SHOP DRAWING REVIEW FORM AND TRANSMITTAL

DATE: **November 18, 2021**

TO: Carl Hendrickson
Project Manager
Veolia Water
825 West Water Street
Taunton, MA 02780

FROM: Michael Andrus, P.E.
Project Manager
BETA Group, Inc.
701 George Washington Hwy
Lincoln, Rhode Island 02865

RE: City of Taunton, MA
WWTF Phase 1 Improvements
Contract S-2021-1

Shop Drawing No. 07900-01 – Joint Sealant

BETA COMMENTS:

Item	Action Code	Description/Comments
1	**2**	**Joint Sealant (Sika)** **1.** See Attached comments from GHD

Action Codes
1 - No Exception Taken
2 - Make Corrections Noted
3 - Amend and Resubmit
4 - Rejected, See Remarks

a. Installation shall proceed only when Action Code is '1' or '2'.
b. Submittals action coded '3' shall be resubmitted within time limit set in Contract.
c. Review does not relieve Contractor from responsibility of compliance with the Contract Documents.

Hart Engineering Corporation

SUBMITTAL:
07900-01

PROJECT: 9900. - Veolia/Taunton WWTF Phase 1 Improvements **DATE: 10/15/2021**

SUBMITTAL: 07900-01 - Joint Sealant
REVISION: 0
STATUS: Eng
SPEC #: 07900

TO:
Michael Andrus
Beta Group Inc.
6 Blackstone Place
Lincoln, RI 02865
MAndrus@BETA-Inc.com

FROM:
Ryan Murphy
Hart Engineering Corporation
800 Scenic View Drive
Cumberland, RI 02864
rmurphy@hartcompanies.com

Item	Revision	Description	Status	Date Sent	Date Returned
07900-01	0	Joint Sealant	Eng	10/15/2021	
Notes:					

SHOP DRAWING REVIEW

☐ 1 – Approved ☑ 2 – Approved as Noted

☐ 3 – Revise and Resubmit ☐ 4 - Rejected

☐ 5 – Record File Only – No Action Taken

(Above Check Designates Action Code – See Review Comments)

IMPORTANT NOTE FOR CONTRACTOR

Review is only for general compliance with the design concept and information provided in Contract Documents. Corrections and comments made on the Shop Drawings during review do not relieve the Contractor from compliance with the requirements of the plans and specifications. Review and/or approval of a specific item shall not include review or approval of an assembly of which the item is a component. No approval or correction of a Shop Drawing shall be construed as an order for extra work. The Contractor is responsible for: all quantities and dimensions to be confirmed and correlated; information that pertains solely to the fabrication processes or to the means, methods, techniques, sequences and procedures of construction; coordination of the Work with that of all trades and subcontractors; and performing all Work in a safe and satisfactory manner.

BETA GROUP, INC. Checked By: KNH (GHD)

By: MLA Date: 11/18/21

Additional Notes:

Status Codes
1-APP – No Exceptions Taken
2-ANR – Make Corrections Noted
3-R&R – Revise and Resubmit
4-REJ – Rejected
5-IPO – For Information Purposes Only
6-NRR – Not Required for Review
ENG – Submitted to Engineer

Sincerely,
Hart Engineering Corporation

DATE: 10/15/2021

SUBMITTAL REVIEW COMMENT SHEET

PROJECT TITLE:	Taunton WWTG Phase 1 Improvements		
OWNER:	Town of Taunton, MA		
CONTRACT NO.:		**PROJECT NO.:**	11186884

SUBMITTAL NO. AND TITLE:	07900-01-Joint Sealant	☐ **ACCEPTED** ☐ **ACCEPTED AS CORRECTED (NO RESUBMITTAL REQUIRED)** ☐ **ACCEPTED AS CORRECTED (RESUBMITTAL REQUIRED)** ☒ **ACCEPTED AS CORRECTED (PROVIDE REQUESTED INFORMATION ONLY)**
SPECIFICATION SECTION NO. AND TITLE:	11186884-SPC1	
☒ **SHOP DRAWING** ☐ **O&M MANUAL** ☐ **PRODUCT SAMPLE** ☐ **OTHER:**	Reviewed only for conformance with the design concept of the project and with information given in the Contract Documents. The Contractor is responsible for: 1) verifying that dimensions are confirmed and correlated at the job site; 2) obtaining information that pertains to the fabrication processes or to techniques of construction; and 3) coordinating the work of all subcontractors.	☐ **REVISE AND RESUBMIT** ☐ **NOT APPROVED** ☐ **NOT REVIEWED** ☐ **FOR INFORMATION PURPOSES ONLY**

By: KNH Date: **11/5/2021**

Comments:

1. Submit the following under separate cover:
   a. Joint cleaner
   b. Closed-cell backer rod
   c. Joint Filler
   d. Mineral wool batt insulation
   e. Bond breaker

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Contractors Supply Inc.
3340 Pawtucket Ave
East Providence, RI
02915
United States

Project Name	Taunton WWTP - Phase I

Package Name	07 90 00, v01	Due Date	13 Oct 2021
Revision #	1	Need By Date	13 Oct 2021
Package type	For approval		
	Full submittal		

07 90 00 Joint Protection

#	Sub-section	Item Specified	Source or Mfr	Item Submitted	Notes
0010	2.02.A.	Multi-Component, Non-Sag Polyurethane Sealant view spec	Sika	**Sikaflex®-2c NS** Sikaflex-2c-NS-Product-Data-1847288.PDF Sikaflex-2c-NS-SDS-1852932.PDF Sikaflex-2c-NS-SDS-1852938.PDF Sikaflex-2c-NS-Installation-Instructions-350043.pdf Sikaflex-2c-NS-Color-Chart-1852939.PDF	
0011	2.02.B.	Two Component, Self-Leveling Polyurethane Sealant view spec	Sika	**Sikaflex®-2c SL** Sikaflex-2c-SL-Product-Data-1847292.PDF Sikaflex-2c-SL-SDS-1852937.PDF Sikaflex-2c-SL-SDS-1852935.PDF Sikaflex-2c-SL-Installation-Instructions-350053.pdf Sikaflex-2c-SL-Color-Chart-1852942.PDF	
0012	2.02.C.	Silicone Sealant view spec	Pecora	**Pecora 864NST** Pecora-864NST-Product-Data-1844318.pdf Pecora-864NST-SDS-1844323.pdf Pecora-864NST-Environmentally-Responsive-Documentation-1844322.pdf Pecora-864NST-Color-Chart-1429345.pdf	

0013 - 2.02.D.	Single Component Siliconized Acrylic Latex Sealant view spec	Pecora	**AC-20 + Silicone** AC-20-Silicone-Product-Data-1770567.pdf AC-20-Silicone-SDS-1770571.pdf AC-20-Silicone-Environmentally-Responsive-Documentation-1843873.pdf AC-20-Silicone-Color-Chart-1770568.pdf AC-20-Silicone-Test-Report-1429582.pdf
0014 - 2.02.E.	Single Component pre-pressurized expanding polyurethane foam sealant view spec	Sika	**Sika Boom®** Sika-Boom-Product-Data-1847579.PDF Sika-Boom-SDS-1852743.PDF
0015 - 2.02.F.	Single Component Spray Applied Elastomeric Sealant view spec	Tremco	**TREMstop® Acrylic SP** TREMstop-Acrylic-SP-Product-Data-1620571.pdf TREMstop-Acrylic-SP-SDS-1821775.pdf TREMstop-Acrylic-SP-Environmentally-Responsive-Documentation-1822328.pdf
0016 - 2.03.A.	Low VOC Primer - view spec	Sika	**Sikaflex® Primer-429** Sikaflex-Primer-429-Product-Data-1847322.PDF Sikaflex-Primer-429-SDS-1852950.PDF P-53-VOC-Data-Sheet-4-16.pdf P150 All Purpose Primer.pdf P-120 Non-Porous Primer.pdf TREMprime-Silicone-Porous-Primer-Product-Data-1822039.pdf TREMprime-Silicone-Porous-Primer-SDS-1821787.pdf TREMprime-Silicone-Porous-Primer-Environmentally-Responsive-Documentation-1822149.pdf Vulkem-Primer-171-Product-Data-1822503.pdf Vulkem-Primer-171-SDS-1821563.pdf Vulkem-Primer-171-Environmentally-Responsive-Documentation-1822358.pdf
0017 - 2.03.C.	Soft Backer Rod view spec		SOF Rod.pdf

Section:	07 90 00 Joint Protection
#:	0010
Specified:	2.02.A., Multi-Component, Non-Sag Polyurethane Sealant
Reference:	view spec
Item submitted:	Sikaflex®-2c NS

Sikaflex-2c-NS-Product-Data-1847288.PDF
Sikaflex-2c-NS-SDS-1852932.PDF
Sikaflex-2c-NS-SDS-1852938.PDF
Sikaflex-2c-NS-Installation-Instructions-350043.pdf
Sikaflex-2c-NS-Color-Chart-1852939.PDF

BUILDING TRUST

PRODUCT DATA SHEET

Sikaflex®-2 C NS

TWO-COMPONENT, NON-SAG, POLYURETHANE ELASTOMERIC SEALANT

PRODUCT DESCRIPTION

Sikaflex®-2 C NS is a 2-component, premium-grade, polyurethane-based, elastomeric sealant. It is principally a chemical cure in a non-sag consistency. Meets ASTM C-920, Type M, Grade NS, Class 25, use T, NT, M, G, A, O, I and Federal Specification TT-S-00227E, Type II, Class A. Tested in accordance with ASTM C-1382 for use in EIFS systems.

USES

- Intended for use in all properly designed working joints with a minimum depth of 1/4 inch.
- Ideal for vertical and horizontal applications.
- Placeable at temperatures as low as 40 °F.
- Adheres to most substrates commonly found in construction.
- An effective sealant for use in Exterior Insulation Finish Systems (EIFS).
- Submerged environments, such as canal and reservoir joints.

CHARACTERISTICS / ADVANTAGES

- Capable of ±50 % joint movement.
- Chemical cure allows the sealant to be placed in joints exceeding 1/2 in. in depth.
- High elasticity with a tough, durable, flexible consistency.
- Exceptional cut and tear resistance.
- Exceptional adhesion to most substrates without priming.
- Available in 35 architectural colors.
- Color uniformity assured via Color-pak system.
- Available in pre-pigmented Limestone (no Color-pak needed).
- Non-sag even in wide joints.
- Easy to mix.
- Paintable with water-, oil-, and rubber-base paints.
- Jet fuel resistant.

PRODUCT INFORMATION

Packaging	1.5 gal. unit. 3 gal units.
Color	A wide range of architectural colors are available. Special colors available on request.
Shelf Life	One year in original, unopened containers.
Storage Conditions	Store dry at 40–95 °F (4–35 °C). **Condition material to 65–75 °F before using.**

TECHNICAL INFORMATION

Shore Hardness	25 ± 5	(73 °F (23 °C) and 50 % R.H.) (ASTM D-2240)
Tensile Strength	95 psi at Break	(73 °F (23 °C) and 50 % R.H.) (ASTM D-412)
Tensile Stress at Specified Elongation	70 psi at 100 %	(73 °F (23 °C) and 50 % R.H.) (ASTM D-412)
Elongation at Break	500 %	(73 °F (23 °C) and 50 % R.H.) (ASTM D-412)

Adhesion in Peel

Substrate	Peel Strength	% Adhesion Loss	
Concrete	25 lb.	Zero	(73 °F (23 °C) and 50 % R.H.) (Fed Spec. TT-S-00227E)

Tear Strength	45 lb./in.	(73 °F (23 °C) and 50 % R.H.) (ASTM D-624)
Chemical Resistance	Good resistance to water, diluted acids, diluted alkalines, and residential sewage. Consult Technical Service at 1-800-933-SIKA for specific data.	
Resistance to Weathering	Excellent	
Service Temperature	-40 °F to 170 °F (-40 °C to 75 °C).	

APPLICATION INFORMATION

Coverage

1 gallon: Yield in Linear feet

Width/Depth	1/4''	3/8''	1/2''
1/4''	307.9		
3/8''	205.3	136.8	
1/2''	153.9	102.6	77.0
3/4''	102.6	68.4	51.3
1''			38.5
1.25''			30.8
1.5''			25.7

Ambient Air Temperature	40 °F to 100 °F. Sealant should be installed when joint is at midrange of its anticipated movement.	
Substrate Temperature	40 °F to 100 °F. Sealant should be installed when joint is at midrange of its anticipated movement.	
Pot Life	3–4 hrs.	

