	No.	No.	Yes.	Yes.

Section 15. Regulatory information

SARA 313

	Chemical name	CAS number	Concentration
Supplier notification :	ethanediol	107-21-1	1 - 5

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 3 * **Flammability** : 0 **Physical hazards** : 0
(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 3 **Flammability** : 0 **Instability** : 0

Date of previous issue : **11/17/2015**

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

Flood® CWF®-UV5 Clear Wood Finish

Specification Guidelines

GUARANTEED* 5 YEARS ON SIDING años en revestimientos | 3 YEARS ON DECKS años en plataformas GARANTIZADO*

MANUFACTURER

AkzoNobel Decorative Paints, USA
15855 Sprague Road
Strongsville, OH 44136
PHONE: 1-800-321-3444
FAX: 1-440-297-8908
www.flood.com

PRODUCT DESCRIPTION

CWF®-UV5 is a premium oil-based wood finish that protects and beautifies exterior wood. CWF-UV5's advanced formulation guards exterior wood from its two biggest enemies – water and sun. CWF-UV5 is fortified with Penetrol® which deeply enriches the wood with superior penetration providing maximum protection. Transparent iron oxides effectively absorb and block the harmful rays of the sun.

BASIC USES

- For exterior use only
- Weathered exterior woods including Cedar, Redwood and Pressure-Treated Wood
- Horizontal and vertical surfaces such as decks, siding, fences and furniture

TECHNICAL DATA

FINISH: Matte

VEHICLE TYPE: Oil/water blend

SOLVENT TYPE: Water

WT./GALLON: 8.2 lbs/gal

PHYSICAL STATE: Liquid

FLAMMABILITY: NA

COMBUSTIBILITY: Yes

FLASH POINT: > 175°F TCC

SHELF LIFE: 5 years unopened

CONTAINER SIZE: Gallon and 5-gallon

COLOR: Available in Natural (Toner Base) and Cedar Tone.
Tintable to 5 colors.

DRY TIME: 24-48 hours, depending on temperature and humidity

VOC: Does not exceed 550 g/L (4.6 lbs/gal); low VOC: does not exceed 350 g/L (2.9 lbs/gal); use as is, do not thin

SURFACE PREPARATION

GENERAL DIRECTIONS:

1. Surfaces must be thoroughly clean, dry and free of dirt, grease, grime, mildew and previous coatings.
2. Remove mildew with a solution of 4 ounces of non-ammoniated detergent (TSP), 1 quart of outdoor bleach and 3 quarts of fresh water. Allow this solution to remain on the surface for 10-15 minutes, then rinse thoroughly.
3. Clean weathered wood with Flood Wood Cleaner or Flood Dekswood® Deck Cleaner and Brightener.
4. Remove old finishes with Flood Wood Stripper or FloodPro Stripper/Cleaner.
5. After cleaning, allow wood to dry 48 hours or until it has reached a moisture content of 15% or less before finishing.

NEW WOOD SURFACES:

New wood surfaces have a hard shiny surface called mill glaze that prevents maximum penetration and bonding of a finish. To properly prepare the surface for application, treat with a solution of Flood Wood Stripper, diluted one quart per gallon of water. Test wood for absorbency by sprinkling water on the surface. If water is absorbed rapidly, the surface is ready for finishing.

WEATHERED WOOD SURFACES:

Uncoated wood surfaces that have weathered longer than six months require thorough cleaning before applying a finish. Use Flood Wood Cleaner or Flood Dekswood (according to label instructions), along with a pressure washer or stiff bristle brush to remove the loose fiber, dirt and other surface contaminants.

PREVIOUSLY COATED SURFACES:

Apply to bare wood surface or a weathered wood surface that was previously finished with CWF-UV5. Other previous stain, varnish or sealers must be completely and thoroughly removed with Flood Wood Stripper or FloodPro Stripper/Cleaner per label directions before proceeding.

NOTE: *Cedar and Redwood may darken with Flood Wood Stripper or FloodPro Stripper/Cleaner. If this occurs brighten with Flood Wood Cleaner or Flood Dekswood per label directions before proceeding.*

LEAD STATEMENT

WARNING! If you scrape, sand, or remove old paint, you may release lead dust. LEAD IS TOXIC. EXPOSURE TO LEAD DUST CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a NIOSH-approved respirator to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead.

APPLICATION TOOLS

- Brush: High quality, synthetic stain brush
- Roller: Synthetic, woven cover 3/8"-3/4 " inch
- Spray: Airless sprayer .017 - .021 fluid tip/ 1800-2100 psi or less

*continued on reverse side

Flood® CWF®-UV5
Clear Wood Finish

APPLICATION

CAUTION: Surfaces are slippery when wet. Use caution when walking on wet surfaces during application.

1. Stir. Do not thin. Test color in small area.
2. Mix thoroughly before and periodically during application.
3. For color uniformity, intermix in one container, all product to be used on an entire section.
4. Cover everything you do not wish to coat, including plants and shrubs.
5. Apply between 50°F and 80°F.
6. Do not apply if cold and/or wet weather is expected within 24 hours.
7. Always work the entire length of a deck board or horizontal siding to a logical break, such as a window or door frame.
8. Vertical siding should be coated from top to bottom.
9. Never stop application in the middle of the board or wall.
10. Never apply in direct sun light or hot surfaces.
11. For external use only, do not use indoors.
12. Apply liberally with a brush or roller, then backbrush.
13. For porous or older wood. If required, apply a second coat before the first coat has dried (within 20 minutes).
14. After spray application, backbrush or backroll to improve penetration and uniformity of coverage. Remember, CWF®-UV5 is not a surface coating. It protects by penetrating the wood surface.

COVERAGE

- 150 – 250 sq. ft/gal (13.9-23.3 sq. m/gal)
- Coverage varies based on age and density of wood

DECK MAINTENANCE

- Most decks do not have to be coated every year
- A single coat of CWF-UV5 every second to third year will be sufficient to refresh the natural beauty of your deck and to maintain protection
- Between recoats, a periodic cleaning with Flood Wood Cleaner or Flood Dekswood Cleaner to remove dirt and contamination will renew the appearance of the wood
- Surfaces with harsh exposures to the sun, weather or foot traffic will show wear more quickly than other areas – if this happens, clean effected areas with Flood Wood Cleaner or Flood Dekswood Cleaner and recoat as necessary, blending into areas which still have good color
- For general recoating follow directions in "General Surface Preparation" and "Application"

SIDING MAINTENANCE

- Vertical surfaces do not require annual maintenance
- Surfaces with harsh exposures to the sun and weather will show wear more quickly than other areas – if this happens, clean effected areas with Flood Wood Cleaner or Dekswood Cleaner and Brightener and recoat as necessary, blending into areas which still have good color
- Areas retaining good color do not need recoating
- Badly weathered areas may require 2 coats (apply the second coat before the first coat dries)
- Backbrush or backroll to improve penetration and uniformity of coverage

CLEANUP & STORAGE

- Cleanup with warm, soapy water
- Store unused portion in tightly closed container
- KEEP FROM FREEZING

DANGER – rags, steel wool or waste soaked with this product may spontaneously catch fire if improperly discarded. Immediately after use, place rags, steel wool or waste in a sealed, water filled metal container.

LIMITED WARRANTY

AkzoNobel Decorative Paints, USA warrants that CWF-UV5 will protect against water damage, peeling, blistering, and graying of the surface due to ultraviolet light exposure for five (5) years on vertical surfaces such as fences and siding and three (3) years on horizontal surfaces as decks from the date of purchase if applied according to label instructions to properly prepared surface. This warranty does not cover wood that was water damaged prior to application of the product and graying due to surface mildew growth. If Flood CWF-UV5 fails to perform as described above, AkzoNobel Decorative Paints, USA will, at its option, provide an equivalent amount of new product at no charge or refund the purchase price. This warranty does not include labor or the cost of application of any product, and in no event shall AkzoNobel Decorative Paints, USA be responsible for damages in excess of the purchase price. Claims must be made in writing and accompanied by proof of purchase. This warranty does not apply to problems caused by alteration of this product, accident, misuse, improper storage, abuse, or neglect. THERE ARE NO OTHER EXPRESS WARRANTIES. IN NO EVENT SHALL AKZO NOBEL DECORATIVE PAINTS, USA BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF THIS WARRANTY OR ANY IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR USE. Some states do not allow the exclusion or limitation of incidental or consequential damages so the above limitation may not apply to you. This warranty gives you specific legal rights and you may have other rights which may vary from state to state.

WARNING! VAPOR HARMFUL. CONTAINS PETROLEUM DISTILLATES. MAY AFFECT THE BRAIN OR NERVOUS SYSTEM, CAUSING DIZZINESS, HEADACHE OR NAUSEA. MAY CAUSE EYE, SKIN, NOSE AND THROAT IRRITATION. Use outdoors only, in well-ventilated areas. Avoid contact with eyes and skin, and inhalation of vapors. Close container after each use. If spray applying, follow equipment safety instructions and wear a NIOSH/MSHA respirator per manufacturer's directions. Change clothes and wash thoroughly when finished. **First Aid:** In case of **eye or skin contact**, flush with water continuously for 15 minutes. If **inhalation** causes dizziness or discomfort, leave area to obtain fresh air. In all cases, if irritation or discomfort persists, consult with a physician. If swallowed, do not induce vomiting and **get medical attention immediately**. In case of spillage, absorb with inert material and dispose of in accordance with local regulations.
KEEP OUT OF REACH OF CHILDREN.

For additional information or assistance, write or call toll-free: 1-800-321-3444.

AkzoNobel Decorative Paints, USA
15855 Sprague Road
Strongsville, OH 44136

www.flood.com

Reorder #M04316 - GL 9/08

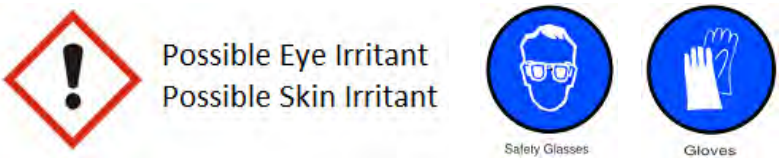
Specialty Adhesives and Coatings, Inc..
3791 Air Park St.
Memphis, TN 38181 Phone: 1-800-728-9171
Fax: 1-901-794-9175
specialtyadhesives@specialtyadhesivesinc.com

SAFETY DATA SHEET (MSDS)

Emergency Medical Telephone Number: (901)794-8556

PRODUCT IDENTIFICATION

Specialty Adhesives Name: 1038HV
Product use: Adhesive
Generic description Polyvinyl alcohol/resin or polyvinyl alcohol/clay mixture in water



2. Hazards Identification

Emergency overview: Contact with this material can cause irritation to the skin, eyes and mucous membranes
Potential health effects

Eyes Direct eye contact with the product may cause irritation
Skin Prolonged or repeated contact with liquid product may cause irritations.
Inhalation Exposure to vapors in poorly ventilated areas may cause irritation of the nose, throat, And respiratory tract.
Ingestion Ingestion causes irritation of upper respiratory system and gastrointestinal disturbance. Do not ingest.
Fire & explosion This product will not ignite under normal situations but can be ignited in the extreme heat associated with a fire. In a fire situation, exposed containers may build up pressure and burst explosively spewing hot material. Irritating and potentially harmful vapors may be released in a fire or spill situation.

3. Composition / Information on Hazardous Ingredients

Component	CAS-No.	Concentration

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200. This SDS is prepared to comply with this OSHA standard. Unlisted ingredients are not hazardous and are considered to be trade secrets of Specialty Adhesives and Coatings, Inc., and are therefore strictly confidential.

4. First Aid Measures

First aid procedures

Eye contact If product contacts eye, flush with water for at least 15 minutes and seek medical attention immediately.
Skin contact If product contacts skin, wash affected area with soap and water. Seek medical attention if irritation develops or persists. Launder contaminated clothing before reuse.
Inhalation Move subject to fresh air in case of accidental inhalation of vapors or decomposition products. If symptoms persist, get medical attention promptly.
Ingestion If ingested, get immediate medical attention. Do not induce vomiting unless instructed to do so by medical personnel. Never give anything by mouth to victim who is unconscious or is having convulsions.

5. Fire Fighting Measures

Hazardous combustion products

Incomplete combustion can yield carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Extinguishing media

Suitable extinguishing media	Dry chemical, CO2, water spray or regular foam. Avoid using a direct stream of water.
Fire fighting equipment/instructions	Firefighters should wear full protective clothing including self contained breathing apparatus.
Dust explosion hazard	None Known
Sensitivity to static discharge	None Known
Unusual fire & explosion hazards	There is the possibility of pressure buildup in closed containers when heated. Water spray may be used to cool the containers/
Flash point	Non flammable

6. Accidental Release Measures

Emergency action	Wear appropriate protective equipment and clothing during clean-up. Follow all Local, State, Federal and Provincial regulations for disposal.
Containment procedures	Isolate spill area. Stop discharge if safe to do so. Dike, if necessary, contain spill with inert absorbent . Collect and contain for salvage or disposal. Keep spilled product from contaminating soil or from entering sewers, watersheds or water streams.
Reporting	See Federal reporting requirements listed in Section 15. We recommend you contact local authorities to determine if there may be other local reporting requirements.

7. Handling and Storage

For Commercial Use Only - Not Packaged or Labeled for Home Use!

Handling	Avoid contact with skin and eyes. Wash thoroughly after handling. Avoid breathing fumes if this product is used at high temperatures. Use this product with adequate ventilation.
Storage	Protect from freezing – product stability may be affected.
Empty container precaution	Attention! Follow label warnings even after container is emptied since empty containers may retain product residues. In storage, monomer vapors will migrate from the emulsion and establish an equilibrium between the headspace in the storage container and the liquid emulsion. Levels in excess of acceptable exposures can accumulate in non –vented headspaces above the emulsion. All procedures appropriate for a confined space entry should be completed prior to performing any work in a bulk storage tank. Do not reuse empty container without professional cleaning for food, clothing, or products for human or animal consumption, or where skin contact can occur.

8. Exposure Controls / Personal Protection

Exposure Limit(s) Exposure limits are listed below, if they exist

Component	Regulation	Type of Listing	Value
None			

Engineering controls Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing.

Personal protective equipment


Safety Glasses


Gloves

Eye protection	Wear safety glasses to reduce the potential for eye contact. Chemical safety goggles are appropriate if splashing is likely. Have eye washes available where eye contact can occur.
Skin and body Protection	Prevent prolonged or repeated contact by using rubber gloves and appropriate protective clothing. Launder contaminated clothing before reuse.
Respiratory Protection	Not normally required. When fumes are generated and ventilation is not sufficient to effectively remove them, appropriate NIOSH/MSHA approved respiratory protection must be provided.
General	Eye wash fountain and emergency showers are recommended.

9. Physical & Chemical Properties

Flash Point	Not Applicable/ non flammable
Upper Flammable Limit	Not Determined
Lower Flammable Limit	Not Determined
Autoignition Point	Not Determined
Explosion Data	Material does not have explosive properties
Vapor Pressure	NA
PH	3.5 -5.0
Specific Gravity	1.09
Bulk Density	9.1 lbs/ gallon
Water Solubility	Miscible
Percent Solid	Approx. 10 - 50%
Percent Volatile	Approx. 65%
%Volatile Organic Compounds	Less than 0.20% by weight
Vapor Density	< 1 Air = 1
Evaporation Rate	< 1 Butyl Acetate = 1
Odor	Slight
Appearance	White Liquid
Viscosity	Approx. 11000 cps. @ 80F
Odor Threshold	Not Determined
Boiling Point	100*C, 212*F (Typical)
Pour Point Temperature	Not Determined
Melting / Freezing Point	~ 0*C, ~ 32*F

The above data are typical values and do not constitute a specification. Vapor pressure data are calculated unless otherwise noted

10. Chemical Stability & Reactivity Information

Hazardous reactions/decompositions products
Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Hazardous polymerization	Will not occur.
Conditions to avoid	Not established
Stability	Stable under normal conditions. This product may react with strong acids, bases and oxidizing agents.

11. Toxicological Information

-ACUTE EXPOSURE-

Eye Irritation	May cause eye irritation.
Skin Irritation	Not expected to be a primary skin irritant. Repeated or prolonged skin contact may cause irritation. Pre-existing skin conditions may be aggravated by prolonged or repeated exposure.
Respiratory Irritation	Exposure to vapors in poorly ventilated areas may cause irritation of the nose, throat, and Respiratory tract.
Dermal Toxicity	Not established
Inhalation Toxicity	Exposure to vapors in poorly ventilated areas may cause irritation of the nose, throat, and Respiratory tract.
Oral Toxicity	Not established. Ingestion of this material may cause gastrointestinal irritations

-CHRONIC EXPOSURE-

Chronic Toxicity	No data available to indicate product or components present at greater than 1% are chronic health hazards.
Carcinogenicity	No data available to indicate product may present a carcinogenic hazard. There are no carcinogenic ingredients present at or over 0.1% in this material.
.	
Mutagenicity	No data available to indicate product is mutagenic or genotoxic.
Reproductive Toxicity	No data available to indicate product may cause reproductive toxicity.
Tetratogenicity	No data available to indicate product may cause birth defects.

12. Ecological Information

There is no data available for this product

13. Disposal Considerations

Environmental precautions: CAUTION: keep spills and cleaning runoff out of municipal sewers and open bodies of water.

It is the obligation of each user of the product mentioned herein to determine and comply with the requirements of all applicable local, state and federal regulations.

Waste disposal Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

14. Transport Information

DOT
Not regulated as hazardous goods.

IATA
Not regulated as hazardous goods.

IMDG
Not regulated as hazardous goods.

15. Regulatory Information

Workplace Classification

OSHA: This product is considered non-hazardous under the OSHA Hazard Communiation Standard (29CFR1910.1200)

WHMIS: This product is not a “controlled product” under the Canadian Workplace Hazardous Materials Information System (WHMIS)

SARA TITLE III: Section 311/312 Categorizations (40CFR370):
This product is not a hazardous chemical under 29CFR 1910.1200, and therefore is not covered by Title III of SARA

SARA TITLE III: Section 313 Information (40CFR372):
This product may contain a chemical which is listed in Section 313 at or above de minimis concentrations.

CERCLA Information (40CFR302.4):
Releases of this material to air, land, or water are not reportable to the National Response Center under the Comprehensive Environmental Response, Compensation, and Liabillity Act (CERCLA) or to state and local emergency planning committees under the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304

US. Toxic Substances Control Act (TSCA):

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TCSA) Chemical Substance Inventory.

State regulations If this product contains any California Proposition 65 chemicals, they will be listed below. Unless a concentration is given, the chemicals listed below are present only in trace amounts (less than 0.1%)

Formaldehyde (CAS# 50-00-0)

Acetaldehyde (CAS #75-07-0) Methanol (CAS #67-56-1) Less than 0.20%

Benzene (CAS #71-43-2)

Restriction of Hazardous Substances (RoHS) The product(s) covered by this (M)SDS do not contain or are under the prescribed levels of prohibited substances listed under 2011/65/EU Hazardous Substances Restricted or Prohibited in Electrical Equipment, including lead (CAS # 7439-92-1), mercury (CAS # 7439-97-6), cadmium (CAS # 7440-43-9), hexavalent chromium (CAS # 7440-47-3), polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE).

International regulations This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and contains all the information required by the Controlled Products Regulations.

REACH

Substances of Very High Concern (SVHC)

The product(s) covered by this (M)SDS includes a substances above a concentration of 0.1% weight by weight (w/w) in the Candidate List of Substances of Very High Concern (SVHC) for authorization published or proposed by ECHA on the following dates:

- October 28, 2008
- August 31, 2009
- January 13, 2010
- March 8, 2010
- June 18, 2010
- October 14, 2010
- December 15, 2010
- June 20, 2011
- December 19, 2011
- February 17, 2012
- June 18, 2012
- December 19, 2012
- June 20, 2013
- June 18, 2014
- December 17, 2014

Component	CAS #	Concentration
Boric Acid	10043-35-3	Less than 1.0%

HMIS Ratings

Health: 1
Flammability: 0
Reactivity: 0
Personal protection: B

16. Other Information

Issue date 2015

Prepared by Tim Myrick/ Vince Lauria

All statements, information and data presented herein are to the best of our knowledge and belief accurate and reliable as of the date complied. However, no representation, warranty or guarantee expressed or implied, is made as to its accuracy, reliability or completeness. It is the user's responsibility to determine the suitability and completeness of such information for the customer's particular end use. We do not accept liability for any loss or damage that may occur from the use of this information.