Curing Rate

Tack-Free Time	6–8 hrs.	(ASTM C-679)
Final Cure	3 days	

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

All joint-wall surfaces must be clean, sound, and frost-free. Joint walls must be free of oils, grease, curing compound residues, and any other foreign matter that might prevent bond. Ideally this should be accomplished by mechanical means. Bond breaker tape or backer rod must be used in bottom of joint to prevent bond.

Priming is typically not necessary. Most substrates only require priming if sealant will be subjected to water immersion after cure. Testing should be done, however, on questionable substrates, to determine if priming is needed. Consult Technical Service or Sikaflex Primer Technical Data Sheet for additional information on priming. Note: Most Exterior Insulation Finish Systems (EIFS) manufacturers recommend the use of a primer. When EIFS manufacturer specifies a primer or if on-site bond testing indicates a primer is necessary, Sikaflex 429 primer is recommended. On-site adhesion testing is recommended with final system prior to the start of a job.

MIXING

Pour entire contents of Component 'B' into pail of Component 'A'. Add entire contents of Color-pak into pail and mix with a low-speed drill (400–600 rpm) and Sikaflex paddle.* Mix for 3-5 minutes to achieve a uniform color and consistency. Scrape down sides of pail periodically. Avoid entrapment of air during mixing. When mixing in cold weather (<50 °F), do not force the mixing paddle to the bottom of the pail. After adding Component 'B' and Color-pak into Component 'A', mix the top 1/2 to 3/4 of the pail during the first minute of mixing. After scraping down the sides of the pail, mix again for another minute. The paddle should reach the bottom of the pail between the first and second minute of mixing. Scrape down the sides of the pail a second time and then mix for an additional 2-3 minutes until the sealant is well blended. Color-pak must be used with tint base. For pre-pigmented Limestone base, just mix with low speed drill and Sikaflex paddle (no Color-pak needed).

APPLICATION METHOD / TOOLS

Recommended application temperatures 40–100 °F. Pre-conditioning units to approximately 70 °F is necessary when working
at extremes. Move pre-conditioned units to work areas just prior to application. Apply sealant only to clean, sound, dry, and frost-free substrates. Sikaflex-2c should be applied into joints when joint slot is at mid-point of its designed expansion and contraction. To place, load directly into bulk gun or use a follower plate loading system. Place nozzle of gun into bottom of joint and fill entire joint. Keeping the nozzle deep in the sealant, continue with a steady flow of sealant preceding nozzle to avoid air entrapment. Also, avoid overlapping of sealant since this also entraps air. Joint dimension should allow for 1/4 inch minimum and 1/2 inch maximum thickness for sealant. Proper design is 2:1 width to depth ratio. Tool sealant to ensure full contact with joint walls and remove air entrapment.

LIMITATIONS

- The ultimate performance of Sikaflex®-2 C NS depends on good joint design and proper application.
- Minimum depth in working joint is 1/4 in.
- Maximum expansion and contraction should not exceed 50 % of average joint width.
- Do not cure in the presence of curing silicones.
- Avoid contact with alcohol and other solvent cleaners during cure.
- Allow 3 day cure before subjecting sealant to total water immersion. Primer is required if sealant will be subjected to total water immersion.
- Avoid exposure to high levels of chlorine. (Maximum level is 5 ppm).
- Do not apply when moisture vapor transmission exists since this can cause bubbling within the sealant.
- Avoid over-mixing sealant.
- White color tends to yellow slightly when exposed to ultraviolet rays.
- Light colors can yellow if exposed to direct gas fired heating elements.
- When overcoating: an on-site test is recommended to determine actual compatibility.
- Rigid paints, coatings or primers will crack when placed over elastomeric sealants experiencing expansion or contraction
- The depth of sealant in horizontal joints subject to traffic is 1/2 inch.
- When used in areas with heavy traffic either recess joint or use TG (Traffic Grade) Additive to increase durability.

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

OTHER RESTRICTIONS

See Legal Disclaimer.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

LEGAL DISCLAIMER

- **KEEP CONTAINER TIGHTLY CLOSED**
- **KEEP OUT OF REACH OF CHILDREN**
- **NOT FOR INTERNAL CONSUMPTION**
- **FOR INDUSTRIAL USE ONLY**
- **FOR PROFESSIONAL USE ONLY**

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within the product's shelf life. User determines suitability of product for intended use and assumes all risks. User's and/or buyer's sole remedy shall be limited to the purchase price or replacement of this product exclusive of any labor costs. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

Sale of SIKA products are subject to the Terms and Conditions of Sale which are available at https://usa.sika.com/en/group/SikaCorp/termsandconditions.html or by calling 1-800-933-7452.

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Carretera Libre Celaya Km. 8.5
Fracc. Industrial Balvanera
Corregidora, Queretaro
C.P. 76920
Phone: 52 442 2385800
Fax: 52 442 2250537

1. Identification

Product name	:	Sikaflex®-2c NS Part A limestone
Supplier	:	Sika Corporation 201 Polito Avenue Lyndhurst, NJ 07071 USA www.sikausa.com
Telephone	:	(201) 933-8800
Telefax	:	(201) 804-1076
E-mail address	:	ehs@sika-corp.com
Emergency telephone	:	CHEMTREC: 800-424-9300 INTERNATIONAL: 703-527-3887
Recommended use of the chemical and restrictions on use	:	For further information, refer to product data sheet.

2. Hazards identification

GHS Classification

Eye irritation, Category 2A	H319: Causes serious eye irritation.
Carcinogenicity, Category 1A (Inhalation)	H350i: May cause cancer by inhalation.
Specific target organ systemic toxicity - repeated exposure, Category 2, hearing organs (Inhalation)	H373: May cause damage to organs through prolonged or repeated exposure if inhaled.

GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H319 Causes serious eye irritation.
H350i May cause cancer by inhalation.
H373 May cause damage to organs (hearing organs) through prolonged or repeated exposure if inhaled.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.

P280 Wear eye protection/ face protection.
P281 Use personal protective equipment as required.
Response:
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Warning : Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.

See Section 11 for more detailed information on health effects and symptoms.
There are no hazards not otherwise classified that have been identified during the classification process.
There are no ingredients with unknown acute toxicity used in a mixture at a concentration >= 1%.

3. Composition/information on ingredients

Hazardous ingredients

Chemical name	CAS-No.	Concentration (%)
calcium oxide	1305-78-8	>= 2 - < 3 %
xylene	1330-20-7	>= 2 - < 5 %
ethylbenzene	100-41-4	< 1 %
Quartz (SiO2)	14808-60-7	< 1 %

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.

4. First aid measures

If inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.

		Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting without medical advice. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	Excessive lachrymation See Section 11 for more detailed information on health effects and symptoms. irritant effects carcinogenic effects Causes serious eye irritation. May cause cancer by inhalation. May cause damage to organs through prolonged or repeated exposure if inhaled.
Protection of first-aiders	:	Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance.
Notes to physician	:	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific extinguishing methods	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Deny access to unprotected persons.
Environmental precautions	:	Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

7. Handling and storage

Advice on safe handling : Avoid exceeding the given occupational exposure limits (see section 8).
Do not get in eyes, on skin, or on clothing.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Follow standard hygiene measures when handling chemical products.

Conditions for safe storage : Prevent unauthorized access.
Store in original container.
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Store in accordance with local regulations.

Materials to avoid : No data available

8. Exposure controls/personal protection

Component	CAS-No.	Basis **	Value	Exposure limit(s)* / Form of exposure
calcium carbonate	471-34-1	CAL PEL	PEL	10 mg/m3 Total dust
		CAL PEL	PEL	5 mg/m3 respirable dust fraction
calcium oxide	1305-78-8	ACGIH	TWA	2 mg/m3
		OSHA Z-1	TWA	5 mg/m3
		OSHA P0	TWA	5 mg/m3
		CAL PEL	PEL	2 mg/m3
xylene	1330-20-7	OSHA Z-1	TWA	100 ppm 435 mg/m3
		OSHA P0	STEL	150 ppm 655 mg/m3
		OSHA P0	TWA	100 ppm 435 mg/m3
		ACGIH	TWA	100 ppm

		ACGIH	STEL	150 ppm
		CAL PEL	STEL	150 ppm 655 mg/m3
		CAL PEL	C	300 ppm
		CAL PEL	PEL	100 ppm 435 mg/m3
ethylbenzene	100-41-4	ACGIH	TWA	20 ppm
		ACGIH	STEL	125 ppm
		OSHA Z-1	TWA	100 ppm 435 mg/m3
		OSHA P0	TWA	100 ppm 435 mg/m3
		OSHA P0	STEL	125 ppm 545 mg/m3
		CAL PEL	PEL	5 ppm 22 mg/m3
		CAL PEL	STEL	30 ppm 130 mg/m3
Quartz (SiO2)	14808-60-7	OSHA Z-3	TWA	30 mg/m3 / %SiO2+2 total dust
		OSHA Z-3	TWA	10 mg/m3 / %SiO2+2 respirable
		OSHA Z-3	TWA	250 mppcf / %SiO2+5 respirable
		OSHA P0	TWA	0.1 mg/m3 Respirable fraction
		ACGIH	TWA	0.025 mg/m3 Respirable fraction
		CAL PEL	PEL	0.3 mg/m3 Total dust

		CAL PEL	PEL	0.1 mg/m3 respirable dust fraction

*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

**Basis
ACGIH. Threshold Limit Values (TLV)
OSHA P0. Table Z-1, Limit for Air Contaminat (1989 Vacated Values)
OSHA P1. Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant
OSHA P2. Permissible Exposure Limits (PEL), Table Z-2
OSHA Z3. Table Z-3, Mineral Dust

Engineering measures : Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protective equipment

Respiratory protection : Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection
Remarks : 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.

Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Hygiene measures : Wash hands before breaks and immediately after handling the product.
Remove contaminated clothing and protective equipment before entering eating areas.

9. Physical and chemical properties

Appearance	:	viscous
Color	:	gray
Odor	:	aromatic
Odor Threshold	:	No data available
Flash point	:	> 230 °F (> 110 °C)
Ignition temperature	:	No data available
Decomposition temperature	:	No data available
Lower explosion limit (Vol%)	:	No data available
Upper explosion limit (Vol%)	:	No data available
Flammability (solid, gas)	:	No data available
Oxidizing properties	:	No data available
pH	:	No data available
Melting point/range / Freezing point	:	No data available
Boiling point/boiling range	:	No data available
Vapor pressure	:	0.01 mmHg (0.01 hpa)
Density	:	1.55 g/cm3 at 68 °F (20 °C)
Water solubility	:	Note: insoluble
Partition coefficient: n-octanol/water	:	No data available
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	> 20.5 mm2/s at 104 °F (40 °C)
Relative vapor density	:	No data available
Evaporation rate	:	No data available
Burning rate	:	No data available
Volatile organic compounds (VOC) content	:	19 g/l A+B Combined

10. Stability and reactivity

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	Stable under recommended storage conditions.
Conditions to avoid	:	No data available
Incompatible materials	:	No data available

11. Toxicological information

Not classified based on available information.

Skin corrosion/irritation

Not classified based on available information.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitization

Skin sensitization: Not classified based on available information.
Respiratory sensitization: Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

May cause damage to organs (hearing organs) through prolonged or repeated exposure if inhaled.
Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.

Aspiration toxicity

Not classified based on available information.

Carcinogenicity

May cause cancer by inhalation.

IARC	Group 1: Carcinogenic to humans	
	Quartz (SiO2)	14808-60-7
	Group 2B: Possibly carcinogenic to humans	
	titanium dioxide	13463-67-7
	ethylbenzene	100-41-4
NTP	Known to be human carcinogen	

Quartz (SiO2) 14808-60-7

Titanium dioxide (13463-67-7)

In lifetime inhalation studies of rats, airborne respirable-size titanium dioxide particles have seen shown to cause an increase in lung tumors at concentrations associated with substantial particle lung burdens and consequential pulmonary overload and inflammation. The potential for these adverse health effects appears to be closely related to the particle size and the amount of the exposed surface area that comes into contact with the lung. However, tests with other laboratory aninals such as mice and hamsters, indicate that rats are significantly more susceptible to the pulmonary overload and inflammation that cause lung cancer. Epidemiology studies do no suggest an increased risk of cancer in humans from occupational exposure to titanium dioxide. Titanium dioxide has been characterized by IARC as possibly carcinogenic to humans (Group 2B) through inhalation (not ingestion). It has not been characterized as a potential carcinogen by either NTP or OSHA.

12. Ecological information

Other information	Do not empty into drains; dispose of this material and its container in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

13. Disposal considerations

Disposal methods

Waste from residues	:	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.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT
Not dangerous goods
IATA
Not dangerous goods
IMDG
Not dangerous goods

Special precautions for user
No data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

15. Regulatory information

TSCA list : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard
Chronic Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

xylene	1330-20-7	2.00 %

Clean Air Act

Ozone-Depletion Potential This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

xylene	1330-20-7	2.00 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65 ⚠**WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov

16. Other information

HMIS Classification

Health	*	3
Flammability		1
Physical Hazard		0
Personal Protection		X

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

Notes to Reader

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SIKA MAKES NO WARRANTIES EXPRESS OR IMPLIED AND ASSUMES NO LIABILITY ARISING FROM THIS INFORMATION OR ITS USE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES AND SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.

All sales of Sika products are subject to its current terms and conditions of sale available at www.sikausa.com or 201-933-8800.

Revision Date 02/13/2017

Material number: 183678

1. Identification

Product name	:	Sikaflex®-2c NS/SL Part B
Supplier	:	Sika Corporation 201 Polito Avenue Lyndhurst, NJ 07071 USA www.sikausa.com
Telephone	:	(201) 933-8800
Telefax	:	(201) 804-1076
E-mail address	:	ehs@sika-corp.com
Emergency telephone	:	CHEMTREC: 800-424-9300 INTERNATIONAL: 703-527-3887
Recommended use of the chemical and restrictions on use	:	For further information, refer to product data sheet.

2. Hazards identification

GHS Classification

Flammable liquids, Category 3	H226: Flammable liquid and vapor.
Carcinogenicity, Category 2 (Inhalation)	H351: Suspected of causing cancer if inhaled.
Specific target organ systemic toxicity - repeated exposure, Category 2, hearing organs (Inhalation)	H373: May cause damage to organs through prolonged or repeated exposure if inhaled.

GHS label elements

Hazard pictograms :

Signal Word : Warning

Hazard Statements : H226 Flammable liquid and vapor.
H351 Suspected of causing cancer if inhaled.
H373 May cause damage to organs (hearing organs) through prolonged or repeated exposure if inhaled.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P280 Wear protective gloves/ eye protection/ face protection.
P281 Use personal protective equipment as required.
Response:
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Warning : Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.

See Section 11 for more detailed information on health effects and symptoms.
There are no hazards not otherwise classified that have been identified during the classification process.
There are no ingredients with unknown acute toxicity used in a mixture at a concentration >= 1%.

3. Composition/information on ingredients

Hazardous ingredients

Chemical name	CAS-No.	Concentration (%)
xylene	1330-20-7	>= 2 - < 5 %
ethylbenzene	100-41-4	>= 0.1 - < 1 %

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.

4. First aid measures

If inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact	:	Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. If symptoms persist, call a physician.
In case of eye contact	:	Remove contact lenses. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting without medical advice. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	No known significant effects or hazards. See Section 11 for more detailed information on health effects and symptoms. Suspected of causing cancer if inhaled. May cause damage to organs through prolonged or repeated exposure if inhaled.
Protection of first-aiders	:	Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance.
Notes to physician	:	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	:	Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	Water High volume water jet
Specific hazards during fire fighting	:	Do not use a solid water stream as it may scatter and spread fire.
Specific extinguishing methods	:	Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Remove all sources of ignition. Deny access to unprotected persons. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
Environmental precautions	:	Prevent product from entering drains. If the product contaminates rivers and lakes or drains inform respective authorities. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Contain spillage, and then collect 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	:	Do not breathe vapors or spray mist. Avoid exceeding the given occupational exposure limits (see section 8). Do not get in eyes, on skin, or on clothing. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharge. Open drum carefully as content may be under pressure. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Follow standard hygiene measures when handling chemical products.
Conditions for safe storage	:	Store in original container. Keep in a well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Store in accordance with local regulations.
Materials to avoid	:	No data available

8. Exposure controls/personal protection

Component	CAS-No.	Basis **	Value	Exposure limit(s)* / Form of exposure
xylene	1330-20-7	OSHA Z-1	TWA	100 ppm 435 mg/m3
		OSHA P0	STEL	150 ppm 655 mg/m3
		OSHA P0	TWA	100 ppm 435 mg/m3

		ACGIH	TWA	100 ppm
		ACGIH	STEL	150 ppm
ethylbenzene	100-41-4	ACGIH	TWA	20 ppm
		ACGIH	STEL	125 ppm
		OSHA Z-1	TWA	100 ppm 435 mg/m3
		OSHA P0	TWA	100 ppm 435 mg/m3
		OSHA P0	STEL	125 ppm 545 mg/m3

*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

****Basis**
ACGIH. Threshold Limit Values (TLV)
OSHA P0. Table Z-1, Limit for Air Contaminat (1989 Vacated Values)
OSHA P1. Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant
OSHA P2. Permissible Exposure Limits (PEL), Table Z-2
OSHA Z3. Table Z-3, Mineral Dust

Engineering measures : Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.
The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits.

Personal protective equipment

Respiratory protection : Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection

Remarks	:	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.
Eye protection	:	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.
Skin and body protection	:	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Hygiene measures	:	Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Remove respiratory and skin/eye protection only after vapors have been cleared from the area. Remove contaminated clothing and protective equipment before entering eating areas.

9. Physical and chemical properties

Appearance	:	liquid
Color	:	clear transparent
Odor	:	aromatic
Odor Threshold	:	No data available
Flash point	:	111.9 °F (44.4 °C)
Ignition temperature	:	869 °F (465 °C)
Decomposition temperature	:	No data available
Lower explosion limit (Vol%)	:	No data available
Upper explosion limit (Vol%)	:	No data available
Flammability (solid, gas)	:	No data available
Oxidizing properties	:	No data available
pH	:	No data available
Melting point/range / Freezing point	:	No data available
Boiling point/boiling range	:	No data available
Vapor pressure	:	0.01 mmHg (0.01 hpa)
Density	:	1.02 g/cm3 at 68 °F (20 °C)

Water solubility	:	Note: insoluble
Partition coefficient: n-octanol/water	:	No data available
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	> 20.5 mm2/s
Relative vapor density	:	No data available
Evaporation rate	:	No data available
Burning rate	:	No data available
Volatile organic compounds (VOC) content	:	19 g/l Sikaflex®-2c NS Part A + Part B 38 g/l Sikaflex®-2c SL Part A + Part B 58 g/l Sikaflex®-2c NS EZ Mix Part A + Part B 58 g/l Sikaflex®-2c NS EZ Mix Part A + Part B + Sikaflex®-2c NS EZ Mix Booster 65 g/l Sikaflex®-2c NS EZ Mix Part A + Part B + Sikaflex®-2c NS EZ Mix Booster + Sikaflex®-2c NS TG 65 g/l Sikaflex®-2c NS EZ Mix Part A + Part B + Sikaflex®-2c NS TG

10. Stability and reactivity

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	Stable under recommended storage conditions. Vapors may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	No data available

11. Toxicological information

Acute toxicity

Not classified based on available information.

Ingredients:

xylene:

Acute oral toxicity	:	LD50 Oral (Rat): 3,523 mg/kg
Acute dermal toxicity	:	LD50 Dermal (Rabbit): 1,700 mg/kg

ethylbenzene:

Acute oral toxicity	:	LD50 Oral (Rat): 3,500 mg/kg
Acute dermal toxicity	:	LD50 Dermal (Rabbit): 5,510 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Serious eye damage/eye irritation

Not classified based on available information.

Respiratory or skin sensitization

Skin sensitization: Not classified based on available information.
Respiratory sensitization: Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

May cause damage to organs (hearing organs) through prolonged or repeated exposure if inhaled.
Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.

Aspiration toxicity

Not classified based on available information.

Carcinogenicity

Suspected of causing cancer if inhaled.

IARC	Group 2B: Possibly carcinogenic to humans	
	ethylbenzene	100-41-4
NTP	Not applicable	

12. Ecological information

Other information: Do not empty into drains; dispose of this material and its container in a safe way.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Component:

xylene	1330-20-7	Toxicity to fish:
		Species: Oncorhynchus mykiss (rainbow trout) Dose: 3.3 mg/l Exposure time: 96 h

13. Disposal considerations

Disposal methods

Waste from residues	:	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.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	1993
Description of the goods	Flammable liquids, n.o.s. (xylene)
Class	3
Packing group	III
Labels	3
Emergency Response Guidebook Number	128

IATA

UN number	1993
Description of the goods	Flammable liquid, n.o.s. (xylene)
Class	3
Packing group	III
Labels	3
Packing instruction (cargo aircraft)	366

IMDG

UN number	1993
Description of the goods	FLAMMABLE LIQUID, N.O.S. (xylene)
Class	3
Packing group	III
Labels	3
EmS Number 1	F-E
EmS Number 2	S-E
Marine pollutant	no

DOT: As per 49CFR 173.150 (f) Combustible Liquid Exception, Material is Not Regulated.
IMDG: For Limited Quantity special provisions reference IMDG Code Chapter 3.4

Special precautions for user
No data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

15. Regulatory information

TSCA list : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Fire Hazard
Chronic Health Hazard

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

xylene	1330-20-7	4.93 %
ethylbenzene	100-41-4	0.98 %

Clean Air Act

Ozone-Depletion Potential This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

xylene	1330-20-7	4.93 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65 ⚠ **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov

16. Other information

HMIS Classification

Health	*	2
Flammability		2
Physical Hazard		0
Personal Protection		X

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

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Revision Date 06/09/2017

Material number: 183677

Construction

Sikaflex 2c

Application Instructions

Sika Corporation

Construction

Sikaflex 2c NS

A two-component, non-sag, polyurethane elastomeric sealant.

Where to use:

- Building façade color matching
- Parking structures, precast concrete, tilt up,
- EIFS (Dryvit, Sto, etc)
- Submerged environments
- Canal and reservoir joints

Sika Corporation

Construction

Sikaflex 2c

- Sikaflex-2cNS
  - 2-component, ±50% movement capability, 25±5 shore A hardness
- Sikaflex-2cNSTG
  - 3-component, +25% movement capability, 45±5 shore A hardness
- Sikaflex-2cSL
  - 2-component, ±50% movement capability, 40±5 shore A hardness

Construction

Sealant Installation

Substrate Preparation

- Proper preparation will eliminate majority of installation failures
  - Most common mode of sealant failure is adhesive
- Remove all weak material on bonding surface of porous substrates
- Surfaces must be clean, dry, and free of dew or frost
- Use best practices per industry standards
  - Porous substrate: abrasive, high pressure water (allow to dry after), grinding, wire brush
  - Non-porous substrate: 2 rag method

Construction

Mechanical Methods

Saw cut joint – to provide proper width & sound joint interface.

Sika Corporation

Construction

Mechanical Methods

Sandblast to remove residues & provide profile

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Construction

Critical Success Factors

Priming

- Priming can help get a better bond in many situations
  - Priming does no substitute for good prep
  - Many products perform w/out primers
  - Most commonly used on horizontal and submerged applications
  - Must be done properly to work (primers are not error free: ponding, waiting time, etc.)