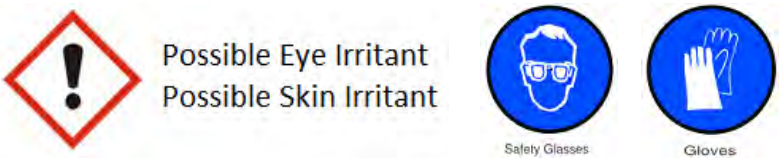
Specialty Adhesives and Coatings, Inc..
3791 Air Park St.
Memphis, TN 38181 Phone: 1-800-728-9171
Fax: 1-901-794-9175
specialtyadhesives@specialtyadhesivesinc.com

SAFETY DATA SHEET (MSDS)

Emergency Medical Telephone Number: (901)794-8556

PRODUCT IDENTIFICATION

Specialty Adhesives Name: 1038/ 1038HVS
Product use: Adhesive
Generic description Polyvinyl alcohol/resin or polyvinyl alcohol/clay mixture in water



2. Hazards Identification

Emergency overview: Contact with this material can cause irritation to the skin, eyes and mucous membranes
Potential health effects

Eyes Direct eye contact with the product may cause irritation
Skin Prolonged or repeated contact with liquid product may cause irritations.
Inhalation Exposure to vapors in poorly ventilated areas may cause irritation of the nose, throat, And respiratory tract.
Ingestion Ingestion causes irritation of upper respiratory system and gastrointestinal disturbance. Do not ingest.
Fire & explosion This product will not ignite under normal situations but can be ignited in the extreme heat associated with a fire. In a fire situation, exposed containers may build up pressure and burst explosively spewing hot material. Irritating and potentially harmful vapors may be released in a fire or spill situation.

3. Composition / Information on Hazardous Ingredients

Component	CAS-No.	Concentration

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200. This SDS is prepared to comply with this OSHA standard. Unlisted ingredients are not hazardous and are considered to be trade secrets of Specialty Adhesives and Coatings, Inc., and are therefore strictly confidential.

4. First Aid Measures

First aid procedures

Eye contact If product contacts eye, flush with water for at least 15 minutes and seek medical attention immediately.
Skin contact If product contacts skin, wash affected area with soap and water. Seek medical attention if irritation develops or persists. Launder contaminated clothing before reuse.
Inhalation Move subject to fresh air in case of accidental inhalation of vapors or decomposition products. If symptoms persist, get medical attention promptly.
Ingestion If ingested, get immediate medical attention. Do not induce vomiting unless instructed to do so by medical personnel. Never give anything by mouth to victim who is unconscious or is having convulsions.

5. Fire Fighting Measures

Hazardous combustion products

Incomplete combustion can yield carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Extinguishing media

Suitable extinguishing media	Dry chemical, CO2, water spray or regular foam. Avoid using a direct stream of water.
Fire fighting equipment/instructions	Firefighters should wear full protective clothing including self contained breathing apparatus.
Dust explosion hazard	None Known
Sensitivity to static discharge	None Known
Unusual fire & explosion hazards	There is the possibility of pressure buildup in closed containers when heated. Water spray may be used to cool the containers/
Flash point	Non flammable

6. Accidental Release Measures

Emergency action	Wear appropriate protective equipment and clothing during clean-up. Follow all Local, State, Federal and Provincial regulations for disposal.
Containment procedures	Isolate spill area. Stop discharge if safe to do so. Dike, if necessary, contain spill with inert absorbent . Collect and contain for salvage or disposal. Keep spilled product from contaminating soil or from entering sewers, watersheds or water streams.
Reporting	See Federal reporting requirements listed in Section 15. We recommend you contact local authorities to determine if there may be other local reporting requirements.

7. Handling and Storage

For Commercial Use Only - Not Packaged or Labeled for Home Use!

Handling	Avoid contact with skin and eyes. Wash thoroughly after handling. Avoid breathing fumes if this product is used at high temperatures. Use this product with adequate ventilation.
Storage	Protect from freezing – product stability may be affected.
Empty container precaution	Attention! Follow label warnings even after container is emptied since empty containers may retain product residues. In storage, monomer vapors will migrate from the emulsion and establish an equilibrium between the headspace in the storage container and the liquid emulsion. Levels in excess of acceptable exposures can accumulate in non –vented headspaces above the emulsion. All procedures appropriate for a confined space entry should be completed prior to performing any work in a bulk storage tank. Do not reuse empty container without professional cleaning for food, clothing, or products for human or animal consumption, or where skin contact can occur.

8. Exposure Controls / Personal Protection

Exposure Limit(s) Exposure limits are listed below, if they exist

Component	Regulation	Type of Listing	Value
None			

Engineering controls Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing.

Personal protective equipment

Eye protection	Wear safety glasses to reduce the potential for eye contact. Chemical safety goggles are appropriate if splashing is likely. Have eye washes available where eye contact can occur.
Skin and body Protection	Prevent prolonged or repeated contact by using rubber gloves and appropriate protective clothing. Launder contaminated clothing before reuse.
Respiratory Protection	Not normally required. When fumes are generated and ventilation is not sufficient to effectively remove them, appropriate NIOSH/MSHA approved respiratory protection must be provided.
General	Eye wash fountain and emergency showers are recommended.

9. Physical & Chemical Properties

Flash Point	Not Applicable/ non flammable
Upper Flammable Limit	Not Determined
Lower Flammable Limit	Not Determined
Autoignition Point	Not Determined
Explosion Data	Material does not have explosive properties
Vapor Pressure	NA
PH	3.5 -5.0
Specific Gravity	1.09
Bulk Density	9.1 lbs/ gallon
Water Solubility	Miscible
Percent Solid	Approx. 30 - 50%
Percent Volatile	Approx. 65%
%Volatile Organic Compounds	Less than 0.30% by weight
Vapor Density	< 1 Air = 1
Evaporation Rate	< 1 Butyl Acetate = 1
Odor	Slight
Appearance	White Liquid
Viscosity	Varies
Odor Threshold	Not Determined
Boiling Point	100*C, 212*F (Typical)
Pour Point Temperature	Not Determined
Melting / Freezing Point	~ 0*C, ~ 32*F

The above data are typical values and do not constitute a specification. Vapor pressure data are calculated unless otherwise noted

10. Chemical Stability & Reactivity Information

Hazardous reactions/decompositions products
Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Hazardous polymerization	Will not occur.
Conditions to avoid	Not established
Stability	Stable under normal conditions. This product may react with strong acids, bases and oxidizing agents.

11. Toxicological Information

-ACUTE EXPOSURE-

Eye Irritation	May cause eye irritation.
Skin Irritation	Not expected to be a primary skin irritant. Repeated or prolonged skin contact may cause irritation. Pre-existing skin conditions may be aggravated by prolonged or repeated exposure.
Respiratory Irritation	Exposure to vapors in poorly ventilated areas may cause irritation of the nose, throat, and Respiratory tract.
Dermal Toxicity	Not established
Inhalation Toxicity	Exposure to vapors in poorly ventilated areas may cause irritation of the nose, throat, and Respiratory tract.
Oral Toxicity	Not established. Ingestion of this material may cause gastrointestinal irritations

-CHRONIC EXPOSURE-

Chronic Toxicity	No data available to indicate product or components present at greater than 1% are chronic health hazards.
Carcinogenicity	No data available to indicate product may present a carcinogenic hazard. There are no carcinogenic ingredients present at or over 0.1% in this material.
.	
Mutagenicity	No data available to indicate product is mutagenic or genotoxic.
Reproductive Toxicity	No data available to indicate product may cause reproductive toxicity.
Tetratogenicity	No data available to indicate product may cause birth defects.

12. Ecological Information

There is no data available for this product

13. Disposal Considerations

Environmental precautions: CAUTION: keep spills and cleaning runoff out of municipal sewers and open bodies of water.

It is the obligation of each user of the product mentioned herein to determine and comply with the requirements of all applicable local, state and federal regulations.

Waste disposal Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

14. Transport Information

DOT
Not regulated as hazardous goods.

IATA
Not regulated as hazardous goods.

IMDG
Not regulated as hazardous goods.

15. Regulatory Information

Workplace Classification

OSHA: This product is considered non-hazardous under the OSHA Hazard Communiation Standard (29CFR1910.1200)

WHMIS: This product is not a “controlled product” under the Canadian Workplace Hazardous Materials Information System (WHMIS)

SARA TITLE III: Section 311/312 Categorizations (40CFR370):
This product is not a hazardous chemical under 29CFR 1910.1200, and therefore is not covered by Title III of SARA

SARA TITLE III: Section 313 Information (40CFR372):
This product may contain a chemical which is listed in Section 313 at or above de minimis concentrations.

CERCLA Information (40CFR302.4):
Releases of this material to air, land, or water are not reportable to the National Response Center under the Comprehensive Environmental Response, Compensation, and Liabillity Act (CERCLA) or to state and local emergency planning committees under the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304

US. Toxic Substances Control Act (TSCA):

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TCSA) Chemical Substance Inventory.

State regulations If this product contains any California Proposition 65 chemicals, they will be listed below. Unless a concentration is given, the chemicals listed below are present only in trace amounts (less than 0.1%)

Formaldehyde (CAS# 50-00-0)
Acetaldehyde (CAS #75-07-0) Methanol (CAS #67-56-1) Less than 0.30%
Benzene (CAS #71-43-2)

Restriction of Hazardous Substances (RoHS) The product(s) covered by this (M)SDS do not contain or are under the prescribed levels of prohibited substances listed under 2011/65/EU Hazardous Substances Restricted or Prohibited in Electrical Equipment, including lead (CAS # 7439-92-1), mercury (CAS # 7439-97-6), cadmium (CAS # 7440-43-9), hexavalent chromium (CAS # 7440-47-3), polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE).

International regulations This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and contains all the information required by the Controlled Products Regulations.

REACH

Substances of Very High Concern (SVHC)

The product(s) covered by this (M)SDS includes a substances above a concentration of 0.1% weight by weight (w/w) in the Candidate List of Substances of Very High Concern (SVHC) for authorization published or proposed by ECHA on the following dates:

- October 28, 2008
- August 31, 2009
- January 13, 2010
- March 8, 2010
- June 18, 2010
- October 14, 2010
- December 15, 2010
- June 20, 2011
- December 19, 2011
- February 17, 2012
- June 18, 2012
- December 19, 2012
- June 20, 2013
- June 18, 2014
- December 17, 2014
- June 16, 2015
- December 16, 2015

Component	**CAS #**	**Concentration**
Boric Acid	10043-35-3	Less than 1.0%

HMIS Ratings

Health: 1
Flammability: 0
Reactivity: 0
Personal protection: B

16. Other Information

Issue date 2016

Prepared by Tim Myrick/ Vince Lauria/ Larry Clark

All statements, information and data presented herein are to the best of our knowledge and belief accurate and reliable as of the date complied. However, no representation, warranty or guarantee expressed or implied, is made as to its accuracy, reliability or completeness. It is the user's responsibility to determine the suitability and completeness of such information for the customer's particular end use. We do not accept liability for any loss or damage that may occur from the use of this information.

Technical Data Sheet
SpecRes 1038/1038HVS

"Customer Driven….. Performance Guaranteed"

Description:

A white or cream colored water-borne polyvinyl acetate emulsion adhesive.

Suggested Uses:

Wood to wood bonding. Wood to gypsumboard

Characteristics:

Easy handling, long open time. No solvent
Demonstrates good non-sag properties

Typical Properties

		HMIS	
Viscosity.....	8,000 – 10,000 cps. @ 80F	Health	1
pH ……..	3.5 – 5.0	Flammability	0
Solids.....	38 +/- 2%	Reactivity	0
Spindle……	#4 @ 20rpm	PP	B
VOC content…….	2.19 grams/liter (calculated)		

Application:

Roller coater..
For panel on frame, apply a ¼" bead, mate panel and compress for 20-30 minutes

Handling & Storage:

Diluent:	Water, if required. Use as received.
Clean up:	Warm water.
Storage:	Store in a cool, dry area. Product should not be stored in direct sunlight. Product should not be used after freezing. For best results, we recommend the purchase of fresh adhesive every 3 months.

We believe the data and information provided to be reliable. This information is offered in good faith and is not guaranteed since the conditions and methods in which our products are used are beyond our control.

Revised: 2016

Specialty Adhesives and Coatings, Inc. 3791 Air Park Memphis. TN 38118 1-800-728-9171 1-901-794-9175 (Fax)

Specialty Adhesives and Coatings, Inc..
3791 Air Park St.
Memphis, TN 38181 Phone: 1-800-728-9171
Fax: 1-901-794-9175
specialtyadhesives@specialtyadhesivesinc.com

SAFETY DATA SHEET (MSDS)

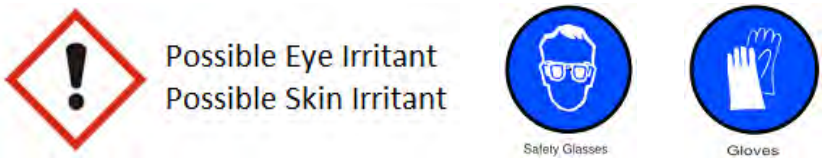
Emergency Medical Telephone Number: (901)794-8556

PRODUCT IDENTIFICATION

Specialty Adhesives Name: 7799 VB PRIMER

Product use: Paint

Generic description Synthetic resin based product in water



2. Hazards Identification

Emergency overview: Contact with this material can cause irritation to the skin, eyes and mucous membranes.

Potential health effects

Eyes Direct eye contact with the product may cause irritation

Skin Prolonged or repeated contact with liquid product may cause irritations.

Inhalation Exposure to vapors in poorly ventilated areas may cause irritation of the nose, throat, And respiratory tract.

Ingestion Ingestion causes irritation of upper respiratory system and gastrointestinal disturbance. Do not ingest.

Fire & explosion This product will not ignite under normal situations but can be ignited in the extreme heat associated with a fire. In a fire situation, exposed containers may build up pressure and burst explosively spewing hot material. Irritating and potentially harmful vapors may be released in a fire or spill situation.

3. Composition / Information on Hazardous Ingredients

Component	CAS-No.	Concentration

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200. This SDS is prepared to comply with this OSHA standard. Unlisted ingredients are not hazardous and are considered to be trade secrets of Specialty Adhesives and Coatings, Inc., and are therefore strictly confidential.

4. First Aid Measures

First aid procedures

Eye contact If product contacts eye, flush with water for at least 15 minutes and seek medical attention immediately.

Skin contact If product contacts skin, wash affected area with soap and water. Seek medical attention if irritation develops or persists. Launder contaminated clothing before reuse.

Inhalation Move subject to fresh air in case of accidental inhalation of vapors or decomposition products. If symptoms persist, get medical attention promptly.

Ingestion If ingested, get immediate medical attention. Do not induce vomiting unless instructed to do so by medical personnel. Never give anything by mouth to victim who is unconscious or is having convulsions.

5. Fire Fighting Measures

Hazardous combustion products

Incomplete combustion can yield carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Extinguishing media

Suitable extinguishing media	Dry chemical, CO2, water spray or regular foam. Avoid using a direct stream of water.
Fire fighting equipment/instructions	Firefighters should wear full protective clothing including self contained breathing apparatus.
Dust explosion hazard	None Known
Sensitivity to static discharge	None Known
Unusual fire & explosion hazards	There is the possibility of pressure buildup in closed containers when heated. Water spray may be used to cool the containers/
Flash point	Non flammable

6. Accidental Release Measures

Emergency action	Wear appropriate protective equipment and clothing during clean-up. Follow all Local, State, Federal and Provincial regulations for disposal.
Containment procedures	Isolate spill area. Stop discharge if safe to do so. Dike, if necessary, contain spill with inert absorbent . Collect and contain for salvage or disposal. Keep spilled product from contaminating soil or from entering sewers, watersheds or water streams.
Reporting	See Federal reporting requirements listed in Section 15. We recommend you contact local authorities to determine if there may be other local reporting requirements.

7. Handling and Storage

For Commercial Use Only - Not Packaged or Labeled for Home Use!

Handling	Avoid contact with skin and eyes. Wash thoroughly after handling. Avoid breathing fumes if this product is used at high temperatures. Use this product with adequate ventilation.
Storage	Protect from freezing – product stability may be affected.
Empty container precaution	Attention! Follow label warnings even after container is emptied since empty containers may retain product residues. In storage, monomer vapors will migrate from the emulsion and establish an equilibrium between the headspace in the storage container and the liquid emulsion. Levels in excess of acceptable exposures can accumulate in non –vented headspaces above the emulsion. All procedures appropriate for a confined space entry should be completed prior to performing any work in a bulk storage tank. Do not reuse empty container without professional cleaning for food, clothing, or products for human or animal consumption, or where skin contact can occur.

8. Exposure Controls / Personal Protection

Exposure Limit(s) Exposure limits are listed below, if they exist

Component	Regulation	Type of Listing	Value

Engineering controls Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing.

Personal protective equipment

Eye protection Wear safety glasses to reduce the potential for eye contact. Chemical safety goggles are appropriate if splashing is likely. Have eye washes available where eye contact can occur.

Skin and body Protection Prevent prolonged or repeated contact by using rubber gloves and appropriate protective clothing. Launder contaminated clothing before reuse.

Respiratory Protection Not normally required. When fumes are generated and ventilation is not sufficient to effectively remove them, appropriate NIOSH/MSHA approved respiratory protection must be provided.

General Eye wash fountain and emergency showers are recommended.

9. Physical & Chemical Properties

Flash Point	Not Applicable/ non flammable
Upper Flammable Limit	Not Determined
Lower Flammable Limit	Not Determined
Autoignition Point	Not Determined
Explosion Data	Material does not have explosive properties
Vapor Pressure	NA
PH	7.0 – 10.0
Specific Gravity	1.09
Bulk Density	9.5 – 11.0 lbs/ gallon
Water Solubility	Miscible
Percent Solid	Approx. 50 - 60%
Percent Volatile	Approx. 45%
%Volatile Organic Compounds	Varies
Vapor Density	< 1 Air = 1
Evaporation Rate	< 1 Butyl Acetate = 1
Odor	Sweet, paint like
Appearance	White Liquid
Viscosity	Approx. 4500 cps. @ 80F
Odor Threshold	Not Determined
Boiling Point	100*C, 212*F (Typical)
Pour Point Temperature	Not Determined
Melting / Freezing Point	~ 0*C, ~ 32*F

The above data are typical values and do not constitute a specification. Vapor pressure data are calculated unless otherwise noted

10. Chemical Stability & Reactivity Information

Hazardous reactions/decompositions products
Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

Hazardous polymerization	Will not occur.
Conditions to avoid	Not established
Stability	Stable under normal conditions. This product may react with strong acids, bases and oxidizing agents.

11. Toxicological Information

-ACUTE EXPOSURE-

Eye Irritation	May cause eye irritation.
Skin Irritation	Not expected to be a primary skin irritant. Repeated or prolonged skin contact may cause irritation. Pre-existing skin conditions may be aggravated by prolonged or repeated exposure.
Respiratory Irritation	Exposure to vapors in poorly ventilated areas may cause irritation of the nose, throat, and Respiratory tract.
Dermal Toxicity	Not established
Inhalation Toxicity	Exposure to vapors in poorly ventilated areas may cause irritation of the nose, throat, and Respiratory tract.
Oral Toxicity	Not established. Ingestion of this material may cause gastrointestinal irritations

-CHRONIC EXPOSURE-

Chronic Toxicity	No data available to indicate product or components present at greater than 1% are chronic health hazards.
Carcinogenicity	No data available to indicate product may present a carcinogen hazard. There are no carcinogenic ingredients present at or over 0.1% in this material.
Mutagenicity	No data available to indicate product is mutagenic or genotoxic.
Reproductive Toxicity	No data available to indicate product may cause reproductive toxicity.
Tetratogenicity	No data available to indicate product may cause birth defects.

12. Ecological Information

There is no data available for this product

13. Disposal Considerations

Environmental precautions: CAUTION: keep spills and cleaning runoff out of municipal sewers and open bodies of water.

It is the obligation of each user of the product mentioned herein to determine and comply with the requirements of all applicable local, state and federal regulations.