Proper primer application with brush
Prime only sides of the joint.
Primer outside the joint may stain the substrate.
Prime & seal the same day

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Construction

Critical Success Factors

Backing materials

- Why use backer rod:
  - Attain proper wetting of substrate when sealant is tooled
  - Control sealant depth
  - Prevent 3-sided adhesion
  - Provide support for traffic areas

Sika®

Construction

Critical Success Factors

Backing materials

- Recommended Materials
  - Closed cell backer rod: primarily a foam material with a surface skin
  - Open cell backer rod: primarily a foam material without a skin
  - Bicellular backer rod: sometimes called “soft” rod, this foam acts like a hybrid between open and closed cell rods
  - Backing tape: primarily a self-adhesive polyethylene or Teflon material
  - Hard rectangular extrusions for horizontals

Construction

Sealant Installation

Backing Materials

Sika Corporation

Construction

Sealant Installation

Backing Materials

- Make sure backer rod is 25% larger than joint width (under compression) to offer good tooling base
- No not puncture closed cell backer rod when installing prior to sealant installation
  - Will cause bubbling in sealant

Construction

Sealant Installation

Mixing

- **Packaging:**
  - 1.5 gallon unit (A & B Component)
  - 3 gallon unit (A & 2B Components)
  - Color pak or pre-tinted limestone

Construction

Sealant Installation

Mixing

- Open pail of Sikaflex 2c and remove "B" component

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Construction

Sealant Installation

Mixing

- Pour entire contents of "B" component into pail of component "A"
- Add entire contents of color pak into pail if using tint base

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Construction

Sealant Installation

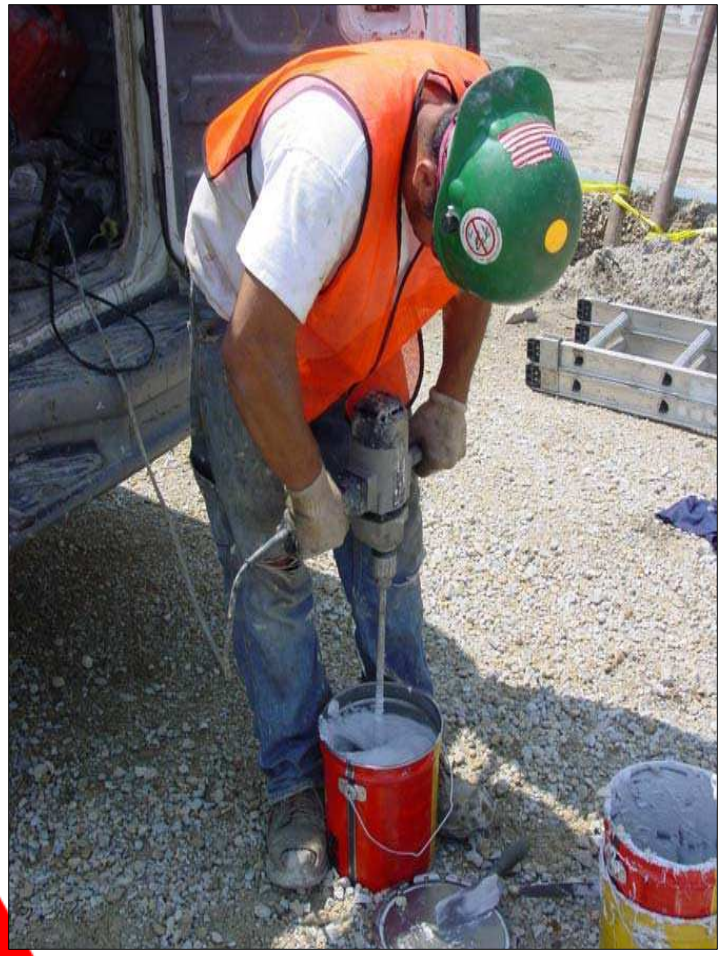
Mixing

- A cold weather booster can be added to speed up tack time

Construction

Sealant Installation

Mixing



Sealant Mixing Paddles

- Mix with a low speed drill (400-600 rpm) and a sealant mixing paddle.
- Mix for 3-5 minutes to achieve a proper consistency and uniform color
- Avoid entrapment of air during mixing

Sika Corporation

Construction

Sealant Installation

Mixing

- Scrape down the sides of the pail periodically to ensure all of the material is properly mixed.

Sika Corporation

Construction

Sealant Installation

Loading

- Load sealant directly into a bulk sealant gun directly or use a follower plate system

Construction

Sealant Installation

Gunning

- Place nozzle of gun into the bottom of the joint and fill the entire joint

Sika Corporation

Construction

Sealant Installation

Gunning

- Keeping nozzle deep in the sealant, continue a steady flow of sealant preceding the nozzle to avoid air entrapment
- Avoid overlapping sealant
- **Coverage:**
  - 1 gallon yields 231 cubic inches of 154 linear feet of ½□x ¼□joint

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Construction

Sealant Installation
Gunning

When neatness counts always tape off the sides of the joint using Duct Tape.

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Construction

Sealant Installation

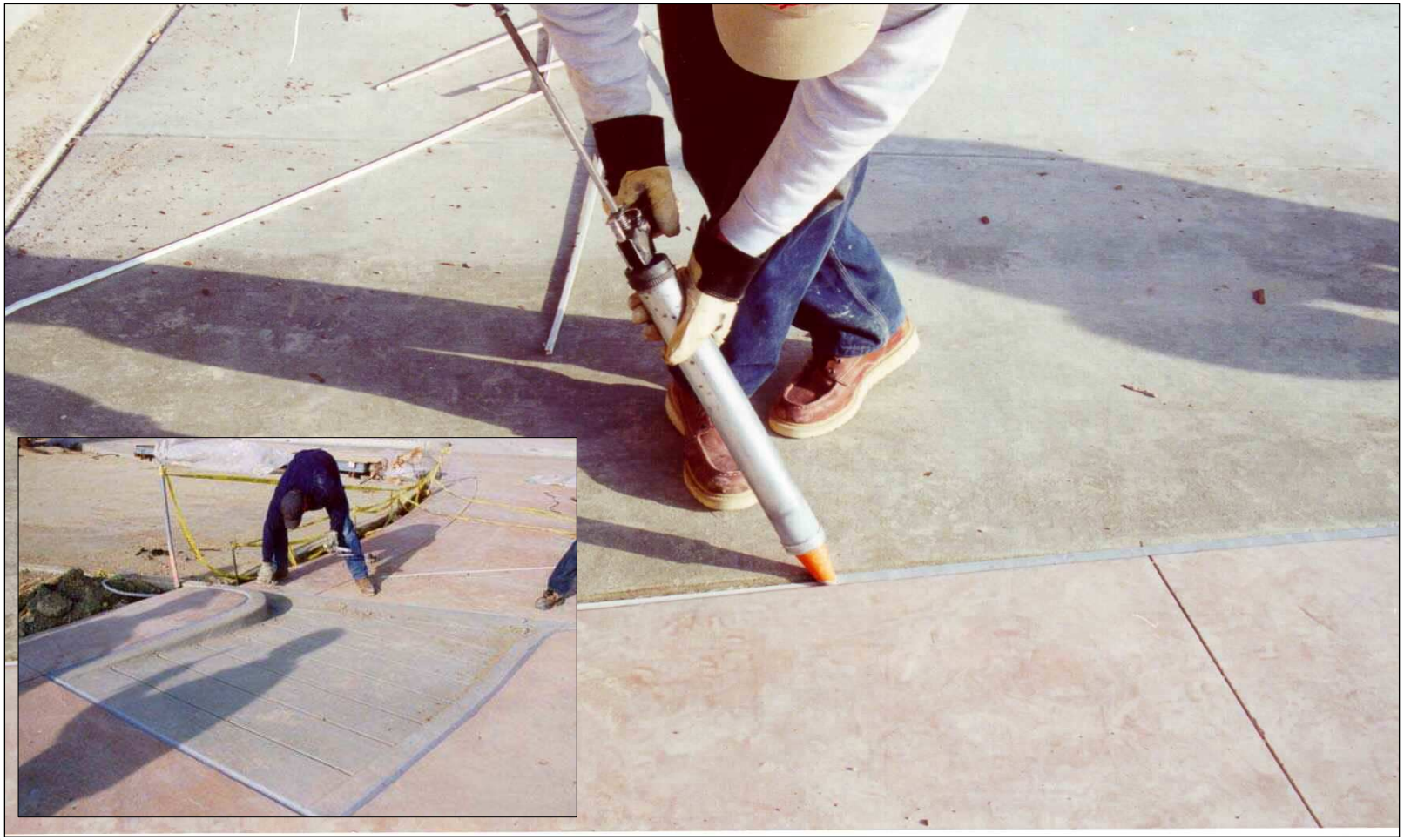
Gunning

Horizontal applications require excellent adhesion to concrete and self leveling option for flat work. Sealant must handle specified traffic conditions.

Construction

Sealant Installation

Gunning



Sika Corporation

Construction

Sealant Installation

Tooling

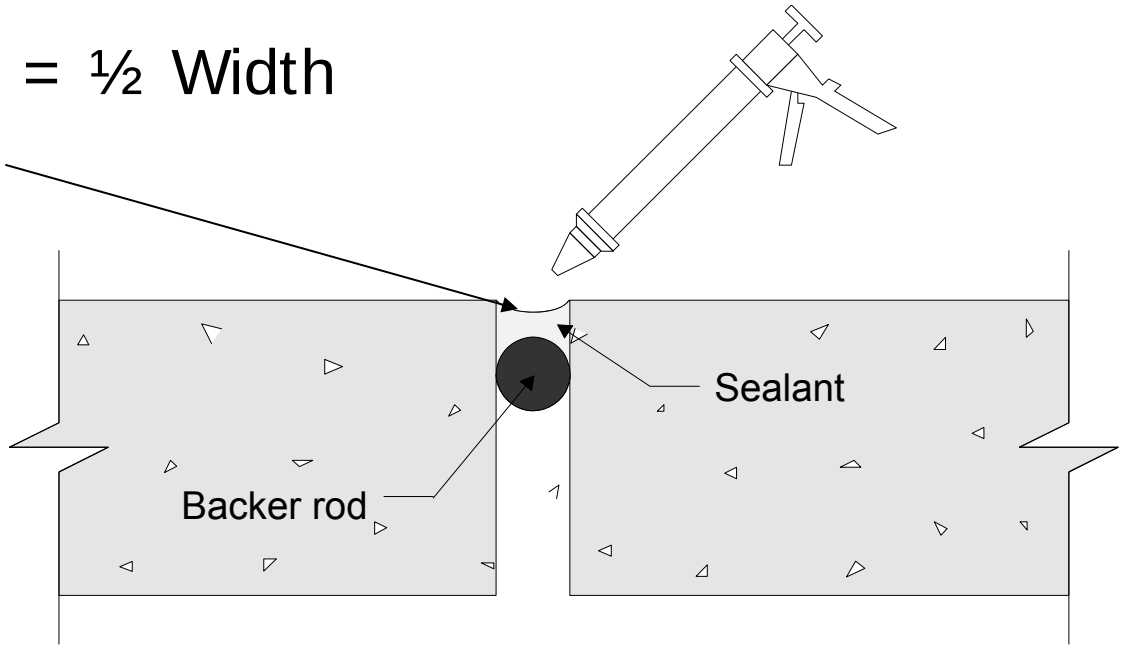
- Dry tool sealant to press material against joint walls or bonding surface

Construction

Sealant Installation

Joint Design

Depth = ½ Width



1. Install appropriate backer material to prevent three-sided adhesion and to control sealant depth.
2. Sealant should be gunned into joint at mid-point of designed expansion and contraction to maximize accommodation of movement. Joint dimension of 4X anticipated movement allows proper function of high performance sealants even if applied at temperature extremes.
3. Tool as required to properly fill joints and force sealant against joint interfaces, maximizing bond.

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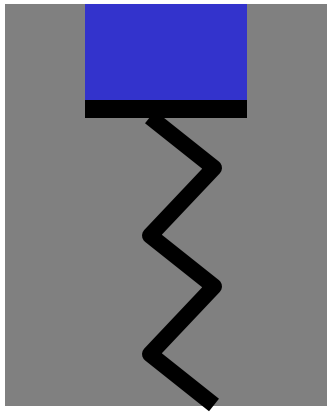
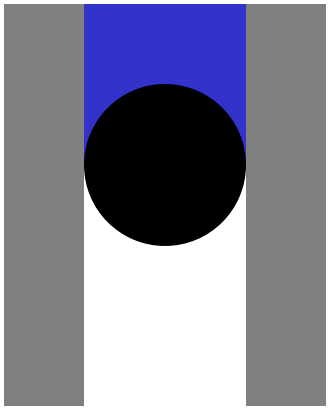
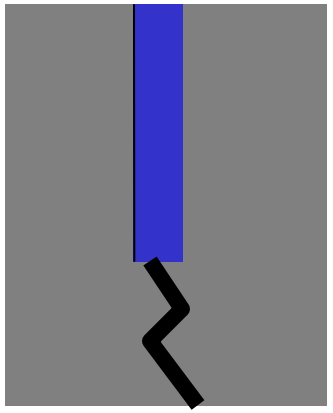
Sealant Installation

Joint Design







- 2:1 or 1:1 width:depth
- Minimum ¼□x ¼□
- Minimum ½□depth for traffic
- 2 sided adhesion, not 3
- Joint movement to match product

- Protect nosing
- Needs support
- May separate

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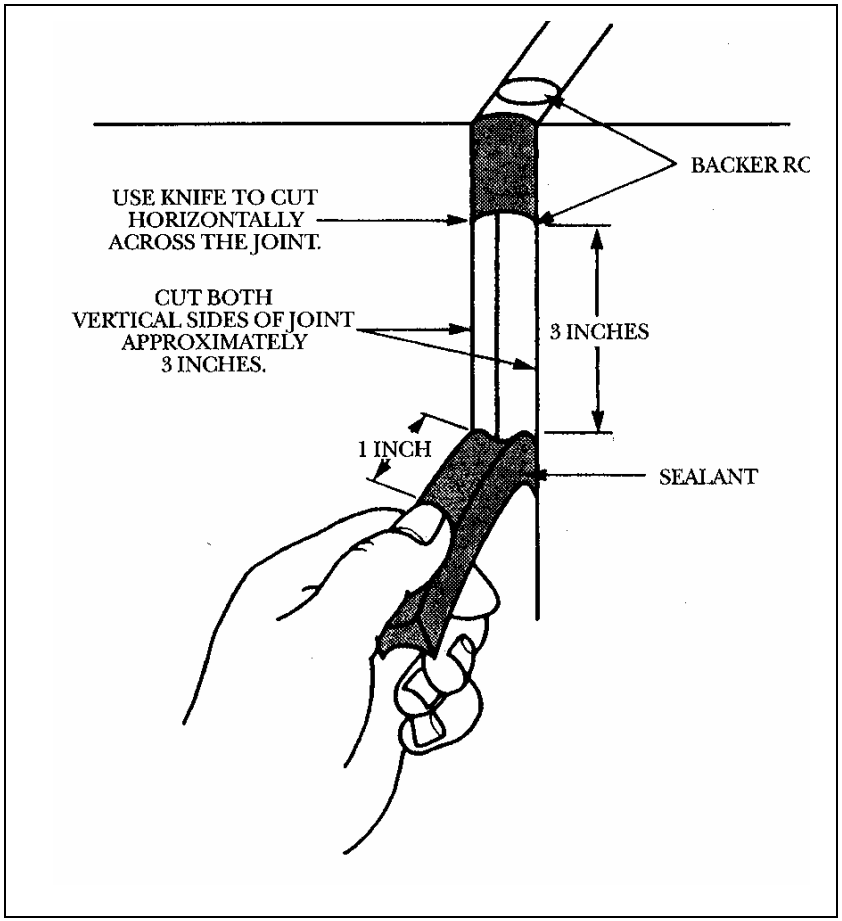
Jobsite Mock-Up

- Jobsite Pull Test:
  - After material has cured to ensure proper bond



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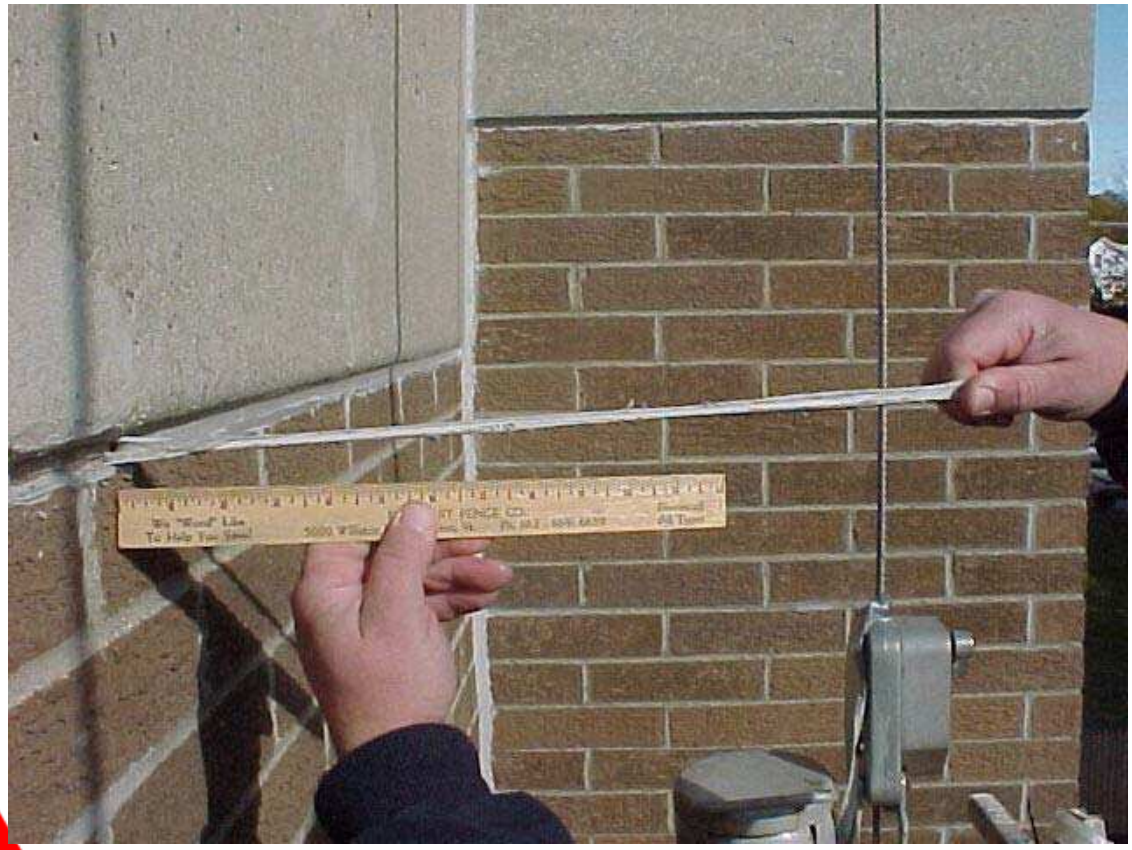
Jobsite Pull Test



Place sealant and allow to cure. Cut a 2-3 piece of the sealant and pull at a 90º angle from the substrate. The sealant should not peel from the joint interface.

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Construction

Sikaflex 2c

Sika Technical Data Sheets can be obtained via:

www.sikaconstruction.com

Refer to data sheets for specific information on each Sika product.

SikaFlex®-2c Color Guide

Two-component polyurethane elastomeric sealant


WHITE


ALUMINUM GRAY


GRAY


DESERT TAUPE


BLUSH BEIGE


SIERRA BEIGE


BRITE WHITE


ARMARILLO WHITE


MEDIUM BROWN


BAPTIST RED


SANDALWOOD


BUFF


VAN DYKE


BRICK


DARK BRONZE


LIMESTONE


PARCHMENT


PRECAST


EVERGREEN


SAHARA

COLONIAL WHITE


MINNESOTA GRAY


TAN


ADOBE ACCENT


GREEN GRAY


SANDALWOOD BEIGE


EGGSHELL CREAM


CAPITOL


REDWOOD


GEOGRAPHIC BEIGE


PEARL ASH


DOVER SKY


RUSTIC RED


BRONZE


BLACK

Colors show approximate tone without any texture, and color of actual product may vary slightly. Custom colors available with adequate lead time and minimum batch quantities. Please consult your Sika representative for further information and pricing. Color representation will vary between screens. For more accurate colors, consult a cured sample or physical color card.

Sika Corporation
201 Polito Avenue, Lyndhurst, NJ 07071
Phone: 1-800-933-8800
Fax: 201-933-6225

BUILDING TRUST

Section:	07 90 00 Joint Protection
#:	0011
Specified:	2.02.B., Two Component, Self-Leveling Polyurethane Sealant
Reference:	view spec
Item submitted:	Sikaflex®-2c SL

Sikaflex-2c-SL-Product-Data-1847292.PDF
Sikaflex-2c-SL-SDS-1852937.PDF
Sikaflex-2c-SL-SDS-1852935.PDF
Sikaflex-2c-SL-Installation-Instructions-350053.pdf
Sikaflex-2c-SL-Color-Chart-1852942.PDF

BUILDING TRUST

PRODUCT DATA SHEET

Sikaflex®-2c SL

TWO-COMPONENT, SELF-LEVELING, POLYURETHANE ELASTOMERIC SEALANT

PRODUCT DESCRIPTION

Sikaflex®-2c SL is a 2-component, premium-grade, polyurethane-based, elastomeric sealant. It is principally a chemical cure in a self-leveling consistency. ASTM C-920, Type M, Grade P, Class 25, use T, NT, M, G, A, O, I. Federal Specification TT-S-00227E, Type 1, Class A.

USES

- Intended for use in all properly designed working joints with a minimum depth of 1/4 inch.
- Ideal for horizontal applications.
- Placeable at temperatures as low as 40 °F.
- Adheres to most substrates commonly found in construction.
- Submerged conditions, such as canal and reservoir joints.

CHARACTERISTICS / ADVANTAGES

- True self-leveling properties.
- Capable of ±50% joint movement.
- Chemical cure allows the sealant to be placed in non-moving joints exceeding 1/2 in. in depth.
- High elasticity with a tough, durable, flexible consistency.
- Exceptional cut and tear resistance.
- Exceptional adhesion to most substrates without priming.
- Available in 35 architectural colors.
- Color uniformity assured via Color-pak system.
- Available in pre-pigmented Limestone (no Color-pak needed).
- Self-leveling consistency, easy to apply in horizontal joints.
- Easy to mix.
- Paintable with water-, oil-, and rubber-base paints.
- Jet fuel resistant.

APPROVALS / STANDARDS

PRODUCT INFORMATION

Packaging	1.5 gal. unit. 3 gal. units. Color-pak is purchased separately. Limestone Gray color available pre-pigmented.
Color	A wide range of architectural colors are available. Special colors available on request.
Shelf Life	One year in original, unopened containers.
Storage Conditions	Store dry at 40–95 °F (4–35 °C). Condition material to 65–75 °F before using.

TECHNICAL INFORMATION

Shore A Hardness	40 ± 5		(21 days at 73 °F (23 °C) and 50 % R.H.) (ASTM D-2240)
Tensile Strength	175 psi		(21 days at 73 °F (23 °C) and 50 % R.H.) (ASTM D 412)
Tensile Stress at Specified Elongation	100 psi (at 100 %)		(21 days at 73 °F (23 °C) and 50 % R.H.) (ASTM D 412)
Elongation at Break	650 %		(21 days at 73 °F (23 °C) and 50 % R.H.) (ASTM D-412)
Adhesion in Peel	Peel Strength (concrete) 30 lbs.	Adhesion loss 0 %	(73 °F (23 °C) and 50 % R.H.) (Fed Spec. TT-S-00227E)
Tear Strength	100 lbs./in.		(73 °F (23 °C) and 50 % R.H.) (ASTM D-624)
Chemical Resistance	Good resistance to water, diluted acids, diluted alkalines, and residential sewage. Consult Technical Service for specific data.		
Resistance to Weathering	Excellent		
Service Temperature	–40 °F to +170 °F (–40 °C to 75 °C)		

APPLICATION INFORMATION

Coverage

1 gallon: Yield in Linear feet

Width/Depth	1/4''	3/8''	1/2''
1/4''	307.9		
3/8''	205.3	136.8	
1/2''	153.9	102.6	77.0
3/4''	102.6	68.4	51.3
1''			38.5
1.25''			30.8
1.5''			25.7

Ambient Air Temperature	40 °F (4 °C) to 100 °F (38 °C). Sealant should be installed when joint is at mid-range of its anticipated movement.		
Substrate Temperature	40 °F (4 °C) to 100 °F (38 °C). Sealant should be installed when joint is at mid-range of its anticipated movement.		
Cure Time	Tack-free Time Final Cure	6-8 hours 3 days	(73F (23C) and 50% RH) (ASTM C 679)
Application Time	4h		(73 °F (23 °C) and 50 % R.H.) (TT-S-00227E)

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

Joint wall surfaces must be clean, sound, and frost-free. Joint walls must be free of oils, grease, curing compound residues, and any other foreign matter that might prevent bond. Ideally this should be accomplished by mechanical means. A roughened surface will also enhance bond. Bond breaker tape or backer rod must be used in bottom of joint to prevent bond.