Waste disposal Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

14. Transport Information

DOT
Not regulated as hazardous goods.

IATA
Not regulated as hazardous goods.

IMDG
Not regulated as hazardous goods.

15. Regulatory Information

Workplace Classification

OSHA: This product is considered non-hazardous under the OSHA Hazard Communiation Standard (29CFR1910.1200)

WHMIS: This product is not a "controlled product" under the Canadian Workplace Hazardous Materials Information System (WHMIS)

SARA TITLE III: Section 311/312 Categorizations (40CFR370):

This product is not a hazardous chemical under 29CFR 1910.1200, and therefore is not covered by Title III of SARA

SARA TITLE III: Section 313 Information (40CFR372):

This product does not contain a chemical which is listed in Section 313 at or above de minimis concentrations.

CERCLA Information (40CFR302.4):

Releases of this material to air, land, or water are not reportable to the National Response Center under the Comprehensive Environmental Response, Compensation, and Liabillity Act (CERCLA) or to state and local emergency planning committees under the Superfund Amendments and Reauthorization Act (SARA) Title III Section 3

US. Toxic Substances Control Act (TSCA):

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TCSA) Chemical Substance Inventory.

State regulations If this product contains any California Proposition 65 chemicals, they will be listed below. Unless a concentration is given, the chemicals listed below are present only in trace amounts (less than 0.1%)

Formaldehyde (CAS# 50-00-0)
Acrylamide (CAS# 79-06-1)
Vinyl Chloride (CAS# 75-01-4)

Restriction of Hazardous Substances (RoHS) The product(s) covered by this (M)SDS do not contain or are under the prescribed levels of prohibited substances listed under 2011/65/EU Hazardous Substances Restricted or Prohibited in Electrical Equipment, including lead (CAS # 7439-92-1), mercury (CAS # 7439-97-6), cadmium (CAS # 7440-43-9), hexavalent chromium (CAS # 7440-47-3), polybrominated biphenyls (PBB) and polybrominated diphenyl ethers (PBDE).

International regulations This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and contains all the information required by the Controlled Products Regulations.

REACH

Substances of Very High Concern (SVHC)

The product(s) covered by this (M)SDS does include a substances above a concentration of 0.1% weight by weight (w/w) in the Candidate List of Substances of Very High Concern (SVHC) for authorization published or proposed by ECHA on the following dates:

- October 28, 2008
- August 31, 2009
- January 13, 2010
- March 8, 2010
- June 18, 2010
- October 14, 2010
- December 15, 2010
- June 20, 2011
- December 19, 2011
- February 17, 2012
- June 18, 2012
- December 19, 2012
- June 20, 2013
- June 18, 2014
- December 17, 2014
- June 16, 2015
- December 16, 2015

Component	CAS #	Concentration
Nonylphenol ethoxylate, branched	68412-54-4	< 0.3%

HMIS Ratings

Health:	1
Flammability:	0
Reactivity:	0
Personal protection:	B

16. Other Information

Issue date 2016

Prepared by Tim Myrick/ Vince Lauria/Larry Clark

All statements, information and data presented herein are to the best of our knowledge and belief accurate and reliable as of the date complied. However, no representation, warranty or guarantee expressed or implied, is made as to its accuracy, reliability or completeness. It is the user's responsibility to determine the suitability and completeness of such information for their particular end use. We do not accept liability for any loss or damage that may occur from the use of this information.

Technical Data Sheet
7799 Vapor Barrier/Primer

"Customer Driven….. Performance Guaranteed"

Description:

A white, water-borne high build primer that also serves as a vapor barrier

Suggested Uses:

Designed for interior use as a primer/vapor barrier on gypsum board

Characteristics:

Low VOCs, fast drying, high hiding. Insures a good even coverage of the next coat of paint. Flat finish. Must use a minimum of 6 wet mils to achieve vapor barrier. Product tested under ASTM E96A standard

Typical Properties

		HMIS	
Viscosity.....	4,000-5,000 cps. @ 77F	Health	1
pH ……..	7.0 – 10.0	Flammability	0
Solids.....	53-57%	Reactivity	0
Dry time……..	Fast	PP	B
Dry Film Thickness……	6 -8 mils for high build vapor barrier		
VOC content……..	4.20 grams/liter (calculated)		

Application:

Brush or roller applied, airless spray. Use in well ventilated areas.

Handling & Storage:

Diluent:	Dilution not recommended. Use as received.
Clean up:	Soap and warm water.
Storage:	Store in a cool, dry area. Use in temperatures of 50F or higher. Product should not be stored outside or in direct sunlight. Product can freeze and should not be used after freezing. For best results, we recommend the purchase of fresh adhesive every 3 months.

We believe the data and information provided to be reliable. This information is offered in good faith and is not guaranteed since the conditions and methods in which our products are used are beyond our control.

Revised: 2016

We believe the data and information provided to be reliable. This information is offered in good faith and is not guaranteed since the conditions and methods in which our products are used are beyond our control.

Specialty Adhesives and Coatings, Inc. 3791 Air Park Memphis. TN 38118 1-800-728-9171 1-901-794-9175 (Fax)

Henkel

OSI Quad max

Revision Number: 005.0

Issue date: 10/20/2015

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: OSI 9.5OZ QDMAX001SLNWHT 12CC
Product type: Joint sealant, polymer silan-modified
Restriction of Use: None identified
Company address:
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

IDH number: 1868684

Region: United States
Contact information:
Telephone: +1 (800) 624-7767
MEDICAL EMERGENCY Phone: Poison Control Center 1-877-671-4608 (toll free) or 1-303-592-1711 TRANSPORT EMERGENCY Phone: CHEMTREC 1-800-424-9300 (toll free) or 1-703-527-3887

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING: ABRASION COULD RELEASE RESPIRABLE PARTICLES OF SILICA QUARTZ, A CANCER HAZARD BY INHALATION. NORMAL USE OF THIS PRODUCT CAUSES NO SUCH RELEASE.

CAUSES SKIN IRRITATION.
CAUSES SERIOUS EYE IRRITATION.

HAZARD CLASS	HAZARD CATEGORY
SKIN IRRITATION	2
EYE IRRITATION	2A

PICTOGRAM(S)

Precautionary Statements

Prevention:
Wash thoroughly after handling. Wear eye and face protection. Wear protective gloves.

Response:
IF ON SKIN: Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical attention. If eye irritation persists: Get medical attention. Take off contaminated clothing.

Storage: Not prescribed
Disposal: Not prescribed

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*

Limestone	1317-65-3	30 - 60
Phthalate ester	Proprietary	5 - 10
Silane derivative	Proprietary	1 - 5
Quartz (SiO2)	14808-60-7	0.1 - 1

* Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

Exposure to moisture during cure will release 1-2% methanol.

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If symptoms persist, seek medical advice.

Skin contact: Wash with soap and water. If skin irritation persists, call a physician. Wipe off paste with paper towel or cloth.

Eye contact: Flush with copious amounts of water, preferably, lukewarm water for at least 15 minutes, holding eyelids open all the time. If symptoms develop and persist, get medical attention.

Ingestion: Do not induce vomiting. If a person feels unwell or symptoms of skin irritation appear, consult a physician.

Symptoms: See Section 11.

Notes to physician: Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Extinguishing media: carbon dioxide, foam, powder, water spray jet, fine water spray

Special firefighting procedures: Wear protective equipment. Wear self-contained breathing apparatus.

Unusual fire or explosion hazards: None identified.

Hazardous combustion products: Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions: Do not allow product to enter sewer or waterways.

Clean-up methods: Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up. Store in a partly filled, closed container until disposal. Spilled material will solidify. Scrape up as much material as possible. Maintain good ventilation for large spills.

7. HANDLING AND STORAGE

Handling: Do not handle contact lenses until all sealant has been removed from hands. Residual sealant may transfer to lenses and cause eye irritation. Avoid contact with eyes, skin and clothing. Keep out of the reach of children. Protect from moisture. Use only with adequate ventilation.

Storage: For safe storage, store between -20 °C (-4°F) and 40 °C (104°F)
Store in a cool, dry area. Avoid moisture.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Limestone	10 mg/m3 TWA Total dust.	5 mg/m3 PEL Respirable fraction. 15 mg/m3 PEL Total dust.	None	None
Phthalate ester	None	None	None	None
Silane derivative	None	None	None	None
Quartz (SiO2)	0.025 mg/m3 TWA Respirable fraction.	0.3 mg/m3 TWA Total dust. 2.4 MPPCF TWA Respirable. 0.1 mg/m3 TWA Respirable.	None	None

Engineering controls: Local exhaust ventilation is recommended when general ventilation is not sufficient to control airborne contamination below occupational exposure limits.

Respiratory protection: Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

Eye/face protection: Safety goggles or safety glasses with side shields.

Skin protection: Use impermeable gloves and protective clothing as necessary to prevent skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid
Color: Various
Odor: Alcohol
Odor threshold: Not available.
pH: Not applicable
Vapor pressure: Not applicable
Boiling point/range: Not applicable
Melting point/ range: Not applicable
Specific gravity: 1.4 - 1.5 at 20 °C (68°F)
Vapor density: Heavier than air.
Flash point: 107 °C (224.6 °F) Seta closed cup
Flammable/Explosive limits - lower: Not available.
Flammable/Explosive limits - upper: Not available.
Autoignition temperature: Not applicable
Evaporation rate: Not applicable
Solubility in water: Insoluble
Partition coefficient (n-octanol/water): Not available.
VOC content: 2.48 %; 36 g/l (Calculated, as packaged)
Viscosity: Not available.
Decomposition temperature: Not available.

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions of storage and use.

Hazardous reactions: Will not occur.

Hazardous decomposition products: Methanol is liberated slowly upon exposure to moisture.

Incompatible materials: Oxidizing agents.

Reactivity: Not available.

Conditions to avoid: Exposure to moisture.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Inhalation, Skin contact, Eye contact

Potential Health Effects/Symptoms

Inhalation: May be harmful if inhaled. Methanol is released during application and cure, which may affect the nervous system causing dizziness, headache or nausea.

Skin contact: Prolonged or repeated contact with uncured sealant may cause skin irritation.

Eye contact: Vapors may irritate eyes. Contact with eyes will cause irritation. Symptoms include itching, burning, redness and tearing.

Ingestion: Harmful if swallowed. Not expected under normal conditions of use.

Acute inhalation product toxicity: The substance or mixture has no acute inhalation toxicity.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Limestone	None	Nuisance dust
Phthalate ester	None	Irritant
Silane derivative	None	Irritant, Allergen
Quartz (SiO2)	None	Immune system, Lung, Some evidence of carcinogenicity

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Limestone	No	No	No
Phthalate ester	No	No	No
Silane derivative	No	No	No
Quartz (SiO2)	Known To Be Human Carcinogen.	Group 1	No

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

Hazardous waste number: It is the responsibility of the user to determine if an item is hazardous as defined in the Resource Conservation and Recovery Act (RCRA) at the time of disposal. Product uses, transformations, mixtures, processes, etc., may render the resulting material hazardous, under the criteria of ignitability, corrosivity, reactivity and toxicity characteristics of the Toxicity Characteristics Leaching Procedure (TCLP) 40 CFR 261.20-24.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

International Air Transportation (ICAO/IATA)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

Water Transportation (IMO/IMDG)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.

TSCA 12 (b) Export Notification: None above reporting de minimis

CERCLA/SARA Section 302 EHS: None above reporting de minimis
CERCLA/SARA Section 311/312: Delayed Health, Immediate Health
CERCLA/SARA Section 313: None above reporting de minimis

California Proposition 65: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. This product contains a chemical known in the State of California to cause cancer.

Canada Regulatory Information

CEPA DSL/NDSL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: This Safety Data Sheet contains changes from the previous version in Section(s):
3, 8, 11, 15

Prepared by: Mary Ellen Roddy, Sr. Regulatory Affairs Specialist

Issue date: 10/20/2015

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H2O Adhesive

Safety Data Sheet

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 12/11/2015 Supersedes: 01/30/2013 SDS# 16419 Version: 22

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : H2O Adhesive

Product form : Mixture

Other means of identification : H2O Adhesive - White or Green

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Adhesive for laminate

1.3. Details of the supplier of the safety data sheet

Wilsonart LLC
P.O. Box 6110
Temple, TX 76503
Information phone: 800-433-3222 (USA)
In Case of Emergency Contact CHEMTREC (International): 703-527-3887

1.4. Emergency telephone number

Emergency number : CHEMTREC: (800) 424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Eye Irrit. 2A H319

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :

GHS07

Signal word (GHS-US) : **Warning**

Hazard statements (GHS-US) : H319 - Causes serious eye irritation

Precautionary statements (GHS-US) : P264 - Wash hands, forearms and face thoroughly after handling
P280 - Wear protective gloves, eye protection, protective clothing
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337+P313 - If eye irritation persists: Get medical advice/attention

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%
Resin acids and rosin acids, potassium salts	(CAS No) 61790-50-9	0.5 - 1.5
Benzene, 1,1'-oxybis-, tetrapropylene derivatives, sulfonated, sodium salts	(CAS No) 119345-04-9	0.1 - 1

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.

First-aid measures after inhalation : IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if breathing is affected. If breathing is difficult, supply oxygen.

First-aid measures after skin contact : IF ON SKIN (or clothing): Remove affected clothing and wash all exposed skin with water for at least 15 minutes. If irritation develops or persists, get medical attention.

First-aid measures after eye contact : IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. If pain, blinking, or irritation develops or persists, get medical attention. Continue rinsing.

First-aid measures after ingestion : IF SWALLOWED: rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries : Causes serious eye irritation.

Symptoms/injuries after inhalation : May cause respiratory irritation.

Symptoms/injuries after skin contact : May cause skin irritation.

Symptoms/injuries after eye contact : Causes serious eye irritation.

Symptoms/injuries after ingestion : May cause gastrointestinal irritation.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire. Foam. Carbon dioxide. Dry chemical. Halons.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Not flammable. Dry adhesive will burn.

Explosion hazard : Product is not explosive.

Reactivity : No dangerous reactions known under normal conditions of use.

5.3. Advice for firefighters

Precautionary measures fire : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not dispose of fire-fighting water in the environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate area. Ventilate area. Keep upwind. Spill should be handled by trained clean-up crews properly equipped with respiratory equipment and full chemical protective gear (see Section 8).

6.1.1. For non-emergency personnel

Protective equipment : Wear Protective equipment as described in Section 8.

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Wear suitable protective clothing, gloves and eye or face protection. Approved supplied-air respirator, in case of emergency.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for cleaning up : Wear suitable protective clothing. Soak up residue with an absorbent such as clay, sand or other suitable material. Sweep or shovel spills into appropriate container for disposal. This material and its container must be disposed of in a safe way, and as per local legislation.

6.4. Reference to other sections

See Sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. Avoid breathing vapours, mist. Use only in well-ventilated areas. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep from freezing. Store in a cool, dry area away from sunlight and high temperatures. Keep the container tightly closed.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Benzene, 1,1'-oxybis-, tetrapropylene derivatives, sulfonated, sodium salts (119345-04-9)	
Remark (ACGIH)	OELs not established
Remark (OSHA)	OELs not established

Resin acids and rosin acids, potassium salts (61790-50-9)	
Remark (ACGIH)	OELs not established
Remark (OSHA)	OELs not established

8.2. Exposure controls

Appropriate engineering controls : Provide adequate general and local exhaust ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof equipment with flammable materials. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment : Gloves. Protective goggles. Wear chemically impervious apron over labcoat and full coverage clothing.

Hand protection : Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296. Suggested glove materials are: Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol laminate, PVC or vinyl. Suitable gloves for this specific application can be recommended by the glove supplier.

Eye protection : Wear eye protection, including chemical splash goggles and a face shield when possibility exists for eye contact due to spraying liquid or airborne particles.

Skin and body protection : Wear long sleeves, and chemically impervious PPE/coveralls to minimize bodily exposure.

Respiratory protection : Use NIOSH-approved dust/particulate respirator. Where vapor, mist, or dust exceed PELs or other applicable OELs, use NIOSH-approved respiratory protective equipment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Appearance : Smooth. Paste.

Color : White.

Odor : Slight. Ammonia-like.

Odor Threshold : No data available

pH : 10 - 12

Relative evaporation rate (butylacetate=1) : No data available

Melting point : Similar to water

Freezing point : No data available

Boiling point : Similar to water

Flash point : No data available

Auto-ignition temperature : No data available

Decomposition temperature : No data available

Flammability (solid, gas) : No data available

Vapour pressure : Equivalent to water

Relative vapour density at 20 °C : Equivalent to water

Relative density : 1.09 (~ 9.1 lb/gal)

Solubility : Soluble in water.

Log Pow : No data available

Log Kow : No data available

Viscosity, kinematic : No data available

Viscosity, dynamic : No data available

Explosive properties : No data available
Oxidising properties : No data available
Explosive limits : No data available

9.2. Other information

VOC content : < 20 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use.

10.2. Chemical stability

Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

Freezing and boiling temperatures.

10.5. Incompatible materials

Strong acids. Strong bases. Copper alloys.

10.6. Hazardous decomposition products

Carbon oxides (CO, CO_2). Hydrocarbons.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified
Skin corrosion/irritation : Not classified
pH: 10 - 12
Serious eye damage/irritation : Causes serious eye irritation.
pH: 10 - 12
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : Not classified
Specific target organ toxicity (repeated exposure) : Not classified
Aspiration hazard : Not classified
Symptoms/injuries after inhalation : May cause respiratory irritation.
Symptoms/injuries after skin contact : May cause skin irritation.
Symptoms/injuries after eye contact : Causes serious eye irritation.
Symptoms/injuries after ingestion : May cause gastrointestinal irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : No information available.

12.2. Persistence and degradability

H2O Adhesive	
Persistence and degradability	No information available.

12.3. Bioaccumulative potential

H2O Adhesive	
Bioaccumulative potential	No information available.

12.4. Mobility in soil

H2O Adhesive	
Ecology - soil	No information available.

12.5. Other adverse effects

Other adverse effects : No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Obtain the consent of pollution control authorities before discharging to wastewater treatment plants.

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment.

SECTION 14: Transport information

In accordance with DOT

Not hazardous for transport

Additional information

Other information : No supplementary information available.

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

H2O Adhesive	
All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory or are exempt	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

15.2. International regulations

No additional information available.

15.3. US State regulations

WARNING! This product contains chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm.

2-Chloro-1,3-butadiene (126-99-8)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
Yes	No	No	No	Not available

Formaldehyde (50-00-0)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
Yes	No	No	No	40 (gas) µg/day

Quinoline (91-22-5)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
Yes	No	No	No	Not available

Naphthalene (91-20-3)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
Yes	No	No	No	5.8 µg/day

Potassium hydroxide (1310-58-3)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

2-Chloro-1,3-butadiene (126-99-8)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

Zinc oxide (1314-13-2)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Massachusetts - Right To Know List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

Formaldehyde (50-00-0)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

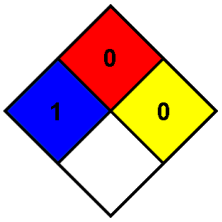
Quinoline (91-22-5)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

Naphthalene (91-20-3)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

SECTION 16: Other information

Indication of changes	:	Revision 1.0: New SDS Created.
Revision date	:	12/11/2015
Other information	:	Author: BCS.

NFPA health hazard	:	1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.
NFPA fire hazard	:	0 - Materials that will not burn.
NFPA reactivity	:	0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health	:	1
Flammability	:	0
Physical	:	0
Personal Protection	:	

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product

MSDS Material Safety Data Sheet

Ralph Wilson Plastics Company

H20 Adhesive

1 PRODUCT AND COMPANY IDENTIFICATION

Common Name: H20 Adhesive

wilsonart

Manufacturer: RALPH WILSON PLASTICS COMPANY
P. O. BOX 6110 – 2400 WILSON PLACE
TEMPLE, TX 76503
INFORMATION PHONE: 800-433-3222 (USA)

Trade Name: H20 Adhesive or H20 Waterborne Contact Adhesive

Material Uses: Adhesive for laminate

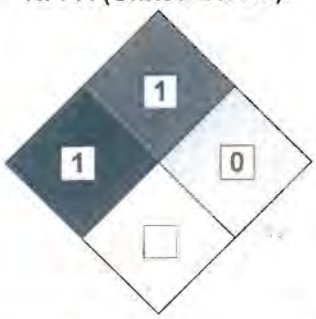
In Case of Emergency Contact CHEMTREC: 800-424-9300 (USA)
703-527-3887 (INTERNATIONAL)

2 HAZARDS IDENTIFICATION

Route of Entry: Skin, eyes, inhalation, ingestion.
Target Organs: None.
Skin Contact: May cause skin irritation.
Eye Contact: May cause eye irritation.
Inhalation: Breathing vapors may cause irritation to the respiratory tract.
Ingestion: Not an expected route of entry. If ingested it may cause irritation to the gastro-intestinal tract.

HMIS (United States):	
HEALTH	1
FLAMMABILITY	1
REACTIVITY	0
PPE	B

NFPA (United States):



WHMIS (Canada): Not classified as hazardous

3 COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS#	% by Weight
Water	7732-18-5	40 – 50
Polychloroprene	9010-98-4	30 – 40
Resin Dispersion	Not Available	20 – 40
Zinc Oxide	1314-13-2	1 – 3
Resin Acid & Rosin Acid in Sodium and Potassium form	Not Available	< 5

4 FIRST AID MEASURES

Skin Contact: Remove contaminated clothing and wash affected areas with soap and water. If irritation develops, seek medical attention.
Eye Contact: Flush eyes with water for 15 minutes. Remove contact lenses prior to water flush. Seek medical attention.

Inhalation: Remove patient to fresh air. If patient is having difficulty breathing, seek immediate medical attention. If not breathing, clear airway and start mouth-to-mouth artificial respiration (or use bag-mask respirator). Seek immediate medical attention.
Ingestion: DO NOT induce vomiting. Seek immediate medical attention. DO NOT give anything by mouth to an unconscious person.

5 FIRE FIGHTING MEASURES

Flash Point: Not Applicable.
Flash Point Method: Not Applicable.
Autoignition Temp.: Not Applicable.
Burning Rate: Material is not flammable. Dry adhesive will burn.
Flammability Classification: Not Applicable.
Firefighting Equipment: Use self-contained breathing apparatus (SCBA) with a full-face piece and pressure demand or other positive-pressure mode and protective gear appropriate for surrounding materials. In case of fire, use water, dry chemical, CO_2, or alcohol foam extinguishing media.
Hazardous Products of Combustion: Carbon Oxides (CO and CO_2) and various Hydrocarbons.

6 ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate PPE. Make sure area is well ventilated. Spilled adhesive may be slippery.
Environmental Precautions: Keep out of sewers and drains.
Clean-Up Methods: Dike and contain spill. Absorb spilled product with vermiculite, dry sand, or earth. Place in a suitable non-leaking container and tightly seal for disposal.

7 HANDLING AND STORAGE

Handling Precautions: Wear appropriate PPE. If used indoors, make sure to provide adequate ventilation to prevent vapor build-up. Avoid breathing of vapors.
Storage Requirements: Store in a cool, dry, well-ventilated area. Avoid freezing temperatures. Minimize contact with atmospheric air to prevent inoculation with microorganisms.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Use in a well ventilated area. Ensure that a working eyewash and safety shower are in the work area.
Protective Equipment: Wear safety glasses with side shields, and neoprene or rubber gloves.
Exposure Guidelines / Other:

Product Name	Exposure Limits	
Zinc Oxide (1314-13-2)	OSHA PEL:	TWA 5 mg/m^3 (fume) TWA 15 mg/m^3 (total dust)
		TWA 5 mg/m^3 (respirable dust)
	ACGIH TLV:	TWA 2 mg/m^3 STEL 10 mg/m^3

Consult local authorities and local regulations for exposure limits.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White mobile liquid
Physical State: Liquid
Odor: Slight Ammonia
Autoignition Temp.: Not Applicable
Boiling Point: Similar to water
Flash Point: Not Applicable
Freezing / Melting Point: Similar to water
Molecular Weight: Not Applicable
Percent Volatile: Not Available
pH: 10 – 12

Solubility: Soluble in Water
Specific Gravity / Density: 1.09 (~ 9.1 lb/gal)
Vapor Density: Equivalent to water
Vapor Pressure: Equivalent to water
Viscosity: ~ 600 Cps
VOC: < 20 g/L

10 STABILITY AND REACTIVITY

Stability: Product is stable as supplied.
Conditions to Avoid: Freezing and boiling temperatures.
Materials to Avoid (incompatibility): Strong acids, strong bases, copper and copper alloys.
Hazardous Decomposition Products: Carbon Oxides (CO and CO_2) and various Hydrocarbons.
Hazardous Polymerization: Will not polymerize.

11 TOXICOLOGICAL INFORMATION

Toxicity to Animals: This product has not been tested for animal effects. This product is not expected to be toxic to animals.
Toxicity to Humans: This product has not been tested for human effects. This product is not expected to be toxic to humans.
Acute Toxicity to Humans: No additional information.
Chronic Toxicity on Humans: No additional information.
Carcinogenic Effects: No additional information.
Mutagenic Effects: No additional information.
Teratogenic Effects: No additional information.
Developmental Toxicity: No additional information.

12 ECOLOGICAL INFORMATION

Ecotoxicity: Not Available.
BOD5 and COD: Not Available.
Biodegradable / OECD: Not Available.
Mobility: Not Available.
Toxicity of the Products of Biodegradation: Not Available.
Special Remarks on the Products of Biodegradation: Not Available.

13 DISPOSAL CONSIDERATIONS

Absorb spilled product with vermiculite, dry sand, or earth and allow to solidify. Dispose of solid material in a suitable container.
Dispose of in accordance with Federal, State, and local regulations.

14 TRANSPORT INFORMATION

Restrictions: None known.
DOT Requirements: Not a DOT controlled material (United States).
DOT Classification: Adhesive Resin Compound.
Markings: None.
Packaging Requirements: Keep from freezing.
ADR Requirements: Not an ADR controlled material (Europe).
IMDG Requirements: Not an IMDG controlled material.
IATA Requirements: Not an IATA controlled material.
Marine Pollutant: Not expected to be a marine pollutant.

15 REGULATORY INFORMATION

U.S. Federal Regulations

Chemical (& CAS Number)	SARA 302 (EHS)TPQ	SARA 304 (EHS)Rq	SARA 313 *de minimis*	CERCLA Rq	CAA 112(r) TQ	RCRA Code
None						

All quantities in pounds

State Regulations

Chemical (& CAS Number)	CA Prop 65	MA RTK	MN RTK	NJ RTK	PA RTK	RI RTK
Zinc Oxide (1314-13-2)		X	X	X	X	X

International Regulations

DSL (Canada): The chemicals in this product are listed.
EINECS: The chemicals in this product are listed.
WHMIS: Not classified as hazardous.

16 OTHER INFORMATION

Prepared By: Environmental, Health, and Safety Department, Wilsonart LLC.
Telephone: 254-207-7000. Internet: www.wilsonart.com

Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named manufacturer nor any of its subsidiaries assumes any liability whatsoever for accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

END OF MSDS DOCUMENT

SAFETY DATA SHEET
THE DOW CHEMICAL COMPANY

Part A ME ISC

Product name: VORAMER™ ME 3044 Isocyanate

Issue Date: 06/11/2015
Print Date: 02/16/2016

THE DOW CHEMICAL COMPANY encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: VORAMER™ ME 3044 Isocyanate

Recommended use of the chemical and restrictions on use
Identified uses: For industrial use. Component(s) for the manufacture of urethane polymers. We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

COMPANY IDENTIFICATION
THE DOW CHEMICAL COMPANY
2030 WILLARD H DOW CENTER
MIDLAND MI 48674-0000
UNITED STATES

Customer Information Number: 800-258-2436
SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: CHEMTREC +1 703-527-3887
Local Emergency Contact: 800-424-9300

2. HAZARDS IDENTIFICATION

Hazard classification
This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.
Acute toxicity - Category 4 - Inhalation
Skin irritation - Category 2
Eye irritation - Category 2B
Respiratory sensitisation - Category 1
Skin sensitisation - Category 1
Specific target organ toxicity - single exposure - Category 3
Specific target organ toxicity - repeated exposure - Category 2 - Inhalation

Label elements
Hazard pictograms

Signal word: **DANGER!**

Hazards
Causes skin and eye irritation.
May cause an allergic skin reaction.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
May cause damage to organs (Respiratory Tract) through prolonged or repeated exposure if inhaled.

Precautionary statements

Prevention
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves.
In case of inadequate ventilation wear respiratory protection.

Response
IF ON SKIN: Wash with plenty of soap and water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If skin irritation or rash occurs: Get medical advice/ attention.
If eye irritation persists: Get medical advice/ attention.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician.
Take off contaminated clothing and wash before reuse.

Storage
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Disposal
Dispose of contents/ container to an approved waste disposal plant.

Other hazards
Water Reactive

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: Diphenylmethane Diisocyanate, isomers and homologues
This product is a substance.

Component	CASRN	Concentration
Diphenylmethane Diisocyanate, isomers and homologues	9016-87-9	100.0%
4,4' -Methylenediphenyl diisocyanate	101-68-8	40.0 - 50.0 %

Note
Note: CAS 101-68-8 is an MDI isomer that is part of CAS 9016-87-9.

4. FIRST AID MEASURES

Description of first aid measures
General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Skin contact: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. An MDI skin decontamination study demonstrated that cleaning very soon after exposure is important, and that a polyglycol-based skin cleanser or corn oil may be more effective than soap and water. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be available in work area.

Eye contact: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed
Notes to physician: Maintain adequate ventilation and oxygenation of the patient. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. If you are sensitized to diisocyanates, consult your physician regarding working with other respiratory irritants or sensitizers. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the

patient. Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Unsuitable extinguishing media: Do not use direct water stream. May spread fire.

Special hazards arising from the substance or mixture
Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Isocyanates. Hydrogen cyanide. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: Material reacts slowly with water, releasing carbon dioxide which can cause pressure buildup and rupture of closed containers. Elevated temperatures accelerate this reaction. Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Dense smoke is produced when product burns.

Advice for firefighters
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Water is not recommended, but may be applied in large quantities as a fine spray when other extinguishing agents are not available. Do not use direct water stream. May spread fire. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Move container from fire area if this is possible without hazard. Use water spray to cool fire-exposed containers and fire-affected zone until fire is out. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Keep personnel out of low areas. Keep upwind of spill. Spilled material may cause a slipping hazard. Ventilate area of leak or spill. If available, use foam to smother or suppress. Refer to section 7, Handling, for additional precautionary measures. See Section 10 for more specific information. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Absorb with materials such as: Dirt. Vermiculite. Sand. Clay. Do NOT use absorbent materials such as: Cement powder (Note: may generate heat). Collect in suitable and properly labeled open containers. Do not place in sealed containers. Suitable containers include: Metal drums. Plastic drums. Polylined fiber pacs. Wash the spill site with large quantities of water. Attempt to neutralize by adding suitable decontaminant solution: Formulation 1: sodium carbonate 5 - 10%; liquid detergent 0.2 - 2%; water to make up to 100%, OR Formulation 2: concentrated ammonia solution 3 - 8%; liquid detergent 0.2 - 2%; water to make up to 100%. If ammonia is used, use good ventilation to prevent vapor exposure. Contact your supplier for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. Avoid breathing vapor. Use with adequate ventilation. Keep container tightly closed. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

Conditions for safe storage: Store in a dry place. Protect from atmospheric moisture. Do not store product contaminated with water to prevent potential hazardous reaction. See Section 10 for more specific information. Additional storage and handling information on this product may be obtained by calling your sales or customer service contact.

Storage stability

Storage temperature:	Storage Period:
24 - 41 °C (75 - 106 °F)	6 Month

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
4,4' -Methylenediphenyl diisocyanate	ACGIH	TWA	0.005 ppm
	OSHA Z-1	C	0.2 mg/m3 0.02 ppm

Exposure controls

Engineering controls: Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Exhaust systems should be designed to move the air away from the source of vapor/aerosol generation and people working at this point. The odor and irritancy of this material are inadequate to warn of excessive exposure.

Individual protection measures

Eye/face protection: Use chemical goggles.

Skin protection

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Polyethylene. Chlorinated polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Viton. Neoprene. Polyvinyl chloride ("PVC" or "vinyl"). Nitrile/butadiene rubber ("nitrile" or "NBR"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Atmospheric levels should be maintained below the exposure guideline. When atmospheric levels may exceed the exposure guideline, use an approved air-purifying respirator equipped with an organic vapor sorbent and a particle filter. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive-pressure air-supplying respirator (air line or self-contained breathing apparatus). For emergency response or for situations where the atmospheric level is unknown, use an approved positive-pressure self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply.

The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Liquid.
Color	Brown
Odor	Musty
Odor Threshold	0.4 ppm *Based on Literature for MDI.* Odor is inadequate warning of excessive exposure.
pH	Not applicable
Melting point/range	Not applicable
Freezing point	forms crystals below 10°C
Boiling point (760 mmHg)	decomposes prior to boiling
Flash point	**closed cup** > 204 °C (> 399 °F) *Literature*
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	Not Applicable
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	< 0.00001 mmHg at 25 °C (77 °F) *Literature*
Relative Vapor Density (air = 1)	8.5 *Literature*
Relative Density (water = 1)	1.24 at 20 °C (68 °F) / 20 °C *Literature*
Water solubility	insoluble, reacts, evolution of CO2

Partition coefficient: n-octanol/water	Reacts with water.
Auto-ignition temperature	>600 °C (1,112 °F) *Literature*
Decomposition temperature	no data available
Dynamic Viscosity	160 - 240 mPa.s at 25 °C (77 °F) *ASTM D4889*
Kinematic Viscosity	No test data available
Explosive properties	Not explosive
Oxidizing properties	No
Molecular weight	Not applicable

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: Diisocyanates react with many materials and the rate of reaction increases with temperature as well as increased contact; these reactions can become violent. Contact is increased by stirring or if the other material mixes with the diisocyanate. Diisocyanates are not soluble in water and sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea. Reaction with water will generate carbon dioxide and heat.

Chemical stability: Stable under recommended storage conditions. See Storage, Section 7.

Possibility of hazardous reactions: Can occur. Exposure to elevated temperatures can cause product to decompose and generate gas. This can cause pressure build-up and/or rupturing of closed containers. Polymerization can be catalyzed by: Strong bases. Water.

Conditions to avoid: Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Pressure build-up can be rapid. Avoid moisture. Material reacts slowly with water, releasing carbon dioxide which can cause pressure buildup and rupture of closed containers. Elevated temperatures accelerate this reaction.

Incompatible materials: Avoid contact with: Acids. Alcohols. Amines. Water. Ammonia. Bases. Metal compounds. Moist air. Strong oxidizers. Diisocyanates react with many materials and the rate of reaction increases with temperature as well as increased contact; these reactions can become violent. Contact is increased by stirring or if the other material mixes with the diisocyanate. Diisocyanates are not soluble in water and sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea. Reaction with water will generate carbon dioxide and heat. Avoid contact with metals such as: Aluminum. Zinc. Brass. Tin. Copper. Galvanized metals. Avoid contact with absorbent materials such as: Moist organic absorbents. Avoid unintended contact with polyols. The reaction of polyols and isocyanates generate heat.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Gases are released during decomposition.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity
Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

Typical for this family of materials.
LD50, Rat, > 10,000 mg/kg

Acute dermal toxicity
Prolonged skin contact is unlikely to result in absorption of harmful amounts.

Typical for this family of materials.
LD50, Rabbit, > 9,400 mg/kg

Acute inhalation toxicity
At room temperature, vapors are minimal due to low volatility. However, certain operations may generate vapor or mist concentrations sufficient to cause respiratory irritation and other adverse effects. Such operations include those in which the material is heated, sprayed or otherwise mechanically dispersed such as drumming, venting or pumping. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. May cause pulmonary edema (fluid in the lungs.) Effects may be delayed. Decreased lung function has been associated with overexposure to isocyanates.

LC50, Rat, 4 Hour, dust/mist, 0.49 mg/l
For similar material(s): 2,4'-Diphenylmethane diisocyanate (CAS 5873-54-1).
LC50, Rat, 4 Hour, Aerosol, 0.31 mg/l
For similar material(s): 4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8).
LC50, Rat, 1 Hour, Aerosol, 2.24 mg/l

Skin corrosion/irritation
Prolonged contact may cause slight skin irritation with local redness.
May stain skin.

Serious eye damage/eye irritation
May cause moderate eye irritation.
May cause slight temporary corneal injury.

Sensitization
Skin contact may cause an allergic skin reaction.
Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization.

May cause allergic respiratory reaction.
Reexposure to extremely low isocyanate concentrations may cause allergic respiratory reactions in individuals already sensitized.
Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest.
Occasionally, breathing difficulties may be life threatening.
Effects may be delayed.

Specific Target Organ Systemic Toxicity (Single Exposure)

May cause respiratory irritation.
Route of Exposure: Inhalation
Target Organs: Respiratory Tract

Specific Target Organ Systemic Toxicity (Repeated Exposure)
Tissue injury in the upper respiratory tract and lungs has been observed in laboratory animals after repeated excessive exposures to MDI/polymeric MDI aerosols.

Carcinogenicity
Lung tumors have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/Polymeric MDI (6 mg/m3) for their lifetime. Tumors occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects reported for MDI.

Teratogenicity
In laboratory animals, MDI/polymeric MDI did not cause birth defects; other fetal effects occurred only at high doses which were toxic to the mother.

Reproductive toxicity
No relevant data found.

Mutagenicity
Genetic toxicity data on MDI are inconclusive. MDI was weakly positive in some in vitro studies; other in vitro studies were negative. Animal mutagenicity studies were predominantly negative.

Aspiration Hazard
Based on physical properties, not likely to be an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

Acute toxicity to fish
The measured ecotoxicity is that of the hydrolyzed product, generally under conditions maximizing production of soluble species.
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LC50, Danio rerio (zebra fish), static test, 96 Hour, > 1,000 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), static test, 24 Hour, > 1,000 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
NOEC, Desmodesmus subspicatus (green algae), static test, 72 Hour, Growth rate inhibition, 1,640 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria
EC50, activated sludge, static test, 3 Hour, Respiration rates., > 100 mg/l

Toxicity to soil-dwelling organisms
EC50, Eisenia fetida (earthworms), 14 d, > 1,000 mg/kg

Toxicity to terrestrial plants
EC50, Avena sativa (oats), Growth inhibition, 1,000 mg/l

EC50, Lactuca sativa (lettuce), Growth inhibition, 1,000 mg/l

Persistence and degradability
Biodegradability: In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.
10-day Window: Not applicable
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 302C or Equivalent

Bioaccumulative potential
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Reacts with water. In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.
Bioconcentration factor (BCF): 92 Cyprinus carpio (Carp) 28 d

Mobility in soil
In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

13. DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler. Reclaimer. Incinerator or other thermal destruction device. For additional information, refer to: Handling & Storage Information, MSDS Section 7 Stability & Reactivity Information, MSDS Section10 Regulatory Information, MSDS Section 15

14. TRANSPORT INFORMATION

DOT

Proper shipping name	Environmentally hazardous substance, liquid, n.o.s.(MDI)
UN number	UN 3082
Class	9

Packing group	III
Reportable Quantity	MDI

Classification for SEA transport (IMO-IMDG):

	Not regulated for transport
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
Acute Health Hazard
Chronic Health Hazard
Reactivity Hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
This product contains the following substances which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and which are listed in 40 CFR 372.

Components	**CASRN**
Diphenylmethane Diisocyanate, isomers and homologues	9016-87-9
4,4' -Methylenediphenyl diisocyanate	101-68-8

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103

Components	**CASRN**	**RQ**
4,4' -Methylenediphenyl diisocyanate	101-68-8	5000 lbs RQ

Pennsylvania Worker and Community Right-To-Know Act:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)
This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

United States TSCA Inventory (TSCA)
All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

Product Literature
Additional information on this product may be obtained by calling your sales or customer service contact.