Priming is typically not necessary. Most substrates only require priming if sealant will be subjected to water immersion after cure. Testing should be done, however, on questionable substrates, to determine if priming is needed. Consult Technical Service or Sikaflex Primer Technical Data Sheet for additional information on priming.

MIXING

Pour entire contents of Component 'B' into pail of Component 'A'. Add entire contents of Color-pak into pail and mix with a low-speed drill (400–600 rpm) and Sikaflex paddle. * Mix for 3–5 minutes to achieve a uniform color and consistency. Scrape down sides of pail periodically. Avoid entrapment of air during mixing. Color-pak must be used with tint base. Note: When mixing 3 gal. unit, two containers of Component B and

two color-paks must be used. *For pre-pigmented Limestone base, just mix with low speed drill and Sikaflex paddle (no Color-pak needed).

APPLICATION METHOD / TOOLS

Recommended application temperatures 40–100 °F. Pre-conditioning units to 65–75 °F is necessary when working at extremes. Move pre-conditioned units to work areas just prior to application. Apply sealant only to clean, sound, dry, and frost-free substrates. Sikaflex-2c should be applied into joints when joint slot is at mid-point of its designed expansion and contraction. To place, pour or extrude the SL grade in one direction and allow it to flow and level as necessary. If extruding, load mixed sealant directly into bulk gun or use follower plate loading system. Place nozzle of gun into bottom of joint and fill entire joint. Keeping the nozzle deep in the sealant, continue with a steady flow of sealant preceding nozzle to avoid air entrapment. Also, avoid overlapping of sealant since this also entraps air.

Tooling and Finishing
Tool as necessary. Joint dimension should allow for 1/4 inch minimum and 1/2 inch maximum thickness for sealant. Proper design is 2:1 width to depth ratio.
Removal
Uncured material can be removed with an approved solvent. Strictly follow solvent manufacturer's warnings and instructions for use. Cured material can only be removed mechanically. For spillage, collect, absorb, and dispose of in accordance with current, applicable local, state, and federal regulations.

LIMITATIONS

- The ultimate performance of Sikaflex-2c, depends on good joint design and proper application.
- Minimum depth in working joint is 1/4 in.
- Maximum expansion and contraction should not exceed 50 % of average joint width.
- Do not cure in the presence of curing silicones.
- Avoid contact with alcohol and other solvent cleaners during cure.
- Allow 3 day cure before subjecting sealant to total water immersion. Primer is required if sealant will be subjected to total water immersion.
- Avoid exposure to high levels of chlorine. (Maximum level is 5 ppm).
- Do not apply when moisture vapor transmission exists since this can cause bubbling within the sealant.
- Avoid over-mixing sealant.
- White color tends to yellow slightly when exposed to ultraviolet rays.
- Light colors can yellow if exposed to direct gas fired heating elements.
- When overcoating: an on-site test is recommended to determine actual compatibility.
- Rigid paints, coatings or primers will crack when placed over elastomeric sealants experiencing expansion or contraction.
- The minimum depth of sealant in horizontal joints subject to traffic is 1/2 inch.
- Do not tool with detergent or soap solution.

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

OTHER RESTRICTIONS

See Legal Disclaimer.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

LEGAL DISCLAIMER

- **KEEP CONTAINER TIGHTLY CLOSED**
- **KEEP OUT OF REACH OF CHILDREN**
- **NOT FOR INTERNAL CONSUMPTION**
- **FOR INDUSTRIAL USE ONLY**
- **FOR PROFESSIONAL USE ONLY**

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within the product's shelf life. User determines suitability of product for intended use and assumes all risks. User's and/or buyer's sole remedy shall be limited to the purchase price or replacement of this product exclusive of any labor costs. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

Sale of SIKA products are subject to the Terms and Conditions of Sale which are available at https://usa.sika.com/en/group/SikaCorp/termsandconditions.html or by calling 1-800-933-7452.

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Sika Mexicana S.A. de C.V.
Carretera Libre Celaya Km. 8.5
Fracc. Industrial Balvanera
Corregidora, Queretaro
C.P. 76920
Phone: 52 442 2385800
Fax: 52 442 2250537

1. Identification

Product name	:	Sikaflex®-2c NS/SL Part B
Supplier	:	Sika Corporation 201 Polito Avenue Lyndhurst, NJ 07071 USA www.sikausa.com
Telephone	:	(201) 933-8800
Telefax	:	(201) 804-1076
E-mail address	:	ehs@sika-corp.com
Emergency telephone	:	CHEMTREC: 800-424-9300 INTERNATIONAL: 703-527-3887
Recommended use of the chemical and restrictions on use	:	For further information, refer to product data sheet.

2. Hazards identification

GHS Classification

Flammable liquids, Category 3	H226: Flammable liquid and vapor.
Carcinogenicity, Category 2 (Inhalation)	H351: Suspected of causing cancer if inhaled.
Specific target organ systemic toxicity - repeated exposure, Category 2, hearing organs (Inhalation)	H373: May cause damage to organs through prolonged or repeated exposure if inhaled.

GHS label elements

Hazard pictograms :

Signal Word : Warning

Hazard Statements : H226 Flammable liquid and vapor.
H351 Suspected of causing cancer if inhaled.
H373 May cause damage to organs (hearing organs) through prolonged or repeated exposure if inhaled.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P280 Wear protective gloves/ eye protection/ face protection.
P281 Use personal protective equipment as required.
Response:
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Warning : Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.

See Section 11 for more detailed information on health effects and symptoms.
There are no hazards not otherwise classified that have been identified during the classification process.
There are no ingredients with unknown acute toxicity used in a mixture at a concentration >= 1%.

3. Composition/information on ingredients

Hazardous ingredients

Chemical name	CAS-No.	Concentration (%)
xylene	1330-20-7	>= 2 - < 5 %
ethylbenzene	100-41-4	>= 0.1 - < 1 %

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.

4. First aid measures

If inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact	:	Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. If symptoms persist, call a physician.
In case of eye contact	:	Remove contact lenses. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting without medical advice. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	No known significant effects or hazards. See Section 11 for more detailed information on health effects and symptoms. Suspected of causing cancer if inhaled. May cause damage to organs through prolonged or repeated exposure if inhaled.
Protection of first-aiders	:	Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance.
Notes to physician	:	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	:	Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	Water High volume water jet
Specific hazards during fire fighting	:	Do not use a solid water stream as it may scatter and spread fire.
Specific extinguishing methods	:	Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Remove all sources of ignition. Deny access to unprotected persons. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
Environmental precautions	:	Prevent product from entering drains. If the product contaminates rivers and lakes or drains inform respective authorities. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Contain spillage, and then collect 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	:	Do not breathe vapors or spray mist. Avoid exceeding the given occupational exposure limits (see section 8). Do not get in eyes, on skin, or on clothing. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharge. Open drum carefully as content may be under pressure. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Follow standard hygiene measures when handling chemical products.
Conditions for safe storage	:	Store in original container. Keep in a well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Store in accordance with local regulations.
Materials to avoid	:	No data available

8. Exposure controls/personal protection

Component	CAS-No.	Basis **	Value	Exposure limit(s)* / Form of exposure
xylene	1330-20-7	OSHA Z-1	TWA	100 ppm 435 mg/m3
		OSHA P0	STEL	150 ppm 655 mg/m3
		OSHA P0	TWA	100 ppm 435 mg/m3

		ACGIH	TWA	100 ppm
		ACGIH	STEL	150 ppm
ethylbenzene	100-41-4	ACGIH	TWA	20 ppm
		ACGIH	STEL	125 ppm
		OSHA Z-1	TWA	100 ppm 435 mg/m3
		OSHA P0	TWA	100 ppm 435 mg/m3
		OSHA P0	STEL	125 ppm 545 mg/m3

*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

****Basis**
ACGIH. Threshold Limit Values (TLV)
OSHA P0. Table Z-1, Limit for Air Contaminat (1989 Vacated Values)
OSHA P1. Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant
OSHA P2. Permissible Exposure Limits (PEL), Table Z-2
OSHA Z3. Table Z-3, Mineral Dust

Engineering measures : Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.
The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits.

Personal protective equipment

Respiratory protection : Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection

Remarks	:	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.
Eye protection	:	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.
Skin and body protection	:	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Hygiene measures	:	Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Remove respiratory and skin/eye protection only after vapors have been cleared from the area. Remove contaminated clothing and protective equipment before entering eating areas.

9. Physical and chemical properties

Appearance	:	liquid
Color	:	clear transparent
Odor	:	aromatic
Odor Threshold	:	No data available
Flash point	:	111.9 °F (44.4 °C)
Ignition temperature	:	869 °F (465 °C)
Decomposition temperature	:	No data available
Lower explosion limit (Vol%)	:	No data available
Upper explosion limit (Vol%)	:	No data available
Flammability (solid, gas)	:	No data available
Oxidizing properties	:	No data available
pH	:	No data available
Melting point/range / Freezing point	:	No data available
Boiling point/boiling range	:	No data available
Vapor pressure	:	0.01 mmHg (0.01 hpa)
Density	:	1.02 g/cm3 at 68 °F (20 °C)

Water solubility	:	Note: insoluble
Partition coefficient: n-octanol/water	:	No data available
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	> 20.5 mm2/s
Relative vapor density	:	No data available
Evaporation rate	:	No data available
Burning rate	:	No data available
Volatile organic compounds (VOC) content	:	19 g/l Sikaflex®-2c NS Part A + Part B 38 g/l Sikaflex®-2c SL Part A + Part B 58 g/l Sikaflex®-2c NS EZ Mix Part A + Part B 58 g/l Sikaflex®-2c NS EZ Mix Part A + Part B + Sikaflex®-2c NS EZ Mix Booster 65 g/l Sikaflex®-2c NS EZ Mix Part A + Part B + Sikaflex®-2c NS EZ Mix Booster + Sikaflex®-2c NS TG 65 g/l Sikaflex®-2c NS EZ Mix Part A + Part B + Sikaflex®-2c NS TG

10. Stability and reactivity

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	Stable under recommended storage conditions. Vapors may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	No data available

11. Toxicological information

Acute toxicity

Not classified based on available information.

Ingredients:

xylene:

Acute oral toxicity	:	LD50 Oral (Rat): 3,523 mg/kg
Acute dermal toxicity	:	LD50 Dermal (Rabbit): 1,700 mg/kg

ethylbenzene:

Acute oral toxicity	:	LD50 Oral (Rat): 3,500 mg/kg
Acute dermal toxicity	:	LD50 Dermal (Rabbit): 5,510 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Serious eye damage/eye irritation

Not classified based on available information.

Respiratory or skin sensitization

Skin sensitization: Not classified based on available information.
Respiratory sensitization: Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

May cause damage to organs (hearing organs) through prolonged or repeated exposure if inhaled.
Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.

Aspiration toxicity

Not classified based on available information.

Carcinogenicity

Suspected of causing cancer if inhaled.

IARC	Group 2B: Possibly carcinogenic to humans	
	ethylbenzene	100-41-4
NTP	Not applicable	

12. Ecological information

Other information: Do not empty into drains; dispose of this material and its container in a safe way.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Component:

xylene	1330-20-7	Toxicity to fish:
		Species: Oncorhynchus mykiss (rainbow trout) Dose: 3.3 mg/l Exposure time: 96 h

13. Disposal considerations

Disposal methods

Waste from residues	:	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.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	1993
Description of the goods	Flammable liquids, n.o.s. (xylene)
Class	3
Packing group	III
Labels	3
Emergency Response Guidebook Number	128

IATA

UN number	1993
Description of the goods	Flammable liquid, n.o.s. (xylene)
Class	3
Packing group	III
Labels	3
Packing instruction (cargo aircraft)	366

IMDG

UN number	1993
Description of the goods	FLAMMABLE LIQUID, N.O.S. (xylene)
Class	3
Packing group	III
Labels	3
EmS Number 1	F-E
EmS Number 2	S-E
Marine pollutant	no

DOT: As per 49CFR 173.150 (f) Combustible Liquid Exception, Material is Not Regulated.
IMDG: For Limited Quantity special provisions reference IMDG Code Chapter 3.4

Special precautions for user
No data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

15. Regulatory information

TSCA list : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Fire Hazard
Chronic Health Hazard

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

xylene	1330-20-7	4.93 %
ethylbenzene	100-41-4	0.98 %

Clean Air Act

Ozone-Depletion Potential This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

xylene	1330-20-7	4.93 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65 ⚠ **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov

16. Other information

HMIS Classification

Health	*	2
Flammability		2
Physical Hazard		0
Personal Protection		X

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

Notes to Reader

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All sales of Sika products are subject to its current terms and conditions of sale available at www.sikausa.com or 201-933-8800.

Revision Date 06/09/2017

Material number: 183677

1. Identification

Product name	:	Sikaflex®-2c SL Part A limestone
Supplier	:	Sika Corporation 201 Polito Avenue Lyndhurst, NJ 07071 USA www.sikausa.com
Telephone	:	(201) 933-8800
Telefax	:	(201) 804-1076
E-mail address	:	ehs@sika-corp.com
Emergency telephone	:	CHEMTREC: 800-424-9300 INTERNATIONAL: 703-527-3887
Recommended use of the chemical and restrictions on use	:	For further information, refer to product data sheet.

2. Hazards identification

GHS Classification

Eye irritation, Category 2A	H319: Causes serious eye irritation.
Carcinogenicity, Category 1A (Inhalation)	H350i: May cause cancer by inhalation.
Specific target organ systemic toxicity - repeated exposure, Category 2, hearing organs (Inhalation)	H373: May cause damage to organs through prolonged or repeated exposure if inhaled.

GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H319 Causes serious eye irritation.
H350i May cause cancer by inhalation.
H373 May cause damage to organs (hearing organs) through prolonged or repeated exposure if inhaled.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.

P280 Wear eye protection/ face protection.
P281 Use personal protective equipment as required.
Response:
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Warning : Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.

See Section 11 for more detailed information on health effects and symptoms.
There are no hazards not otherwise classified that have been identified during the classification process.
There are no ingredients with unknown acute toxicity used in a mixture at a concentration >= 1%.

3. Composition/information on ingredients

Hazardous ingredients

Chemical name	CAS-No.	Concentration (%)
xylene	1330-20-7	>= 2 - < 5 %
aluminium sulphate	10043-01-3	>= 2 - < 5 %
ethylbenzene	100-41-4	< 1 %
Quartz (SiO2)	14808-60-7	< 1 %

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.

4. First aid measures

If inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.

		Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting without medical advice. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person.
Most important symptoms and effects, both acute and delayed	:	irritant effects carcinogenic effects Excessive lachrymation See Section 11 for more detailed information on health effects and symptoms. Causes serious eye irritation. May cause cancer by inhalation. May cause damage to organs through prolonged or repeated exposure if inhaled.
Protection of first-aiders	:	Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance.
Notes to physician	:	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Specific extinguishing methods	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Deny access to unprotected persons.
Environmental precautions	:	Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

7. Handling and storage

Advice on safe handling : Avoid exceeding the given occupational exposure limits (see section 8).
Do not get in eyes, on skin, or on clothing.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Follow standard hygiene measures when handling chemical products.

Conditions for safe storage : Prevent unauthorized access.
Store in original container.
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Store in accordance with local regulations.

Materials to avoid : No data available

8. Exposure controls/personal protection

Component	CAS-No.	Basis **	Value	Exposure limit(s)* / Form of exposure
calcium carbonate	471-34-1	CAL PEL	PEL	10 mg/m3 Total dust
		CAL PEL	PEL	5 mg/m3 respirable dust fraction
xylene	1330-20-7	OSHA Z-1	TWA	100 ppm 435 mg/m3
		OSHA P0	STEL	150 ppm 655 mg/m3
		OSHA P0	TWA	100 ppm 435 mg/m3
		ACGIH	TWA	100 ppm
		ACGIH	STEL	150 ppm
		CAL PEL	STEL	150 ppm 655 mg/m3
		CAL PEL	C	300 ppm

		CAL PEL	PEL	100 ppm 435 mg/m3
ethylbenzene	100-41-4	ACGIH	TWA	20 ppm
		ACGIH	STEL	125 ppm
		OSHA Z-1	TWA	100 ppm 435 mg/m3
		OSHA P0	TWA	100 ppm 435 mg/m3
		OSHA P0	STEL	125 ppm 545 mg/m3
		CAL PEL	PEL	5 ppm 22 mg/m3
		CAL PEL	STEL	30 ppm 130 mg/m3
Quartz (SiO2)	14808-60-7	OSHA Z-3	TWA	30 mg/m3 / %SiO2+2 total dust
		OSHA Z-3	TWA	10 mg/m3 / %SiO2+2 respirable
		OSHA Z-3	TWA	250 mppcf / %SiO2+5 respirable
		OSHA P0	TWA	0.1 mg/m3 Respirable fraction
		ACGIH	TWA	0.025 mg/m3 Respirable fraction
		CAL PEL	PEL	0.3 mg/m3 Total dust
		CAL PEL	PEL	0.1 mg/m3 respirable dust fraction

*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

****Basis**
ACGIH. Threshold Limit Values (TLV)
OSHA P0. Table Z-1, Limit for Air Contaminat (1989 Vacated Values)
OSHA P1. Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant
OSHA P2. Permissible Exposure Limits (PEL), Table Z-2
OSHA Z3. Table Z-3, Mineral Dust

Engineering measures	:	Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Personal protective equipment

Respiratory protection	:	Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.
Hand protection Remarks	:	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.
Eye protection	:	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.
Skin and body protection	:	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Hygiene measures	:	Wash hands before breaks and immediately after handling the product. Remove contaminated clothing and protective equipment before entering eating areas.

9. Physical and chemical properties

Appearance	:	viscous
Color	:	gray

Odor	:	aromatic
Odor Threshold	:	No data available
Flash point	:	216 °F (102 °C)
Ignition temperature	:	No data available
Decomposition temperature	:	No data available
Lower explosion limit (Vol%)	:	No data available
Upper explosion limit (Vol%)	:	No data available
Flammability (solid, gas)	:	No data available
Oxidizing properties	:	No data available
pH	:	No data available
Melting point/range / Freezing point	:	No data available
Boiling point/boiling range	:	No data available
Vapor pressure	:	0.01 mmHg (0.01 hpa)
Density	:	1.6 g/cm3 at 68 °F (20 °C)
Water solubility	:	Note: insoluble
Partition coefficient: n-octanol/water	:	No data available
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	> 20.5 mm2/s at 104 °F (40 °C)
Relative vapor density	:	No data available
Evaporation rate	:	No data available
Burning rate	:	No data available
Volatile organic compounds (VOC) content	:	38 g/l A+B Combined

10. Stability and reactivity

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous	:	Stable under recommended storage conditions.

reactions
Conditions to avoid : No data available

Incompatible materials : No data available

11. Toxicological information

Acute toxicity

Not classified based on available information.

Ingredients:

aluminium sulphate:
Acute oral toxicity : LD50 Oral (Rat): 1,930 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Ingredients:

aluminium sulphate:
Result: Skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitization

Skin sensitization: Not classified based on available information.
Respiratory sensitization: Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

May cause damage to organs (hearing organs) through prolonged or repeated exposure if inhaled.
Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.

Aspiration toxicity

Not classified based on available information.

Carcinogenicity

May cause cancer by inhalation.

IARC Group 1: Carcinogenic to humans

Quartz (SiO2) 14808-60-7
Group 2B: Possibly carcinogenic to humans

	titanium dioxide	13463-67-7
	ethylbenzene	100-41-4
NTP	Known to be human carcinogen	
	Quartz (SiO2)	14808-60-7

Titanium dioxide (13463-67-7)

In lifetime inhalation studies of rats, airborne respirable-size titanium dioxide particles have seen shown to cause an increase in lung tumors at concentrations associated with substantial particle lung burdens and consequential pulmonary overload and inflammation. The potential for these adverse health effects appears to be closely related to the particle size and the amount of the exposed surface area that comes into contact with the lung. However, tests with other laboratory aninals such as mice and hamsters, indicate that rats are significantly more susceptible to the pulmonary overload and inflammation that cause lung cancer. Epidemiology studies do no suggest an increased risk of cancer in humans from occupational exposure to titanium dioxide. Titanium dioxide has been characterized by IARC as possibly carcinogenic to humans (Group 2B) through inhalation (not ingestion). It has not been characterized as a potential carcinogen by either NTP or OSHA.

12. Ecological information

Other information	Do not empty into drains; dispose of this material and its container in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

13. Disposal considerations

Disposal methods

Waste from residues	:	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.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT
Not dangerous goods
IATA
Not dangerous goods
IMDG
Not dangerous goods

Special precautions for user
No data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

15. Regulatory information

TSCA list : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard
Chronic Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

xylene	1330-20-7	3.00 %

Clean Air Act

Ozone-Depletion Potential This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

xylene	1330-20-7	3.00 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65 ⚠ **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov

16. Other information

HMIS Classification

Health	*	3
Flammability		1
Physical Hazard		0
Personal Protection		X

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Revision Date 02/09/2017

Material number: 183679

Construction

Sikaflex 2c

Application Instructions

Sika Corporation

Construction

Sikaflex 2c NS

A two-component, non-sag, polyurethane elastomeric sealant.

Where to use:

- Building façade color matching
- Parking structures, precast concrete, tilt up,
- EIFS (Dryvit, Sto, etc)
- Submerged environments
- Canal and reservoir joints

Sika Corporation

Construction

Sikaflex 2c

- Sikaflex-2cNS
  - 2-component, ±50% movement capability, 25±5 shore A hardness
- Sikaflex-2cNSTG
  - 3-component, +25% movement capability, 45±5 shore A hardness
- Sikaflex-2cSL
  - 2-component, ±50% movement capability, 40±5 shore A hardness

Construction

Sealant Installation

Substrate Preparation

- Proper preparation will eliminate majority of installation failures
  - Most common mode of sealant failure is adhesive
- Remove all weak material on bonding surface of porous substrates
- Surfaces must be clean, dry, and free of dew or frost
- Use best practices per industry standards
  - Porous substrate: abrasive, high pressure water (allow to dry after), grinding, wire brush
  - Non-porous substrate: 2 rag method

Construction

Mechanical Methods

Saw cut joint – to provide proper width & sound joint interface.

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Construction

Mechanical Methods

Sandblast to remove residues & provide profile

Sika Corporation

Construction

Critical Success Factors

Priming

- Priming can help get a better bond in many situations
  - Priming does no substitute for good prep
  - Many products perform w/out primers
  - Most commonly used on horizontal and submerged applications
  - Must be done properly to work (primers are not error free: ponding, waiting time, etc.)