Revision
Identification Number: 101199280 / A001 / Issue Date: 06/11/2015 / Version: 11.0
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
C	Ceiling
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
TWA	8-hour, time-weighted average

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

THE DOW CHEMICAL COMPANY urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

SAFETY DATA SHEET

THE DOW CHEMICAL COMPANY

Part B

Product name: VORAMER™ MB 3099 Polyol

Issue Date: 03/31/2015
Print Date: 02/16/2016

THE DOW CHEMICAL COMPANY encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: VORAMER™ MB 3099 Polyol

Recommended use of the chemical and restrictions on use
Identified uses: For industrial use. Component(s) for the manufacture of urethane polymers. We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

COMPANY IDENTIFICATION
THE DOW CHEMICAL COMPANY
2030 WILLARD H DOW CENTER
MIDLAND MI 48674-0000
UNITED STATES

Customer Information Number: 800-258-2436
SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: CHEMTREC +1 703-527-3887
Local Emergency Contact: 800-424-9300

2. HAZARDS IDENTIFICATION

Hazard classification
This material is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.
Skin irritation - Category 2
Serious eye damage - Category 1
Carcinogenicity - Category 2
Specific target organ toxicity - repeated exposure - Category 2 - Oral

Label elements
Hazard pictograms

Signal word: **DANGER!**

Hazards
Causes skin irritation.
Causes serious eye damage.
Suspected of causing cancer.
May cause damage to organs (Kidney, Liver, Blood) through prolonged or repeated exposure if swallowed.

Precautionary statements

Prevention
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Wash skin thoroughly after handling.
Wear eye protection/ face protection.
Wear protective gloves.
Use personal protective equipment as required.

Response
IF ON SKIN: Wash with plenty of soap and water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
IF exposed or concerned: Get medical advice/ attention.
If skin irritation occurs: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.

Storage
Store locked up.

Disposal
Dispose of contents/ container to an approved waste disposal plant.

Other hazards
no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

Component	CASRN	Concentration

Polyol	Trade secret	>= 40.0 - <= 70.0 %
Polyether polyol 1	Trade secret	>= 15.0 - <= 40.0 %
Polyglycol	Trade secret	>= 1.0 - <= 5.0 %
Triethanolamine	102-71-6	>= 1.0 - <= 10.0 %
N,N-Diethanolamine	111-42-2	>= 1.0 - <= 5.0 %
Polyoxypropylene diamine,	9046-10-0	>= 1.0 - <= 5.0 %

4. FIRST AID MEASURES

Description of first aid measures
General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air; if effects occur, consult a physician.

Skin contact: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be available in work area.

Eye contact: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed
Notes to physician: If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Unsuitable extinguishing media: Do not use direct water stream. May spread fire.

Special hazards arising from the substance or mixture
Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

Advice for firefighters
Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Isolate area. Refer to section 7, Handling, for additional precautionary measures. Keep unnecessary and unprotected personnel from entering the area. Spilled material may cause a slipping hazard. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Contain spilled material if possible. Absorb with materials such as: Dirt. Sand. Sawdust. Collect in suitable and properly labeled containers. Wash the spill site with water. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Keep container closed. This material is hygroscopic in nature. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

Conditions for safe storage: Protect from atmospheric moisture. Store in a dry place. Avoid prolonged exposure to heat and air. Store in the following material(s): Carbon steel. Stainless steel. Polypropylene. Polyethylene-lined container. Teflon. Glass-lined container. Aluminum. Plasite 3066 lined container. Plasite 3070 lined container. 316 stainless steel. See Section 10 for more specific information.

Storage stability

Storage temperature:	Storage Period:
15 - 35 °C (59 - 95 °F)	6 Month

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Triethanolamine	ACGIH	TWA	5 mg/m3
N,N-Diethanolamine	Dow IHG	TWA	0.2 mg/m3
	Dow IHG	TWA	Absorbed via skin
	ACGIH	TWA Inhalable fraction and vapor	1 mg/m3
	ACGIH	TWA	Absorbed via skin

Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use chemical goggles.

Skin protection

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: When prolonged or frequently repeated contact could occur, use protective clothing chemically resistant to this material. Selection of specific items such as faceshield, boots, apron, or full-body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions, no respiratory protection should be needed; however, if material is heated or sprayed, use an approved air-purifying respirator.
The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	Liquid.
Color	Clear
Odor	Amine.
Odor Threshold	No test data available
pH	Not applicable
Melting point/range	No test data available
Freezing point	No test data available
Boiling point (760 mmHg)	> 115 °C (> 239 °F) *Literature*
Flash point	**closed cup** > 100 °C (> 212 °F) *Literature*
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	Not applicable to liquids
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	No test data available
Relative Vapor Density (air = 1)	No test data available
Relative Density (water = 1)	1.02 at 25 °C (77 °F) / 25 °C *Literature*
Water solubility	soluble to slightly soluble at room temperature
Partition coefficient: n-octanol/water	no data available
Auto-ignition temperature	No test data available
Decomposition temperature	No test data available
Dynamic Viscosity	700 cP *ASTM D4287*
Kinematic Viscosity	no data available
Explosive properties	Not explosive
Oxidizing properties	No
Molecular weight	no data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: no data available

Chemical stability: Stable under recommended storage conditions. See Storage, Section 7.

Possibility of hazardous reactions: Will not occur by itself.

Conditions to avoid: Product can oxidize at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

Incompatible materials: Avoid contact with oxidizing materials. Avoid contact with: Strong acids. Strong bases. Avoid contact with metals such as: Brass. Zinc. Copper. Avoid unintended contact with isocyanates. The reaction of polyols and isocyanates generates heat.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon dioxide. Alcohols. Ethers. Hydrocarbons. Ketones. Polymer fragments.

11. TOXICOLOGICAL INFORMATION

Toxicological information on this product or its components appear in this section when such data is available.

Acute toxicity

Acute oral toxicity
Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

As product: Single dose oral LD50 has not been determined.
LD50, Rat, > 2,000 mg/kg Estimated.

Acute dermal toxicity
Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.
LD50, Rabbit, > 2,000 mg/kg Estimated.

Acute inhalation toxicity
At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous. Vapor from heated material or mist may cause respiratory irritation.
As product: The LC50 has not been determined.

Skin corrosion/irritation
Prolonged contact may cause skin irritation with local redness.
Repeated exposure may cause irritation, even a burn.

Serious eye damage/eye irritation
May cause severe eye irritation.
May cause severe corneal injury.

Sensitization
Contains component(s) which have shown limited potential to produce allergic skin reactions.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
Contains component(s) which have been reported to cause effects on the following organs in animals:
Blood.
Kidney.
Liver.

Carcinogenicity
Findings from a chronic diethanolamine skin painting study by NTP include liver and kidney tumors in mice; no tumors were observed in rats. Mechanistic studies indicate that tumor formation is of questionable relevance to humans.

Teratogenicity
Contains component(s) which did not cause birth defects in animals; other fetal effects occurred only at doses toxic to the mother.

Reproductive toxicity
Contains component(s) which have interfered with reproduction in males.

Mutagenicity
In vitro genetic toxicity studies were negative for component(s) tested. Genetic toxicity studies in animals were negative for component(s) tested.

Aspiration Hazard
Based on physical properties, not likely to be an aspiration hazard.

COMPONENTS INFLUENCING TOXICOLOGY:

Polyol

Acute inhalation toxicity
At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous. Vapor from heated material or mist may cause respiratory irritation.

The LC50 has not been determined.

Polyether polyol 1

Acute inhalation toxicity
At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous. Vapor from heated material or mist may cause respiratory irritation.

The LC50 has not been determined.

Polyglycol

Acute inhalation toxicity
At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous. Vapor from heated material or mist may cause respiratory irritation.
For narcotic effects: No relevant data found.

The LC50 has not been determined.

Triethanolamine

Acute inhalation toxicity
Based on the available data, respiratory irritation was not observed. No deaths occurred following exposure to a saturated atmosphere.

N,N-Diethanolamine

Acute inhalation toxicity
LC0, Rat, male, 4 Hour, Aerosol, 3.35 mg/l

Polyoxypropylene diamine,

Acute inhalation toxicity
At room temperature, exposure to vapor is minimal due to low volatility; vapor from heated material may cause respiratory irritation. Excessive exposure may cause severe irritation to upper respiratory tract (nose and throat) and lungs. Excessive exposure may cause lung injury.

The LC50 has not been determined.

Carcinogenicity

Component	**List**	**Classification**
N,N-Diethanolamine	IARC	Group 2B: Possibly carcinogenic to humans
	ACGIH	A3: Confirmed animal carcinogen with unknown relevance to humans.

12. ECOLOGICAL INFORMATION

Ecotoxicological information on this product or its components appear in this section when such data is available.

Toxicity

Polyol

Acute toxicity to fish
For this family of materials:
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), semi-static test, 21 d, mortality, >= 10 mg/l
LOEC, Daphnia magna (Water flea), semi-static test, 21 d, mortality, > 10 mg/l

Polyether polyol 1

Acute toxicity to fish
Based on information for a similar material:
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Polyglycol

Acute toxicity to fish
For this family of materials:
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Triethanolamine

Acute toxicity to fish
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
May increase pH of aquatic systems to > pH 10 which may be toxic to aquatic organisms.
LC50, Pimephales promelas (fathead minnow), flow-through test, 96 Hour, 11,800 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
EC50, Ceriodaphnia dubia (water flea), static test, 48 Hour, 609.9 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
ErC50, alga Scenedesmus sp., static test, 72 Hour, Growth rate inhibition, 512 mg/l, OECD Test Guideline 201 or Equivalent, Test substance: Neutralised product

Toxicity to bacteria
EC50, activated sludge, 3 Hour, > 1,000 mg/l, OECD 209 Test

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 16 mg/l
LOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 31 mg/l

N,N-Diethanolamine

Acute toxicity to fish
Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).
May increase pH of aquatic systems to > pH 10 which may be toxic to aquatic organisms.
LC50, Pimephales promelas (fathead minnow), static test, 96 Hour, 1,460 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), static test, 48 Hour, 55 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate inhibition, 2.2 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria
EC50, Respiration inhibition, 3 Hour, > 1,000 mg/l, activated sludge test (OECD 209)

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), semi-static test, 21 d, 0.78 mg/l
LOEC, Daphnia magna (Water flea), semi-static test, 21 d, 1.56 mg/l

Polyoxypropylene diamine,

Acute toxicity to fish
Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).
LC50, Fish., semi-static test, 96 Hour, > 15 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), static test, 48 Hour, 80 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
ErC50, Algae, static test, 72 Hour, Growth rate, 15 mg/l, OECD Test Guideline 201 or Equivalent
NOEC, Algae, static test, 72 Hour, Growth rate, 0.32 mg/l, OECD Test Guideline 201

Toxicity to bacteria
EC50, activated sludge, Respiration inhibition, 3 Hour, 750 mg/l, OECD Test Guideline 209
NOEC, activated sludge, Respiration inhibition, 3 Hour, 310 mg/l, OECD Test Guideline 209

Persistence and degradability

Polyol

Biodegradability: For this family of materials: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).

Polyether polyol 1

Biodegradability: Based on information for a similar material: Material is expected to be readily biodegradable.

Polyglycol

Biodegradability: For this family of materials: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Triethanolamine

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).
10-day Window: Pass
Biodegradation: 97 %
Exposure time: 28 d
Method: OECD Test Guideline 301A or Equivalent
10-day Window: Not applicable

Biodegradation: 89 %
Exposure time: 14 d
Method: OECD Test Guideline 302B or Equivalent

Theoretical Oxygen Demand: 2.04 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 0.097 d
Method: Estimated.

N,N-Diethanolamine

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).
10-day Window: Pass
Biodegradation: 93 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent

Theoretical Oxygen Demand: 2.13 mg/mg

Chemical Oxygen Demand: 1.33 mg/mg Dichromate

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 0.167 d
Method: Estimated.

Polyoxypropylene diamine,

Biodegradability: Material is not readily biodegradable according to OECD/EEC guidelines.
10-day Window: Fail
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

Bioaccumulative potential

Polyol

Bioaccumulation: For this family of materials: No bioconcentration is expected because of the relatively high water solubility.

Polyether polyol 1

Bioaccumulation: No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1000).

Polyglycol

Bioaccumulation: For this family of materials: No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1000).

Triethanolamine

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): -2.3 at 25 °C Measured
Bioconcentration factor (BCF): < 3.9 Cyprinus carpio (Carp) 42 d Measured

N,N-Diethanolamine
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): -2.18 at 25 °C OECD Test Guideline 107 or Equivalent

Polyoxypropylene diamine,
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 1.34 Measured

Mobility in soil

Polyol
No relevant data found.

Polyether polyol 1
No data available.

Polyglycol
No data available.

Triethanolamine
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 10 Estimated.

N,N-Diethanolamine
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 1 Estimated.

Polyoxypropylene diamine,
No relevant data found.

13. DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler. Reclaimer. Incinerator or other thermal destruction device. For additional information, refer to: Handling & Storage Information, MSDS Section 7 Stability & Reactivity Information, MSDS Section10 Regulatory Information, MSDS Section 15

14. TRANSPORT INFORMATION

DOT

Proper shipping name	Environmentally hazardous substance, liquid, n.o.s.(Diethanolamine)
UN number	UN 3082
Class	9
Packing group	III
Reportable Quantity	Diethanolamine

Classification for SEA transport (IMO-IMDG):

	Not regulated for transport
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
Acute Health Hazard
Chronic Health Hazard

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
This product contains the following substances which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and which are listed in 40 CFR 372.

Components	**CASRN**
N,N-Diethanolamine	111-42-2

Pennsylvania Worker and Community Right-To-Know Act:
The following chemicals are listed because of the additional requirements of Pennsylvania law:

Components	CASRN
Triethanolamine	102-71-6
N,N-Diethanolamine	111-42-2

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)
WARNING: This product contains a chemical(s) known to the State of California to cause cancer.

Components	CASRN
N,N-Diethanolamine	111-42-2

United States TSCA Inventory (TSCA)
All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

Product Literature
Additional information on this product may be obtained by calling your sales or customer service contact.

Revision
Identification Number: 101190542 / A001 / Issue Date: 03/31/2015 / Version: 9.0
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

Absorbed via skin	Absorbed via skin
ACGIH	USA. ACGIH Threshold Limit Values (TLV)
Dow IHG	Dow Industrial Hygiene Guideline
TWA	8-hour, time-weighted average

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

THE DOW CHEMICAL COMPANY urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the

control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

SAFETY DATA SHEET

1. Identification

Material name: ACOUSTICAL SEALANT 30CTG
Material: 93170X 330

Recommended use and restriction on use

Recommended use: Sealant
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

Tremco Canadian Sealants
220 Wicksteed Ave
Toronto ON M4H 1G7
CA

Contact person:	EH&S Department
Telephone:	1-800-263-6046
Emergency telephone number:	1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Health Hazards

Germ Cell Mutagenicity	Category 1B
Carcinogenicity	Category 1A

Unknown toxicity - Health

Acute toxicity, oral	38.78 %
Acute toxicity, dermal	39.38 %
Acute toxicity, inhalation, vapor	99.72 %
Acute toxicity, inhalation, dust or mist	98.44 %

Unknown toxicity - Environment

Acute hazards to the aquatic environment	97.71 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:

Signal Word: Danger

Hazard Statement: May cause genetic defects.
May cause cancer.

Precautionary Statement:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Response: If exposed or concerned: Get medical advice/attention.

Storage: Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Clay	1332-58-7	30 - 60%
Calcium Carbonate (Limestone)	1317-65-3	15 - 40%
Stoddard solvent (Mineral Spirits)	8052-41-3	7 - 13%
Residual oils (petroleum)	64742-62-7	5 - 10%
Petroleum distillates	64742-47-8	1 - 5%
Crystalline Silica (Quartz)/ Silica Sand	14808-60-7	0.5 - 1.5%
Titanium dioxide	13463-67-7	0.1 - 1%
1,2,4-Trimethylbenzene	95-63-6	0.1 - 1%
Nonane	111-84-2	0.1 - 1%
Carbon Black	1333-86-4	0.1 - 1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor/.../if you feel unwell. Rinse mouth.

Inhalation: Move to fresh air.

Skin Contact: Wash skin thoroughly with soap and water. If skin irritation occurs: Get medical advice/attention.

Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. If eye irritation persists: Get medical advice/attention.

Most important symptoms/effects, acute and delayed

Symptoms: May cause skin and eye irritation.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: No data available.

Methods and material for containment and cleaning up: Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer. Environmental manager must be informed of all major spillages.

7. Handling and storage

Precautions for safe handling: Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level. Use mechanical ventilation in case of handling which causes formation of dust.

Conditions for safe storage, including any incompatibilities: Store locked up.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
Clay - Respirable fraction.	TWA	2 mg/m3	US. ACGIH Threshold Limit Values (2011)
	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Clay - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Calcium Carbonate (Limestone) - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Calcium Carbonate (Limestone) - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Stoddard solvent (Mineral Spirits)	TWA	100 ppm	US. ACGIH Threshold Limit Values (2011)
	PEL	500 ppm 2,900 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Residual oils (petroleum) - Inhalable fraction.	TWA	5 mg/m3	US. ACGIH Threshold Limit Values (03 2014)
Petroleum distillates - Non-aerosol. - as total hydrocarbon vapor	TWA	200 mg/m3	US. ACGIH Threshold Limit Values (2011)
	TWA	200 mg/m3	US. ACGIH Threshold Limit Values (2011)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3	US. ACGIH Threshold Limit Values (2011)
Crystalline Silica (Quartz)/ Silica Sand - Respirable.	TWA	2.4 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.1 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Crystalline Silica (Quartz)/ Silica Sand - Total dust.	TWA	0.3 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Titanium dioxide	TWA	10 mg/m3	US. ACGIH Threshold Limit Values (2011)
Titanium dioxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
1,2,4-Trimethylbenzene	TWA	25 ppm	US. ACGIH Threshold Limit Values

			(2011)
Nonane	TWA	200 ppm	US. ACGIH Threshold Limit Values (02 2012)
Carbon Black - Inhalable fraction.	TWA	3 mg/m3	US. ACGIH Threshold Limit Values (2011)
Carbon Black	PEL	3.5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

Chemical name	**type**	**Exposure Limit Values**	**Source**
Clay - Respirable.	TWA	2 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Clay - Respirable fraction.	TWAEV	2 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Clay - Respirable dust.	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Calcium Carbonate (Limestone) - Total dust.	STEL	20 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium Carbonate (Limestone) - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium Carbonate (Limestone) - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Stoddard solvent (Mineral Spirits)	STEL	580 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	290 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)

Stoddard solvent (Mineral Spirits)	TWAEV	100 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Stoddard solvent (Mineral Spirits)	TWA	100 ppm 525 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Residual oils (petroleum) - Mist.	TWA	1 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)
	TWA	0.2 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (05 2013)
Petroleum distillates - Non-aerosol. - as total hydrocarbon vapor	TWA	200 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Petroleum distillates	TWAEV	525 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Petroleum distillates - Non-aerosol. - as total hydrocarbon vapor	TWAEV	200 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	TWAEV	200 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)

Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Crystalline Silica (Quartz)/ Silica Sand - Respirable.	TWAEV	0.10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA	0.1 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide	TWAEV	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
1,2,4-Trimethylbenzene	TWA	25 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
1,2,4-Trimethylbenzene	TWAEV	25 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
1,2,4-Trimethylbenzene	TWA	25 ppm 123 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Carbon Black - Inhalable	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (09 2011)
Carbon Black	TWAEV	3.5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Carbon Black	TWA	3.5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

Appropriate Engineering Controls	Mechanical ventilation or local exhaust ventilation may be required. Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of dust.

Individual protection measures, such as personal protective equipment

General information:	Use personal protective equipment as required.
Eye/face protection:	Wear goggles/face shield.
Skin Protection	
Hand Protection:	Use suitable protective gloves if risk of skin contact.
Other:	No data available.
Respiratory Protection:	In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.
Hygiene measures:	Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product.

9. Physical and chemical properties

Appearance

Physical state:	solid
Form:	Paste
Color:	Dark gray
Odor:	Slight odor
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	400 °C 752 °F
Flash Point:	No data available.
Evaporation rate:	Slower than Ether
Flammability (solid, gas):	No
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density:	1.62
Solubility(ies)	
Solubility in water:	Practically Insoluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.

Viscosity: No data available.

10. Stability and reactivity

Reactivity: No data available.

Chemical Stability: Material is stable under normal conditions.

Possibility of Hazardous Reactions: No data available.

Conditions to Avoid: Avoid heat or contamination.

Incompatible Materials: Avoid contact with oxidizing agents (e.g. nitric acid, peroxides and chromates).

Hazardous Decomposition Products: Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Ingestion: May be ingested by accident. Ingestion may cause irritation and malaise.

Inhalation: In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.

Skin Contact: Causes mild skin irritation.

Eye contact: Eye contact is possible and should be avoided.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 51,142.74 mg/kg

Dermal
Product: ATEmix: 10,600.84 mg/kg

Inhalation
Product: No data available.

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

Stoddard solvent (Mineral Spirits)	Irritating
Residual oils (petroleum)	in vivo (Rabbit, 24 hrs): Not irritating
Petroleum distillates	in vivo (Rabbit, 24 - 72 hrs): Not irritating
Titanium dioxide	in vivo (Rabbit, 24 - 72 hrs): Not irritating
1,2,4-Trimethylbenzene	in vivo (Rabbit, 30 min): Not irritating
Nonane	in vivo (Rabbit, 24 - 72 hrs): Not irritating
Carbon Black	in vivo (Rabbit, 24 - 72 hrs): Not irritating

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Residual oils (petroleum)	Overall evaluation: Not classifiable as to carcinogenicity to humans. Overall evaluation: Carcinogenic to humans.
Crystalline Silica (Quartz)/ Silica Sand	Overall evaluation: Carcinogenic to humans.
Titanium dioxide	Overall evaluation: Possibly carcinogenic to humans.
Carbon Black	Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

Residual oils (petroleum)	Known To Be Human Carcinogen.
Crystalline Silica (Quartz)/ Silica Sand	Known To Be Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Specified substance(s):

Petroleum distillates	LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss), 96 h): 2.9 mg/l Mortality
Titanium dioxide	LC 50 (Mummichog (Fundulus heteroclitus), 96 h): > 1,000 mg/l Mortality
1,2,4-Trimethylbenzene	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 7.19 - 8.28 mg/l Mortality

Aquatic Invertebrates
Product: No data available.

Specified substance(s):

Titanium dioxide	EC 50 (Water flea (Daphnia magna), 48 h): > 1,000 mg/l Intoxication
1,2,4-Trimethylbenzene	LC 50 (Scud (Elasmopus pectinicrus), 24 h): 4.89 - 5.62 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Residual oils (petroleum)	NOAEL (Oncorhynchus mykiss, 14 d): >= 1,000 mg/l QSAR
Petroleum distillates	NOAEL (Oncorhynchus mykiss, 28 d): 0.098 mg/l QSAR
Titanium dioxide	LC 0 (Coregonus autumnalis migratorius G., 30 d): 3 mg/l experimental result
Nonane	NOAEL (Oncorhynchus mykiss, 28 d): 0.252 mg/l QSAR
Carbon Black	NOAEL (Salmo sp., 30 d): 17 mg/l QSAR

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: No data available.

BOD/COD Ratio
Product: No data available.

Bioaccumulative Potential
Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Specified substance(s):

Stoddard solvent (Mineral Spirits)	Log Kow: 3.16 - 7.15
Nonane	Log Kow: 5.46

Mobility in Soil: No data available.

Other Adverse Effects: No data available.

13. Disposal considerations

Disposal instructions: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

14. Transport information

TDG:

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

Not Regulated

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
Nonane	100 lbs.
Xylene	100 lbs.
Naphthalene	100 lbs.
Ethylbenzene	1000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Delayed (Chronic) Health Hazard

SARA 302 Extremely Hazardous Substance
None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

Chemical Identity	Reportable quantity
Nonane	100 lbs.
Xylene	100 lbs.
Naphthalene	100 lbs.
Ethylbenzene	1000 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
Clay	500 lbs
Calcium Carbonate (Limestone)	500 lbs
Stoddard solvent (Mineral Spirits)	500 lbs
Residual oils (petroleum)	500 lbs
Petroleum distillates	500 lbs
Crystalline Silica (Quartz)/ Silica Sand	500 lbs
Titanium dioxide	500 lbs
1,2,4-Trimethylbenzene	500 lbs
Nonane	500 lbs
Carbon Black	500 lbs

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
Clay
Calcium Carbonate (Limestone)
Stoddard solvent (Mineral Spirits)
Petroleum distillates

US. Massachusetts RTK - Substance List

Chemical Identity
Clay
Calcium Carbonate (Limestone)
Stoddard solvent (Mineral Spirits)
Petroleum distillates
Crystalline Silica (Quartz)/ Silica Sand

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
Clay
Calcium Carbonate (Limestone)
Stoddard solvent (Mineral Spirits)
Petroleum distillates

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

Other Regulations:

Regulatory VOC (less water and exempt solvent):	150 g/l
VOC Method 310:	9.28 %

Inventory Status:

Australia AICS:	All components in this product are listed on or exempt from the Inventory.
Canada DSL Inventory List:	All components in this product are listed on or exempt from the Inventory.
EINECS, ELINCS or NLP:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	All components in this product are listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	All components in this product are listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	All components in this product are listed on or exempt from the Inventory.
US TSCA Inventory:	All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	All components in this product are listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.

16.Other information, including date of preparation or last revision

Revision Date:	08/14/2015
Version #:	1.0
Further Information:	No data available.

Disclaimer: For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.

HILTI

Safety Data Sheet
acc. to ISO 11014

Printing date 05/18/2015 Version number 3 Reviewed on 05/18/2015

Firestop latex sealant

* 1 Identification

· **Product identifier**

· **Trade name:**
Hilti Firestop Acrylic Sealant CFS-S ACR
CP 606
· **Relevant identified uses of the substance or mixture and uses advised against**
· **Sector of Use** SU19 Building and construction work
· **Application of the substance / the mixture** Construction chemicals

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Hilti, Inc.
5400 South 122nd East Ave.
US-Tulsa, OK 74146
Phone: (800) 879-8000
Fax: (800) 879-7000
Español: (800) 879-5000

· **Information department:**
chemicals.hsc@hilti.com
see section 16
· **Emergency telephone number:**
Tox Info Suisse - 24 h Service
Tel.: 0041 / 44 251 51 51 (international)

Chem-Trec
Tel.: 1 800 424 9300

* 2 Hazard(s) identification

· **Classification of the substance or mixture** The product is not classified according to the Globally Harmonized System (GHS).

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** not applicable
· **Classification system:**
The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.

· **Label elements**
· **GHS label elements** Void
· **Hazard pictograms** Void
· **Signal word** Void
· **Hazard statements** Void
· **Classification system**
· **NFPA ratings (scale 0-4)**

Health = 0
Fire = 0
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

* 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Acrylat-dispersion
· **Dangerous components:**
57-55-6 propane-1,2-diol <2.5%
Additional information For the wording of the listed risk phrases refer to section 16.

4 First-aid measures

· **Description of first aid measures**
· **General information** No special measures required.
· **After inhalation** Take affected persons into fresh air and keep quiet.
After skin contact Immediately wash with water and soap and rinse thoroughly.
After eye contact Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing** Seek immediate medical advice.
· **Information for doctor**
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

US

(Contd. on page 2)

(Contd. of page 1)

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents** CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide (CO)
Carbondioxide (CO2)
· **Advice for firefighters**
· **Protective equipment:** Ensure adequate ventilation

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective clothing.
Ensure adequate ventilation
Particular danger of slipping on leaked/spilled product.
· **Environmental precautions:** No special measures required.
· **Methods and material for containment and cleaning up:**
Pick up mechanically.
Dispose contaminated material as waste according to item 13.
· **Reference to other sections**
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· **Handling**
· **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**
· **Storage**
· **Requirements to be met by storerooms and receptacles:** keep containers securely closed and dry, store at 5 - 25 °C / 41 - 77 °F
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** None

· **Storage class** 11
· **Specific end use(s)** No further relevant information available

8 Exposure controls/personal protection

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
57-55-6 propane-1,2-diol
WEEL Long-term value: 10 mg/m³
· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment**
· **General protective and hygienic measures**
The usual precautionary measures for handling chemicals should be followed.
Avoid contact with the eyes and skin.
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
· **Breathing equipment:** Not necessary if room is well-ventilated.
· **Protection of hands:**

Protective gloves.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
EN 374
Material of gloves
Nitrile rubber, NBR
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 3)

(Contd. of page 2)

· **Eye protection:**

Tightly sealed goggles.

EN 166 + EN 170
· **Body protection:**

Protective work clothing.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**
· **General Information**
· **Appearance:**

Form:	Pasty
Color:	According to product specification
· **Odor:**	Characteristic
· **Odour threshold:**	Not determined.
· **pH-value:**	Not applicable.
· **Change in condition**	
Melting point/Melting range:	Not determined.
Boiling point/Boiling range:	undetermined
· **Flash point:**	Not applicable
· **Flammability (solid, gaseous)**	Not determined.
· **Ignition temperature:**	
Decomposition temperature:	Not determined.
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapor pressure:**	Not determined.
· **Density at 20 °C (68 °F):**	1.55 g/cm³ (12.935 lbs/gal) (DIN 51757)
· **Relative density**	Not determined.
· **Vapour density**	Not applicable.
· **Evaporation rate**	Not applicable.
· **Solubility in / Miscibility with**	
Water:	Not miscible or difficult to mix
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
dynamic:	Not applicable.
kinematic:	Not applicable.
· **Other information**	VOC Content: 71 g/l (EPA Method 24)

10 Stability and reactivity

· **Reactivity**
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**
· **Primary irritant effect:**
· **on the skin:** No irritant effect.
· **on the eye:** No irritating effect.

(Contd. on page 4)

(Contd. of page 3)

· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

· **IARC (International Agency for Research on Cancer)**
None of the ingredients is listed.

· **NTP (National Toxicology Program)**
None of the ingredients is listed

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:** Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

*

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation**
For disposal, local regulations issued by the authorities must be observed.
Smaller quantities can be disposed of with household waste.

· **European waste catalogue:**
08 04 10 waste adhesives and sealants other than those mentioned in 08 04 09

· **Uncleaned packagings:**
· **Recommendation:**
Disposal must be made according to official regulations.
Dispose of packaging according to regulations on the disposal of packagings.

14 Transport information

· **UN-Number**
· **DOT, ADR, ADN, IMDG, IATA** Void

· **UN proper shipping name**
· **DOT, ADR, ADN, IMDG, IATA** Void

· **Transport hazard class(es)**

· **DOT, ADR, ADN, IMDG, IATA**
· **Class** Void

· **Packing group**
· **DOT, ADR, IMDG, IATA** Void

· **Environmental hazards:**
· **Marine pollutant:** No

· **Special precautions for user** Not applicable.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **UN "Model Regulation":** -

*

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

Section 355 (Extremely hazardous substances):
None of the ingredients is listed.

Section 313 (Specific toxic chemical listings):
None of the ingredients are listed.

(Contd. on page 5)

(Contd. of page 4)

· **TSCA (Toxic Substances Control Act):**
All ingredients are listed.
· **Proposition 65:**
· **Chemicals known to cause cancer:**
None of the ingredients are listed.

· **Cancerogenity categories**
· **EPA (Environmental Protection Agency)**
None of the ingredients is listed.
· **TLV (Threshold Limit Value established by ACGIH)**
None of the ingredients is listed.
· **MAK (German Maximum Workplace Concentration)**
None of the ingredients is listed.
· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.
· **Chemical safety assessment:** not required.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:**
Hilti Corporation
Business Unit Chemicals
Quality/Safety/Environment
FL-9494 Schaan / Liechtenstein

chemicals.hse@hilti.com
Tel.: +423 234 3004
FAX.: +423 234 3462
· **Date of preparation / last revision** 05/18/2015 / 2
· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
· *** Data compared to the previous version altered.**

Safety Data Sheet
acc. to ISO 11014

Printing date 06/30/2015 Version number 2 Reviewed on 06/30/2015

putty pad

1 Identification

· **Product identifier**

· **Trade name:**
Hilti Firestop Putty Bandage CFS-P BA
CP 617
CP 618
CP 619
CFS-D 1"
CFS-D 25
· **Relevant identified uses of the substance or mixture and uses advised against** No further relevant information available.
· **Application of the substance / the mixture** Construction chemicals

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Hilti, Inc.
5400 South 122nd East Ave.
US-Tulsa, OK 74146
Phone: (800) 879-8000
Fax: (800) 879-7000
Español: (800) 879-5000

· **Information department:**
chemicals.hse@hilti.com
see section 16
· **Emergency telephone number:**
Tox Info Suisse - 24 h Service
Tel.: 0041 / 44 251 51 51 (international)

Chem-Trec
Tel.: 1 800 424 9300

2 Hazard(s) identification

· **Classification of the substance or mixture** The product is not classified according to the Globally Harmonized System (GHS).

· **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** not applicable
· **Classification system:**
The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.

· **Label elements**
· **GHS label elements** Void
· **Hazard pictograms** Void
· **Signal word** Void
· **Hazard statements** Void
· **Classification system**
· **NFPA ratings (scale 0-4)**

Health = 0
Fire = 0
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Fire prevention compound with Polyisobutylene agent base
· **Dangerous components:**
78-42-2 tris(2-ethylhexyl) phosphate Xi R36/38 2-5%
· **Additional information** For the wording of the listed risk phrases refer to section 16.

4 First-aid measures

· **Description of first aid measures**
· **General information** No special measures required.
· **After skin contact** Immediately wash with water and soap and rinse thoroughly.
After eye contact Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
After swallowing Seek immediate medical advice.
· **Information for doctor**
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

(Contd. on page 2)

(Contd. of page 1)

· **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents** CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam
· **Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide (CO)
Carbondioxide (CO2)
· **Advice for firefighters**
· **Protective equipment:**
Ensure adequate ventilation
Wear self-contained respiratory protective device.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:** Pick up mechanically.
· **Reference to other sections**
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· **Handling**
· **Precautions for safe handling** No special measures required.
· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**
· **Storage**
· **Requirements to be met by storerooms and receptacles:** keep containers securely closed and dry, store at -5 - 40 °C / 23 - 104 °F
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** None.

· **Storage class** 13
· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

Control parameters
· **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment**
· **General protective and hygienic measures**
The usual precautionary measures for handling chemicals should be followed.
Avoid contact with the eyes and skin.
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
· **Breathing equipment:** Not required.
· **Protection of hands:**

Protective gloves.

EN 374
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
Nitrile rubber, NBR
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 3)

(Contd. of page 2)

· **Eye protection:**

Tightly sealed goggles.

EN 166 + EN 170

· **Body protection:**

Protective work clothing.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**
· **General Information**
· **Appearance:**

Form:	Pasty
Color:	Red
· **Odor:**	Characteristic
· **Odour threshold:**	Not determined
· **pH-value:**	Not applicable.
· **Change in condition**	
Melting point/Melting range:	Not determined.
Boiling point/Boiling range:	undetermined
· **Flash point:**	Not determined
· **Flammability (solid, gaseous)**	Not determined
· **Ignition temperature:**	
Decomposition temperature:	Not determined.
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	Not determined
Upper:	Not determined
· **Vapor pressure:**	Not determined
· **Density at 20 °C (68 °F):**	1.55 g/cm³ (12.935 lbs/gal) (DIN 51757)
· **Relative density**	Not determined
· **Vapour density**	Not determined
· **Evaporation rate**	Not determined
· **Solubility in / Miscibility with**	
Water:	Insoluble
· **Partition coefficient (n-octanol/water):**	Not determined
· **Viscosity:**	
dynamic:	Not determined
kinematic:	Not determined
· **Other information**	CP 617 - VOC Content: 4.35 g/l (EPA Method 24) CP 618 - VOC Content: 31.5 g/l (EPA Method 24) CP 619 - VOC Content: 4.5 g/l (EPA Method 24)

10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known

(Contd. on page 4)

(Contd. of page 3)

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**
· **Primary irritant effect:**
· **on the skin:** No irritant effect.
· **on the eye:** No irritating effect.
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

· **IARC (International Agency for Research on Cancer)**
None of the ingredients is listed.

· **NTP (National Toxicology Program)**
None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Ecotoxical effects:** Not determined
· **Additional ecological information:**
· **General notes:** Do not allow product to reach ground water, water course or sewage system.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **European waste catalogue:**
08 04 10 waste adhesives and sealants other than those mentioned in 08 04 09

· **Uncleaned packagings:**
· **Recommendation:**
Disposal must be made according to official regulations.
Dispose of packaging according to regulations on the disposal of packagings.
Empty packs: May be disposed via the local Green Dot collecting system or EAK waste material code 150102 (plastic packaging materials)

14 Transport information

· **UN-Number**
· **DOT, ADR, ADN, IMDG, IATA** Void

· **UN proper shipping name**
· **DOT, ADR, ADN, IMDG, IATA** Void

· **Transport hazard class(es)**

· **DOT, ADR, ADN, IMDG, IATA**
· **Class** Void

· **Packing group**
· **DOT, ADR, IMDG, IATA** Void

· **Environmental hazards:**
· **Marine pollutant:** No

· **Special precautions for user** Not applicable.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:** Not dangerous according to the above specifications.

UN "Model Regulation": -

US

(Contd. on page 5)

(Contd. of page 4)

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **Section 355 (Extremely hazardous substances):**
None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**
None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act):**
All ingredients are listed.

· **Proposition 65:**

· **Chemicals known to cause cancer:**
None of the ingredients are listed.

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**
None of the ingredients is listed.

· **MAK (German Maximum Workplace Concentration)**
None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.

· **National regulations**

· **Information about limitation of use:** Employment restrictions concerning young persons must be observed.
· **Chemical safety assessment:** not required.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**
R36/38 Irritating to eyes and skin.

· **Department issuing SDS:**
Hilti Corporation
Business Unit Chemicals
Quality/Safety/Environment
FL-9494 Schaan / Liechtenstein

chemicals.hse@hilti.com
Tel.: +423 234 3004
FAX.: +423 234 3462
· **Date of preparation / last revision** 06/30/2015 / 1
· **Abbreviations and acronyms:**
ADR: Accord europeen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
· * **Data compared to the previous version altered.**

HSE profile and Green Building contribution
Hilti Firestop Putty Bandage CFS-P BA

LEED and BREEAM are third-party certification programs which provide a benchmark for the design, construction and operation of high-performance green buildings. Both promote a whole-building approach to sustainability and evaluate it by scoring points based on a set of criteria. Individual products cannot be certified under LEED or BREEAM but they can contribute to criterion compliance (prerequisites or credits).
The following information shows the areas where Hilti Firestop Putty Bandage can potentially contribute, as well as the maximum number of points that can be achieved by accomplishing each criteria and state the required values and explanations for the building certification process.

The **Hilti Firestop Putty Bandage** is a component to be used with the Hilti Firestop Blocks, Plugs and Cable Collars. It is easy to install, no electric tools are required, easy to cut and self-adhesive. It is also dust and fiber-free and does not contain halogens or solvents.

		LEED		BREEAM	
Sustainable sites management		**Criteria** (Up to # points) **& Evaluation**			
Construction site waste	No waste or dust generation during installation	**SS Prerequisite 1**	★★★	**Wst 1** (3) **Man 3d** (4 for Man 3)	★★★
Life cycle assesment, Product Carbon Footprint	PCF (GWP 100 years): 9.689 kg CO2-eq - low global warming potential	**SS Credit 5.2** (1)	★★★	**Man 3a** (4 for Man 3) **Mat 1** (4)	★★★
Water consumption	No water demand during installation and repenetration	**WE Credit 2** (2)	★★★	**Man 3c** (4 for Man 3)	★★★
Water pollution	No waste water generation during installation and repenetration		★★★	**Man 3e** (4 for Man 3)	★★★
Application	No electric tool needed for installation and repenetration	-		-	
Energy Optimization, Atmosphere and Pollution					
Air tightness*	Not determined. Smoke tight when accurately applied	**EA Prerequisite 2**	★★☆	**Ene 1** (15) **Ene 6** (1)	★★☆
Thermal insulation*	Not determined.	**EA Credit 1** (1-19) **IEQ Credit 7.1** (1)	★☆☆	**Ene 1** (15) **Mat 6** (2)	★☆☆
Ozone Depletion Potential	ODP, catalytic: < 0,00001 kg R11-eq per unit	**EA Prerequisite 3**	★★★	**IC** (1)	★★★
Materials and Resources					
Reusability	Limited reusability is possible	**MR Credit 1.1** (1-3) **MR Credit 1.2** (1)	★★☆	**Wst 1** (3)	★★☆
Product recycling	The product cannot be recycled or salvaged but the packaging can be totally recycled or salvaged	**MR Credit 2** (1-2)	★★☆	**Wst 1** (3)	★★☆
Recycled content	No, since firestop products require the traceability of their raw materials to guarantee uniform and constant product performance and quality.	**MR Credit 4** (1-2)	☆☆☆	**Mat 5** (3)	☆☆☆
	The packaging is partially manufatured with recycled material		★★☆		★★☆
Product origin	Raw materials origin: France	**MR Credit 5** (1-2)	★☆☆		★☆☆
	Manufacturing location: France		★☆☆		★☆☆
Rapidly Renewable Materials	Raw materials are not rapidly renewable	**MR Credit 6** (1)	☆☆☆	-	
Indoor Environmental Quality, Health and Wellbeing					
IAQ (Indoor Air Quality) Management	No dangerous good or labelling needed and no content of carcinogens	**IEQ Credit 3.1** (1) **IEQ Credit 3.2** (1)	★★★	-	
	Halogen Free Flame Retardants		★★★		
Low-Emitting Materials Volatile Organic Compounds	VOC acc to LEED 2009 / EPA #24: < 35g/l - see statement dated Feb. 26, 2010	**IEQ Credit 4.1** (1) **IEQ Credit 4.2** (1)	★★★	**Hea 9** (1)	★★★
Acoustic Performance & Soundproofing	Not applicable	-		**Hea 13** (1)	★☆☆

★★★ *Product highly contributes to Green Building certification under this clause*
★★☆ *Product contributes to Green Building certification under this clause*
★☆☆ *Not applicable for this product or dependent on each situation and so not possible to evaluate in general terms*
☆☆☆ *Product makes no contribution to Green Building certification under this clause*

** Lower heating and cooling costs*

Issued June 2013

BU Chemicals, CETsp&CMT

www.hilti.com

The sustainability of sites is improved with Hilti Firestop Putty Bandage by supporting LEED, BREEAM, as well as, preventing effectively from the spread of a fire:

The spread of fire in a building is probably the worst scenario owners or occupants can imagine. When it comes to effectively minimizing the effects of fire, the interplay of a variety of systems and elements is required. Active fire protection – including components such as fire alarms and fire extinguishers – is taken into account in many buildings. On the other hand, often less emphasis is placed to measures, which help to contain fire at its point of origin and prevent the spread of fire and smoke effectively. This should ideally be designed already in the planning phase. Components of passive fire protection create effective barriers against the passage of fire, smoke and toxic gases through openings in walls or floors, resulting from through-penetrations of cables and pipes, from construction joints or other damages.

All the packagings and cans used by Hilti can be recycled. Hilti Firestop Putty Bandage is considered household waste at the end of the life of the building. Please consider your national law regarding the disposal of the Firestop Putty Bandage and contact your local Hilti partner for further information.

If you need additional information or documentation on a certain HSE issue, please do not hesitate to contact your local Hilti partner - we are happy to provide you with additional information required to make your green building project a success.

Issued June 2013

BU Chemicals, CETsp&CMT

www.hilti.com

Safety Data Sheet
acc. to ISO 11014

Printing date 05/18/2015 Version number 1 Reviewed on 05/18/2015

*

1 Identification

· **Product identifier**

· **Trade name:**
FS-ONE MAX
Hilti Firestop Filler Mastic CFS-FIL
· **Relevant identified uses of the substance or mixture and uses advised against** No further relevant information available.
· **Application of the substance / the mixture** Construction chemicals

FS one Firestop

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Hilti, Inc.
5400 South 122nd East Ave.
US-Tulsa, OK 74146
Phone: (800) 879-8000
Fax: (800) 879-7000
Español: (800) 879-5000

· **Information department:**
chemicals.hse@hilti.com
see section 16
· **Emergency telephone number:**
Chem-Trec
Tel.: 1 800 424 9300
Tox Info Suisse - 24 h Service
Tel.: 0041 / 44 251 51 51 (international)

*

2 Hazard(s) identification

· **Classification of the substance or mixture** The product is not classified according to the Globally Harmonized System (GHS).

· **Label elements**
· **GHS label elements** Void
Hazard pictograms Void
· **Signal word** Void
· **Hazard statements** Void
· **Classification system**
· **NFPA ratings (scale 0-4)**

Health = 0
Fire = 0
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

*

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:**

Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**
57-55-6 propane-1,2-diol <2.5%
· **Additional information** For the wording of the listed risk phrases refer to section 16.

4 First-aid measures

· **Description of first aid measures**
· **General information** No special measures required.
· **After inhalation** Take affected persons into fresh air and keep quiet.
· **After skin contact** Immediately wash with water and soap and rinse thoroughly.
· **After eye contact** Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing** Seek immediate medical advice.
· **Information for doctor**
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents** CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

(Contd. on page 2)

Safety Data Sheet
acc. to ISO 11014

(Contd. of page 1)

· **Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Carbon monoxide (CO)
Carbondioxide (CO_2)
· **Advice for firefighters**
· **Protective equipment:** Ensure adequate ventilation

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Wear protective clothing.
Particular danger of slipping on leaked/spilled product.
· **Environmental precautions:** Do not allow product to reach sewage system or any water course.
· **Methods and material for containment and cleaning up:**
Pick up mechanically.
Dispose contaminated material as waste according to item 13.
· **Reference to other sections**
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

*
7 Handling and storage

· **Handling**
· **Precautions for safe handling** No special measures required.
· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**
· **Storage**
· **Requirements to be met by storerooms and receptacles:** keep containers securely closed and dry, store at 5 - 25 °C / 41 - 77 °F
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** None.

· **Storage class** 10
· **Specific end use(s)** No further relevant information available.

*
8 Exposure controls/personal protection

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
57-55-6 propane-1,2-diol
WEEL Long-term value: 10 mg/m³
· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment**
· **General protective and hygienic measures**
The usual precautionary measures for handling chemicals should be followed.
Avoid contact with the eyes and skin.
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
· **Breathing equipment:** Not necessary if room is well-ventilated.
· **Protection of hands:**

Protective gloves.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
EN 374
· **Material of gloves**
Synthetic gloves
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
For the permanent contact gloves made of the following materials are suitable: Nitrile rubber, NBR

(Contd. on page 3)

Safety Data Sheet
acc. to ISO 11014

(Contd. of page 2)

· **Eye protection:**

Tightly sealed goggles.

EN 166 + EN 170
· **Body protection:**

Protective work clothing.

*

9 Physical and chemical properties

· **Information on basic physical and chemical properties**
· **General Information**
· **Appearance:**

Form:	Pasty
Color:	Red
· **Odor:**	Characteristic
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/Melting range:	Not determined.
Boiling point/Boiling range:	100 °C (212 °F)
· **Flash point:**	Not applicable
· **Flammability (solid, gaseous)**	Not applicable.
· **Ignition temperature:**	
Decomposition temperature:	Not determined.
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapor pressure at 20 °C (68 °F):**	23 hPa (17 mm Hg)
· **Density:**	Not determined
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
	Not applicable.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with**	
Water:	Not miscible or difficult to mix.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
dynamic:	Not determined.
kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	1.0 %
Water:	18.5 %
· **Other information**	VOC Content: 9 g/l (EPA Method 24)

10 Stability and reactivity

· **Reactivity**
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

US

(Contd. on page 4)

Safety Data Sheet
acc. to ISO 11014

Printing date 05/18/2015 Version number 1 Reviewed on 05/18/2015

(Contd. of page 3)

* 11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**
· **Primary irritant effect:**
· **on the skin:** No irritant effect.
· **on the eye:** No irritating effect.
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

· **IARC (International Agency for Research on Cancer)**
14808-60-7 Quartz (SiO2) 1

· **NTP (National Toxicology Program)**
14808-60-7 Quartz (SiO2) K

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

* 12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

* 13 Disposal considerations

· **Waste treatment methods**
· **Recommendation** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
· **European waste catalogue:**
08 00 00
08 04 00
08 04 10

· **Uncleaned packagings:**
· **Recommendation:** Dispose of packaging according to regulations on the disposal of packagings.

14 Transport information

· **UN-Number**	
· **DOT, ADR, ADN, IMDG, IATA**	Void
· **UN proper shipping name**	
· **DOT, ADR, ADN, IMDG, IATA**	Void
· **Transport hazard class(es)**	
· **DOT, ADR, ADN, IMDG, IATA**	
· **Class**	Void
· **Packing group**	
· **DOT, ADR, IMDG, IATA**	Void
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Not applicable.
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **UN "Model Regulation":**	-

* 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
Sara

Section 355 (Extremely hazardous substances):
None of the ingredients is listed.

(Contd. on page 5)

Safety Data Sheet
acc. to ISO 11014

(Contd. of page 4)

· **Section 313 (Specific toxic chemical listings):**
None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act):**
All ingredients are listed.

· **Proposition 65:**

· **Chemicals known to cause cancer:**
14808-60-7 Quartz (SiO2)

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**
14808-60-7 Quartz (SiO2) A2

· **MAK (German Maximum Workplace Concentration)**
14808-60-7 Quartz (SiO2) 1

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
14808-60-7 Quartz (SiO2)

· **Chemical safety assessment:** not required.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:**
Hilti Corporation
Business Unit Chemicals
Quality/Safety/Environment
FL-9494 Schaan / Liechtenstein

chemicals.hse@hilti.com
Tel.: +423 234 3004
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· **Date of preparation / last revision** 05/18/2015 / -

· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)

· *** Data compared to the previous version altered.**

SAFETY DATA SHEET

Date of issue/Date of revision 18 August 2015
Version 2

Section 1. Identification

Product name	: 9-300XI PURE PERFORMANCE INTERIOR EGGSHELL-PURE WHITE
Product code	: 00411165
Other means of identification	: Not available.
Product type	: Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Product use	: Industrial applications, Used by spraying.
Use of the substance/ mixture	: Coating.
Uses advised against	: Not applicable.

Supplier	: PPG Industries, Inc. One PPG Place Pittsburgh, PA 15272
Emergency telephone number	: (412) 434-4515 (U.S.) (514) 645-1320 (Canada) 01-800-00-21-400 (Mexico)
Technical Phone Number	: 1-800-441-9695 (8:00 am to 5:00 pm EST)

Section 2. Hazards identification

OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	: CARCINOGENICITY - Category 2 Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 25.2%

GHS label elements

Hazard pictograms :

Signal word	: Warning
Hazard statements	: Suspected of causing cancer.

Precautionary statements

Section 2. Hazards identification

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing.

Response : IF exposed or concerned: Get medical attention.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Sanding and grinding dusts may be harmful if inhaled. Emits toxic fumes when heated.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : 9-300XI PURE PERFORMANCE INTERIOR EGGSHELL-PURE WHITE

Ingredient name	%	CAS number
titanium dioxide	≥10 - <25	13463-67-7
Diatomaceous earth	≥1 - <3	61790-53-2
proprietary ingredient	≥1 - <3	Not available.

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Section 4. First aid measures

Eye contact	: No known significant effects or critical hazards.
Inhalation	: No known significant effects or critical hazards.
Skin contact	: No known significant effects or critical hazards.
Ingestion	: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: No specific data.
Inhalation	: No specific data.
Skin contact	: No specific data.
Ingestion	: No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: No specific treatment.
Protection of first-aiders	: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	: Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: None known.
Specific hazards arising from the chemical	: In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: metal oxide/oxides
Special protective actions for fire-fighters	: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Do not store below the following temperature: 5°C (41°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Titanium dioxide	**OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust **ACGIH TLV (United States, 4/2014).** TWA: 10 mg/m³ 8 hours.
Diatomaceous earth	**OSHA PEL Z3 (United States, 2/2013).** TWA: 20 mppcf 8 hours. TWA: 80 MG/M3 / (%SiO2) 8 hours.
proprietary ingredient	**ACGIH TLV (United States).** TWA: 10 mg/m³, (Dusts and mists) **OSHA PEL (United States).** TWA: 5 mg/m³, (Dusts and mists) Form: Respirable fraction TWA: 15 mg/m³, (Dusts and mists) Form: Total particulates

Key to abbreviations

A	= Acceptable Maximum Peak	S	= Potential skin absorption
ACGIH	= American Conference of Governmental Industrial Hygienists.	SR	= Respiratory sensitization
C	= Ceiling Limit	SS	= Skin sensitization
F	= Fume	STEL	= Short term Exposure limit values
IPEL	= Internal Permissible Exposure Limit	TD	= Total dust
OSHA	= Occupational Safety and Health Administration.	TLV	= Threshold Limit Value
R	= Respirable	TWA	= Time Weighted Average
Z	= OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances		

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Section 8. Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses with side shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Characteristic.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: 113.33°C (236°F) [Product does not sustain combustion.]

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Upper: 0%

Section 9. Physical and chemical properties

Evaporation rate	: Not available.
Vapor pressure	: Not available.
Vapor density	: Not available.
Relative density	: 1.34
Density (lbs / gal)	: 11.18
Solubility	: Soluble in the following materials: cold water.
Partition coefficient: n-octanol/water	: Not available.
Viscosity	: Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)
Volatility	: 65% (v/v), 48.703% (w/w)
% Solid. (w/w)	: 51.297

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.
Incompatible materials	: Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.
Hazardous decomposition products	: Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
titanium dioxide	LD50 Oral	Rat	>10 g/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Section 11. Toxicological information

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Product/ingredient name	OSHA	IARC	NTP
titanium dioxide	-	2B	-
Diatomaceous earth	-	3	-

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen; Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Target organs : Contains material which may cause damage to the following organs: upper respiratory tract, eyes.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Section 11. Toxicological information

Conclusion/Summary : There are no data available on the mixture itself. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.

Potential delayed effects : There are no data available on the mixture itself.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
titanium dioxide	Acute LC50 >100 mg/l Fresh water	Daphnia - Daphnia magna	48 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class (es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

Additional information

DOT : None identified.

IMDG : None identified.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States

United States inventory (TSCA 8b) : All components are listed or exempted.

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
titanium dioxide	No.	No.	No.	No.	Yes.
Diatomaceous earth	Yes.	No.	No.	No.	No.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 1 * **Flammability** : 1 **Physical hazards** : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 1 **Flammability** : 1 **Instability** : 0

Date of previous issue : 6/7/2015

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Section 16. Other information

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

Architectural Coatings

Pure Performance Interior Eggshell Latex

GENERAL DESCRIPTION

Our premium low-odor, zero-VOC** (volatile organic compounds) eggshell latex is designed to meet the performance requirements of the institutional, commercial and residential markets. ***Pure Performance*** Interior Eggshell Latex is formulated to provide excellent hiding and application properties in addition to low odor, zero VOC's**, and anti-microbial properties - a mold/mildew resisting compound has been incorporated in this paint to make the dry paint film mildew resistant. Ideal for use in occupied areas such as: hotel/motel resort properties, nursing homes, homes, schools, government facilities, retail space, office buildings, hospitals, and apartments.

RECOMMENDED USES

Concrete/Masonry Block	Plaster
Ferrous Metal	Wood
Gypsum Wallboard-Drywall	

CONFORMANCE STANDARDS

- VOC compliant in all regulated areas
- Can help earn LEED® 2009 Credits
- Meets GREENGUARD® Indoor Air Quality Certified® and ***GREENGUARD*** Children & Schools Certified℠
- Meets the Collaborative for High Performance Schools (CHPS) Low-Emitting Materials criteria section 01350
- MPI® approval in category #144 Latex, Interior, Institutional Low Odor/VOC, (***MPI*** Gloss Level 2)
- Meets ***MPI*** Green Performance Standard (GPS-1 & GPS-2)
- ***MPI*** approval in category #144 X-Green

APPLICATION INFORMATION

Stir thoroughly. Apply with a high quality brush, roller, paint pad or by spray equipment. Read all label and Material Safety Data Sheet (MSDS) information prior to use. MSDS are available through our website or by calling 1-800-441-9695.

Airless Spray: Pressure 2000 psi, tip 0.015" - 0.021"
Spray equipment must be handled with due care and in accordance with manufacturer's recommendation. High-pressure injection of coatings into the skin by airless equipment may cause serious injury.

APPLICATION INFORMATION (continued)

Brush: Polyester/Nylon Brush
Roller: 3/8" - 3/4" nap roller cover

Thinning: No thinning is required. If necessary, thin with up to 1/4 pt. (118 mL) of water per U.S. gallon (3.78 L) of paint.

Permissible temperatures during application:

Material:	50 to 90ºF	10 to 32ºC
Ambient:	50 to 100ºF	10 to 38ºC
Substrate:	50 to 100ºF	10 to 38ºC

PRODUCT DATA

PRODUCT TYPE:	100% Acrylic Latex
GLOSS:	Eggshell: 3 to 10 (60º Gloss Meter)
VOLUME SOLIDS*:	34% +/- 2%
WEIGHT SOLIDS*:	51% +/- 2%
VOC:**	0 lbs./gal (0 g/L)
WEIGHT/GALLON*:	11.1 lbs. (5.0 kg) +/- 0.2 lbs. (91 g)

*Product data calculated on product 9-300XI.

COVERAGE*: Approximately 400 sq. ft./gal. (37 sq. m/3.78L) per U.S. gallon (3.78 L) on nonporous surfaces.

Wet Film Thickness:	4.0 mils
Wet Microns:	102
Dry Film Thickness:	1.4 mils
Dry Microns:	36

Coverage figures do not include loss due to surface irregularities and porosity or material loss due to application method or mixing.

DRYING TIME: Dry time @ 77ºF (25ºC); 50% relative humidity.

To Touch:	1 hour
To Recoat:	4 hours

Drying times listed may vary depending on temperature, humidity, film build, color, and air movement.

WASHING INSTRUCTIONS: Wait at least 14 days after painting before cleaning the surface with a non-abrasive mild cleaner.
CLEANUP: Clean tools with warm soapy water.
DISPOSAL: Contact your local environmental regulatory agency for guidance on disposal of unused product. Do not pour down a drain or storm sewer.

FLASH POINT: Over 200ºF (93ºC)

FEATURES / BENEFITS

Features	Benefits
0 g/L VOC**	Meets the most stringent environmental regulations nationwide
Low odor	Ideal for painting in occupied spaces
100% acrylic	Excellent durability and washable finish
Antimicrobial properties	Resist mold and mildew on the paint film
Good hiding power and coverage	Saves money; less material required
Soap and water clean-up	Safe waterborne formula
MPI approval in Category # 144 Latex, Interior, Institutional Low Odor/VOC, (***MPI*** Gloss Level 2)	Meets strict performance and aesthetic requirements
MPI approval in Category #144 X-Green	Meets ***MPI's*** most stringent environmental standard
Can help earn ***LEED*** 2009 credits	Contributes to sustainable design

****Colorants added to this base paint may increase VOC level significantly depending on color choice.**

GENERAL SURFACE PREPARATION

Surfaces to be coated must be dry, clean, sound, and free from all contamination including loose and peeling paint, dirt, grease, oil, wax, concrete curing agents and bond breakers, chalk, efflorescence, mildew, rust, product fines, and dust. Remove loose paint, chalk, and efflorescence by wire brushing, scraping, sanding, and/or pressure washing. Putty all nail holes and caulk all cracks and open seams. Sand all glossy, rough, and patched surfaces. Feather back all rough edges to sound surface by sanding. Prime all bare and porous substrates with an appropriate primer.

WARNING! If you scrape, sand, or remove old paint, you may release lead dust or fumes. LEAD IS TOXIC. EXPOSURE TO LEAD DUST OR FUMES CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a properly fitted NIOSH-approved respirator and prevent skin contact to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the USEPA National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead. In Canada contact a regional Health Canada office. Follow these instructions to control exposure to other hazardous substances that may be released during surface preparation.

CONCRETE/MASONRY BLOCK: Mortar should cure for at least 30 days and preferably 90 days prior to priming. Fill block with an appropriate block filler. Surfaces previously coated with water thinned cement-based paint must be prepared with extra care. If the material appears to be adhering tightly, a masonry sealer may be applied to seal the surface. Check adhesion by applying a piece of masking tape. If the sealer peels off and has loose particles, remove all chalking or crumbling material, re-seal and re-check adhesion.

FERROUS METAL: The surface must be cleaned thoroughly to remove any dust, rust, and surface contaminants, and then primed.

GYPSUM WALLBOARD-DRYWALL: Nails or screws should be countersunk, and they along with any indentations should be mudded flush with the surface, sanded smooth and cleaned to remove any dust, then prime prior to painting the substrate.

PLASTER: Plaster, hardcoat, skim coat, or other alkaline surfaces should be allowed to cure for at least 30 days prior to priming with an alkali resistant primer.

WOOD: Unpainted wood or wood in poor condition should be sanded smooth, wiped clean, then primed. Any knots or resinous areas must be primed before painting. Countersink all nails, putty flush with surface, then prime.

RECOMMENDED PRIMERS

Concrete/Masonry Block (Block Fillers)	6-7, 6-15
Concrete, Masonry (Primers,Sealers)	4-603, 17-921
Gypsum Drywall-Wallboard	6-2, 6-4, 6-4900, 9-900, 12-900
Ferrous Metal	90-712, 90-912
Plaster	4-603, 9-900, 17-921
Wood	6-2, 6-4900, 9-900, 12-900, 17-921

LIMITATIONS OF USE

Apply when air, surface and product temperatures are above 50ºF (10ºC).

PROTECT FROM FREEZING. Not recommended for use on floors.

While this product provides a mildew resistant coating, growth may still occur if the substrate is not properly prepared prior to painting and/or if the substrate is consistently exposed to conditions conducive to mold, mildew, and algae. Examples of these conditions include, but are not limited to areas that are consistently damp with little to no direct sunlight.

TINTING AND BASE INFORMATION

Refer to the appropriate color formula book, automatic tinting equipment, and or computer color matching system for color formulas and tinting instructions.

9-300XI	Pure White
9-310	Pastel Base*
9-320	Midtone Base*
9-340	Ultra Deep Base*

*Must be tinted.

Some colors, drastic color changes, or porous substrates may require more than one coat to achieve a uniform finish.

PACKAGING

1-Gallon (3.78 L)
5-Gallon (18.9 L)
Quart (946 mL)

Not all products are available in all sizes.

PPG Industries, Inc.
Architectural Coatings
One PPG Place
Pittsburgh, PA 15272
www.ppgpro.com

Technical Services
1-800-441-9695
1-888-807-5123 fax

Architect/Specifier
1-888-PPG-IDEA

PPG Canada, Inc.
Architectural Coatings
4 Kenview Blvd
Brampton, ON L6T 5E4

A3.38 11/2012
(Supersedes 2/2012)

Made in the USA

SAFETY DATA SHEET

Date of issue/Date of revision 30 June 2015
Version 4

Section 1. Identification

Product name	: UH 150 FL WH 1210-0100V
Product code	: 00406251
Other means of identification	: Not available.
Product type	: Liquid.

Ultrahide 150 Satin 2412

Relevant identified uses of the substance or mixture and uses advised against

Product use	: Industrial applications, Used by spraying.
Use of the substance/ mixture	: Coating.
Uses advised against	: Not applicable.

Supplier	: PPG Industries, Inc. One PPG Place Pittsburgh, PA 15272
Emergency telephone number	: (412) 434-4515 (U.S.) (514) 645-1320 (Canada) 01-800-00-21-400 (Mexico)
Technical Phone Number	: 1-800-441-9695 (8:00 am to 5:00 pm EST)

Section 2. Hazards identification

OSHA/HCS status	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of the substance or mixture	: CARCINOGENICITY - Category 2 Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 28.7%

GHS label elements

Hazard pictograms :

Signal word	: Warning
Hazard statements	: Suspected of causing cancer.

Precautionary statements

Section 2. Hazards identification

Prevention : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Wear eye or face protection. Wear protective clothing.

Response : IF exposed or concerned: Get medical attention.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Emits toxic fumes when heated.

Hazards not otherwise classified : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Product name : UH 150 FL WH 1210-0100V

Ingredient name	%	CAS number
titanium dioxide	≥10 - <25	13463-67-7

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Description of necessary first aid measures

Eye contact : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Section 4. First aid measures

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Special precautions : If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Do not store below the following temperature: 5°C (41°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
titanium dioxide	**OSHA PEL (United States, 2/2013).** TWA: 15 mg/m³ 8 hours. Form: Total dust **ACGIH TLV (United States, 4/2014).** TWA: 10 mg/m³ 8 hours.

Key to abbreviations

A = Acceptable Maximum Peak
ACGIH = American Conference of Governmental Industrial Hygienists.
C = Ceiling Limit
F = Fume
IPEL = Internal Permissible Exposure Limit
OSHA = Occupational Safety and Health Administration.
R = Respirable
Z = OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances
S = Potential skin absorption
SR = Respiratory sensitization
SS = Skin sensitization
STEL = Short term Exposure limit values
TD = Total dust
TLV = Threshold Limit Value
TWA = Time Weighted Average

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety glasses with side shields.

Section 8. Exposure controls/personal protection

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Color : Not available.

Odor : Characteristic.

Odor threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : >37.78°C (>100°F)

Flash point : Closed cup: Not applicable. [Product does not sustain combustion.]

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Flammability (solid, gas) : Not available.

Lower and upper explosive (flammable) limits : Upper: 0%

Evaporation rate : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 1.44

Density (lbs / gal) : 12.02

Solubility : Soluble in the following materials: cold water.

Partition coefficient: n-octanol/water : Not available.

Viscosity : Kinematic (40°C (104°F)): >0.21 cm^2/s (>21 cSt)

Volatility : 66% (v/v), 45.349% (w/w)

Section 9. Physical and chemical properties

% Solid. (w/w) : 54.651

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
titanium dioxide	LD50 Oral	Rat	>10 g/kg	-

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitization

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Classification

Product/ingredient name	OSHA	IARC	NTP
titanium dioxide	-	2B	-

Section 11. Toxicological information

Carcinogen Classification code:

IARC: 1, 2A, 2B, 3, 4
NTP: Known to be a human carcinogen: Reasonably anticipated to be a human carcinogen
OSHA: +
Not listed/not regulated: -

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Target organs : Contains material which may cause damage to the following organs: upper respiratory tract.

Aspiration hazard

Not available.

Information on the likely routes of exposure

Potential acute health effects

Eye contact : No known significant effects or critical hazards.
Inhalation : No known significant effects or critical hazards.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.
Inhalation : No specific data.
Skin contact : No specific data.
Ingestion : No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Conclusion/Summary : There are no data available on the mixture itself. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

Short term exposure

Potential immediate effects : There are no data available on the mixture itself.
Potential delayed effects : There are no data available on the mixture itself.

Long term exposure

Potential immediate effects : There are no data available on the mixture itself.
Potential delayed effects : There are no data available on the mixture itself.

Section 11. Toxicological information

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	208675.3 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
titanium dioxide	Acute LC50 >100 mg/l Fresh water	Daphnia - Daphnia magna	48 hours

Persistence and degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 13. Disposal considerations

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14. Transport information

	DOT	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class (es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Marine pollutant substances	Not applicable.	Not applicable.	Not applicable.

Additional information

DOT : None identified.

IMDG : None identified.

IATA : None identified.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

United States

United States inventory (TSCA 8b) : All components are listed or exempted.

SARA 302/304

SARA 304 RQ : Not applicable.

Composition/information on ingredients

No products were found.

SARA 311/312

Classification : Delayed (chronic) health hazard

Composition/information on ingredients

Section 15. Regulatory information

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
titanium dioxide	No.	No.	No.	No.	Yes.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

Section 16. Other information

Hazardous Material Information System (U.S.A.)

Health : 1 * Flammability : 0 Physical hazards : 0

(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 1 Flammability : 0 Instability : 0

Date of previous issue : **4/8/2015**

Organization that prepared the MSDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.

PPG PAINTS™ ULTRA HIDE® 150 1210-0100G Series

Architectural Coatings

Ultra-Hide 150 Interior Latex Flat

GENERAL DESCRIPTION

PPG PAINTS™ *Ultra-Hide* 150 paint is designed as a high-hiding, easy-to-apply interior flat wall paint that delivers exceptional touch-up to get the job done on time and within budget. This low-VOC, low-odor paint enables interior walls, ceilings and trim to be painted while occupied, delivering the durable product performance required. *Ultra-Hide* Interior Flat paint is recommended for all commercial, maintenance and residential applications where a flat uniform finish is desirable.

RECOMMENDED SUBSTRATES

Concrete	Gypsum Wallboard-Drywall
Concrete/Masonry Block	Plaster
Ferrous Metal	Wood

CONFORMANCE STANDARDS

VOC compliant in all regulated areas
Can help earn LEED® 2009 credits
GREENGUARD Certification Program
GREENGUARD GOLD

LIMITATIONS OF USE

FOR INTERIOR USE ONLY. Apply when air, product and surface temperatures are between 50ºF (10ºC) and 90ºF (32ºC).

Not recommended for use on floors or in high humidity areas.

PROTECT FROM FREEZING.

RECOMMENDED PRIMERS

Concrete	4-603, 17-921, 3210-1200G
Concrete/Masonry Block (block fillers)	6-7, 6-15
Concrete/Masonry Block (primers, sealers)	4-603, 17-921, 3210-1200G
Ferrous Metal	90-712, 90-912
Gypsum Wallboard-Drywall	6-2, 6-4, 9-900, 12-900
Plaster	4-603, 17-921, 3210-1200G
Wood	6-2, 9-900, 12-900, 17-921, 3210-1200G

PACKAGING

1-Gallon (3.78 L)
5-Gallon (18.9 L)

TINTING AND BASE INFORMATION

Refer to the appropriate color formula book, automatic tinting equipment, and or computer color matching system for color formulas and tinting instructions.

1210-0100G	White
1210-0110G	White Tint Base*
1210-0300G	Intermediate Tint Base*
1210-0400G	Deep Tint Base*
1210-1000G	High Hide White
1210-1010G	Swiss Coffee
1210-1020G	Antique White
1210-1220G	Brilliant White
1210-1270G	Navajo White
1210-9990G	Black

*Must be tinted before use.
Some colors, or drastic color changes, or porous substrates may require more than one coat to achieve a uniform finish.

PRODUCT DATA

PRODUCT TYPE:	Vinyl Acrylic Latex
SHEEN:	Flat: 1 to 3 (85º Gloss Meter)
VOLUME SOLIDS*:	34% +/- 2%
WEIGHT SOLIDS*:	55% +/- 2%
VOC*:	<50 g/L (0.4 lbs./gal.)
WEIGHT/GALLON*:	12 lbs. (5.4 kg) +/- 0.2 lbs. (91 g)

*Product data calculated on product 1210-0100G.

COVERAGE: Approximately 300-400 sq. ft./gal. (28-37 sq. m/3.78L) per U.S. Gallon (3.78L) on smooth, nonporous surfaces.

Wet Film Thickness:	4.0 - 5.3 mils
Wet Microns:	102 - 135
Dry Film Thickness:	1.4 - 1.8 mils
Dry Microns:	36 - 46

Coverage figures do not include loss due to surface irregularities and porosity or material loss due to application method or mixing.

DRYING TIME: Dry time @ 77ºF (25ºC); 50% relative humidity.

To Touch:	1 hour
To Recoat:	4 hours
To Full Cure:	30 days

Drying times listed may vary depending on temperature, humidity, film build, color, and air movement.

Wait at least 30 days after painting before cleaning the surface with a non-abrasive, mild cleaner. Very deep colors may require longer to fully cure.

CLEANUP: Clean tools with warm, soapy water.

DISPOSAL: Contact your local environmental regulatory agency for guidance on disposal of unused product. Do not pour down a drain or storm sewer.

FLASH POINT: Over 200ºF (93ºC)

FEATURES / BENEFITS

Features	**Benefits**
Less than 50 g/L VOC	Meets the most stringent VOC regulations nationwide
Exceptional airless spray touch-up	Reduces labor costs
Good hiding power	Hides surface imperfections
Good burnish resistance	Resists sheen change when cleaned
Can help earn *LEED* 2009 credits	Contributes to sustainable design

GENERAL SURFACE PREPARATION

Surfaces to be coated must be dry, clean, sound, and free from all contamination including loose and peeling paint, dirt, grease, oil, wax, concrete curing agents and bond breakers, chalk, efflorescence, mildew, rust, product fines, and dust. Remove loose paint, chalk, and efflorescence by wire brushing, scraping, sanding, and/or pressure washing. Putty all nail holes and caulk all cracks and open seams. Sand all glossy, rough, and patched surfaces. Feather back all rough edges to sound surface by sanding. Prime all bare and porous substrates with an appropriate primer.

WARNING! If you scrape, sand, or remove old paint, you may release lead dust or fumes. LEAD IS TOXIC. EXPOSURE TO LEAD DUST OR FUMES CAN CAUSE SERIOUS ILLNESS, SUCH AS BRAIN DAMAGE, ESPECIALLY IN CHILDREN. PREGNANT WOMEN SHOULD ALSO AVOID EXPOSURE. Wear a properly fitted NIOSH-approved respirator and prevent skin contact to control lead exposure. Clean up carefully with a HEPA vacuum and a wet mop. Before you start, find out how to protect yourself and your family by contacting the USEPA National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead. In Canada contact a regional Health Canada office. Follow these instructions to control exposure to other hazardous substances that may be released during surface preparation.

CONCRETE: New concrete should cure for at least 30 days and preferably 90 days prior to priming and painting. The pH of the substrate must be less than 10 before priming with an alkali resistant primer.

CONCRETE/MASONRY BLOCK: Mortar should cure for at least 30 days and preferably 90 days prior to priming. Fill block with an appropriate block filler. Surfaces previously coated with water thinned cement-based paint must be prepared with extra care. If the material appears to be adhering tightly, a masonry sealer may be applied to seal the surface. Check adhesion by applying a piece of masking tape. If the sealer peels off and has loose particles, remove all chalking or crumbling material, re-seal and re-check adhesion.

FERROUS METAL: The surface must be cleaned thoroughly to remove any dust, rust, and surface contaminants, and then primed.

GYPSUM WALLBOARD-DRYWALL: Nails or screws should be countersunk, and they along with any indentations should be mudded flush with the surface, sanded smooth and cleaned to remove any dust, then prime prior to painting the substrate.

PLASTER: Plaster, hardcoat, skim coat, or other alkaline surfaces should be allowed to cure for at least 30 days prior to priming with an alkali resistant primer.

WOOD: Unpainted wood or wood in poor condition should be sanded smooth, wiped clean, then primed. Any knots or resinous areas must be primed before painting. Countersink all nails, putty flush with surface, then prime.

SOLUBLE STAINS: Apply a SEAL GRIP® primer over the stained area prior to coating, to avoid bleeding the stain into the topcoat.

APPLICATION INFORMATION

Stir thoroughly before using and occasionally when in use. When using more than one can of the same color, intermix to ensure color uniformity.

Application Equipment: Apply with a high quality brush, roller, paint pad, or by airless spray equipment. Where necessary, apply a second coat.

Airless Spray: Pressure 1500-2000 psi, tip 0.015” - 0.021”

Spray equipment must be handled with due care and in accordance with manufacturer’s recommendation. High-pressure injection of coatings into the skin by airless equipment may cause serious injury.

Brush: Polyester/Nylon Brush

Roller: 3/8” - 1/2” nap roller cover

Thinning: DO NOT THIN

Permissible temperatures during application:

Material: 50 to 90ºF 10 to 32ºC Ambient: 50 to 90ºF 10 to 32ºC Substrate: 50 to 90ºF 10 to 32ºC

PRECAUTIONS

WARNING! HARMFUL IF SWALLOWED. Do not swallow. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling. Provide fresh air ventilation during and after application and drying. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this preparation. Use personal protective equipment as required. Note: These warnings encompass the product series. Prior to use, read and follow product-specific MSDS and label information. FIRST AID: If swallowed, rinse mouth with water (only if the person is conscious). Call physician immediately. Do not induce vomiting unless directed to do so by medical personnel. If in eyes, rinse with water for 15 minutes. Check for and remove any contact lenses. If on skin, rinse well with water. Wash with soap and water. Get medical attention if irritation develops. If inhaled, remove to fresh air. If experiencing respiratory symptoms call a POISON CENTER or doctor/physician. Keep out of the reach of children. For workplace use, an MSDS is available from your retailer or by calling (412) 492-5555. EMERGENCY SPILL INFORMATION: (412) 434-4515 (U.S.).

PPG Industries, Inc.
Architectural Coatings
One PPG Place
Pittsburgh, PA 15272
www.ppgpaints.com

Technical Services
1-800-441-9695
1-888-807-5123 fax

Architect/Specifier
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TD 1210-0100G 12-2015

Made in the USA

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Technical Industrial Sales

MATERIAL SAFETY DATA SHEET

I. IDENTIFICATION & PHYSICAL DATA

Product Name: TIS-25 Chassis Black

Specific Gravity: 1.09

Product Class: Waterborne

Solubility in Water: Dilutable

Appearance and Odor: Black liquid bland odor

Vapor Pressure: 17.5mm Hg.

II. HAZARDOUS INGREDIENTS

Carbon Black	CAS # 1333-86-4	<1%	PEL/TLV 3.5 mg/m3

Health 1 Flammability 0 Reactivity 0

III. FIRE AND EXPLOSION DATA

Flash point: Non-flammable

Extinguishing Media: Non-flammable in liquid state; use water spray, foam or dry chemical. Use carbon dioxide on dried product.

Unusual Fire & Explosion Hazards: Personnel exposed to products of combustion should wear self-contained breathing apparatus and full protective equipment.

Special Fire Fighting Procedures: Containers exposed in a fire should be cooled with water to prevent vapor pressure buildup leading to rupture.

IV. HEALTH HAZARD DATA

Stability: Stable

Hazardous Polymerization: Will not occur

Conditions to Avoid: Excessive heat

Materials to Avoid: No specific information available

Hazardous Decomposition Products: Combustion of the dried product can yield low molecular weight hydrocarbons such as carbon monoxide and carbon dioxide.

V. HEALTH HAZARD DATA Effects of overexposure:

Ingestion: No specific information available.

Inhalation: Dust concentrations above the permissible exposure limit may cause temporary upper respiratory tract discomfort.

Skin Absorption: No specific information available.

Skin Contact: Repeated or prolonged skin contact with liquid may cause irritation.

Eye Contact: Eye contact with liquid may cause irritation.

Chronic Effects of Overexposure: Epidemiological studies of workers in the carbon black producing industries of North America and Western Europe show no significant adverse health effect due to occupational exposure to carbon black

Emergency & First Aid Procedures:

Eye Contact: Flush immediately with water for 15 minutes. Consult a physician if irritation persists.

Skin Contact: Wash affected area with soap and water. Wash contaminated clothing before reuse.

Ingestion: If appreciable quantities are swallowed, seek medical attention.

Inhalation: Remove subject to fresh air.

VI. SPILL OR LEAK PROCEDURES

Steps To Be Taken in Case Material is Released or Spilled: Dike spill. Absorb with inert material and collect for disposal. Prevent washings from entering waterways.

Waste Disposal Method: This product does not meet the definition of hazardous waste under the U.S. EPA Hazardous Waste Regulations 40 CFR 261. Consult your local authorities for proper disposal in the event more restrictive requirements apply.

VII. SPECIAL PROTECTION INFORMATION

Respiratory Protection: Respiratory protection is not normally required. Use NIOH/MSHA approved respirator if conditions warrant.

Ventilation: Standard industrial ventilation is recommended.

Protective Gloves: Use permeable chemical gloves and wear appropriate protective clothing.

Eye Protection: Wear chemical safety goggles to reduce the potential for eye contact.

Other Protective Equipment: For operations where contact can occur, a safety shower and eye wash facility should be available.

VIII. SPECIAL PRECAUTIONS

Product is not considered hazardous under normal conditions. Direct contact of product with eyes can cause irritation. Prolonged or repeated contact with skin may cause irritation.

IX. STORAGE

Protect from freezing- product may be affected. Keep in closed containers.

X. REGULATORY INFORMATION

TOSCA-This product meets the compositional requirements of the Toxic Substances Control Act and contains only chemical ingredients that are listed on the TOSCA inventory.

SARA Title III, SEC.313-This product does contain toxic chemical(s) at or above the de minimus concentrations subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR part 372.

CERCLA-Carbon black is not a CERCLA hazardous substance. Spills of carbon black are not reportable.

SCAQMD RULE 1107-This product is VOC compliant per Rule 1107 (tested per Federal Reference Method 24).

VOC	0.54 #/gal
	65 grams / liter