Proper primer application with brush
Prime only sides of the joint.
Primer outside the joint may stain the substrate.
Prime & seal the same day

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Construction

Critical Success Factors

Backing materials

- Why use backer rod:
  - Attain proper wetting of substrate when sealant is tooled
  - Control sealant depth
  - Prevent 3-sided adhesion
  - Provide support for traffic areas

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Construction

Critical Success Factors

Backing materials

- Recommended Materials
  - Closed cell backer rod: primarily a foam material with a surface skin
  - Open cell backer rod: primarily a foam material without a skin
  - Bicellular backer rod: sometimes called “soft” rod, this foam acts like a hybrid between open and closed cell rods
  - Backing tape: primarily a self-adhesive polyethylene or Teflon material
  - Hard rectangular extrusions for horizontals

Construction

Sealant Installation

Backing Materials

Sika Corporation

Construction

Sealant Installation

Backing Materials

- Make sure backer rod is 25% larger than joint width (under compression) to offer good tooling base
- No not puncture closed cell backer rod when installing prior to sealant installation
  - Will cause bubbling in sealant

Construction

Sealant Installation

Mixing

- **Packaging:**
  - 1.5 gallon unit (A & B Component)
  - 3 gallon unit (A & 2B Components)
  - Color pak or pre-tinted limestone

Construction

Sealant Installation

Mixing

- Open pail of Sikaflex 2c and remove "B" component

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Construction

Sealant Installation

Mixing

- Pour entire contents of "B" component into pail of component "A"
- Add entire contents of color pak into pail if using tint base

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Construction

Sealant Installation

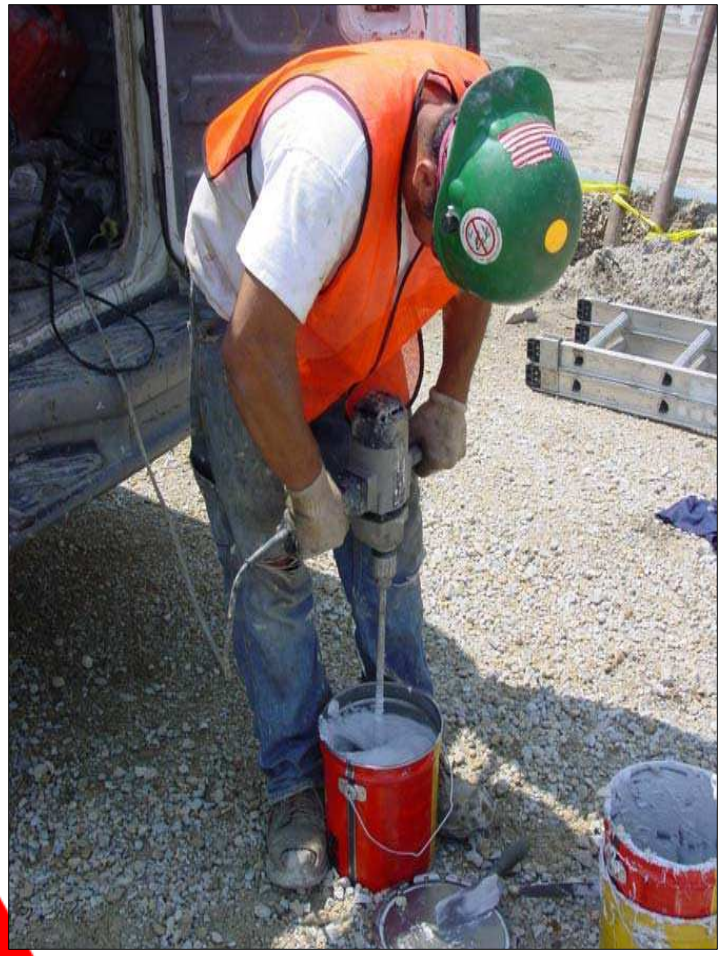
Mixing

- A cold weather booster can be added to speed up tack time

Construction

Sealant Installation

Mixing



Sealant Mixing Paddles

- Mix with a low speed drill (400-600 rpm) and a sealant mixing paddle.
- Mix for 3-5 minutes to achieve a proper consistency and uniform color
- Avoid entrapment of air during mixing

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Construction

Sealant Installation

Mixing

- Scrape down the sides of the pail periodically to ensure all of the material is properly mixed.

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Construction

Sealant Installation

Loading

- Load sealant directly into a bulk sealant gun directly or use a follower plate system

Construction

Sealant Installation

Gunning

- Place nozzle of gun into the bottom of the joint and fill the entire joint

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Construction

Sealant Installation

Gunning

- Keeping nozzle deep in the sealant, continue a steady flow of sealant preceding the nozzle to avoid air entrapment
- Avoid overlapping sealant
- **Coverage:**
  - 1 gallon yields 231 cubic inches of 154 linear feet of ½□x ¼□joint

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Construction

Sealant Installation
Gunning

When neatness counts always tape off the sides of the joint using Duct Tape.

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Construction

Sealant Installation

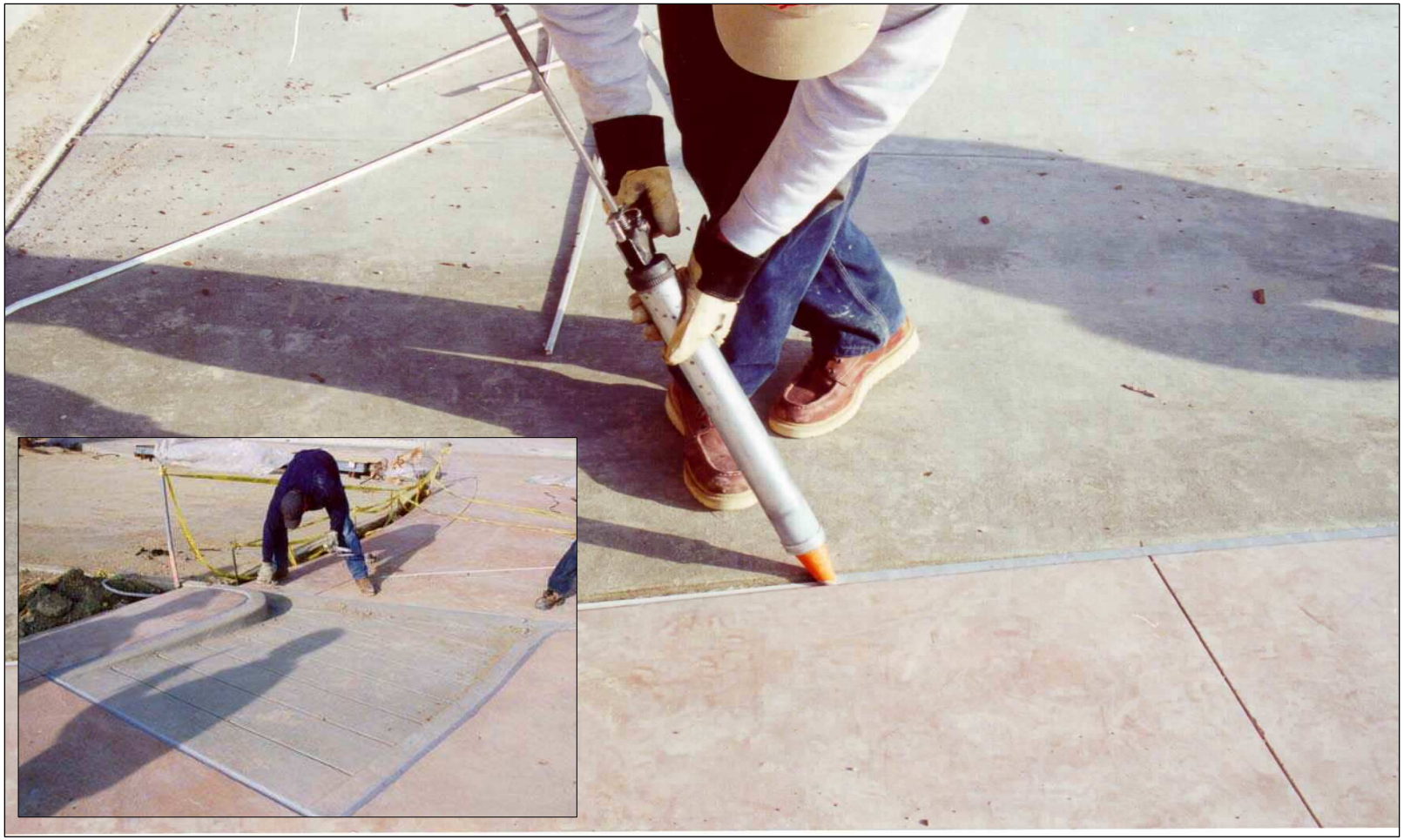
Gunning

Horizontal applications require excellent adhesion to concrete and self leveling option for flat work. Sealant must handle specified traffic conditions.

Construction

Sealant Installation

Gunning



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Construction

Sealant Installation

Tooling

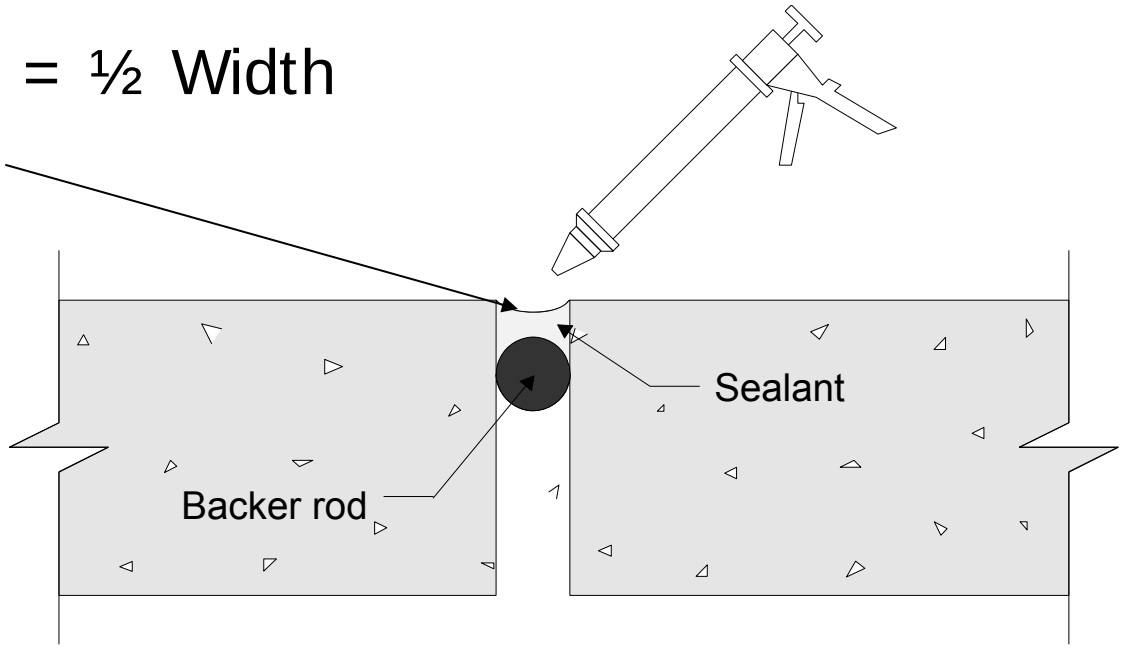
- Dry tool sealant to press material against joint walls or bonding surface

Construction

Sealant Installation

Joint Design

Depth = ½ Width



1. Install appropriate backer material to prevent three-sided adhesion and to control sealant depth.
2. Sealant should be gunned into joint at mid-point of designed expansion and contraction to maximize accommodation of movement. Joint dimension of 4X anticipated movement allows proper function of high performance sealants even if applied at temperature extremes.
3. Tool as required to properly fill joints and force sealant against joint interfaces, maximizing bond.

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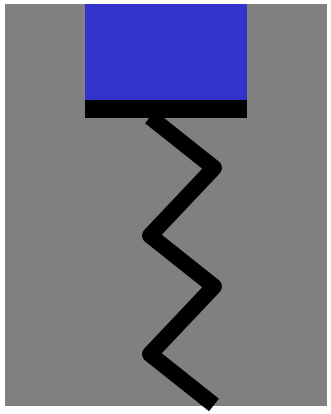
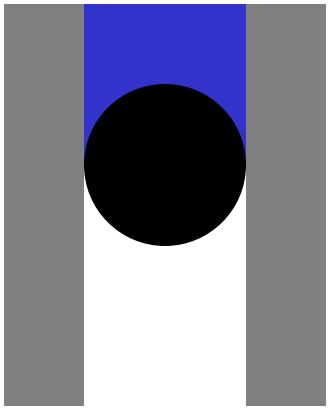
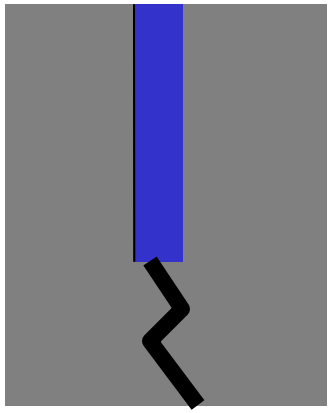
Construction

Sealant Installation

Joint Design







- 2:1 or 1:1 width:depth
- Minimum ¼□x ¼□
- Minimum ½□depth for traffic
- 2 sided adhesion, not 3
- Joint movement to match product

- Protect nosing
- Needs support
- May separate

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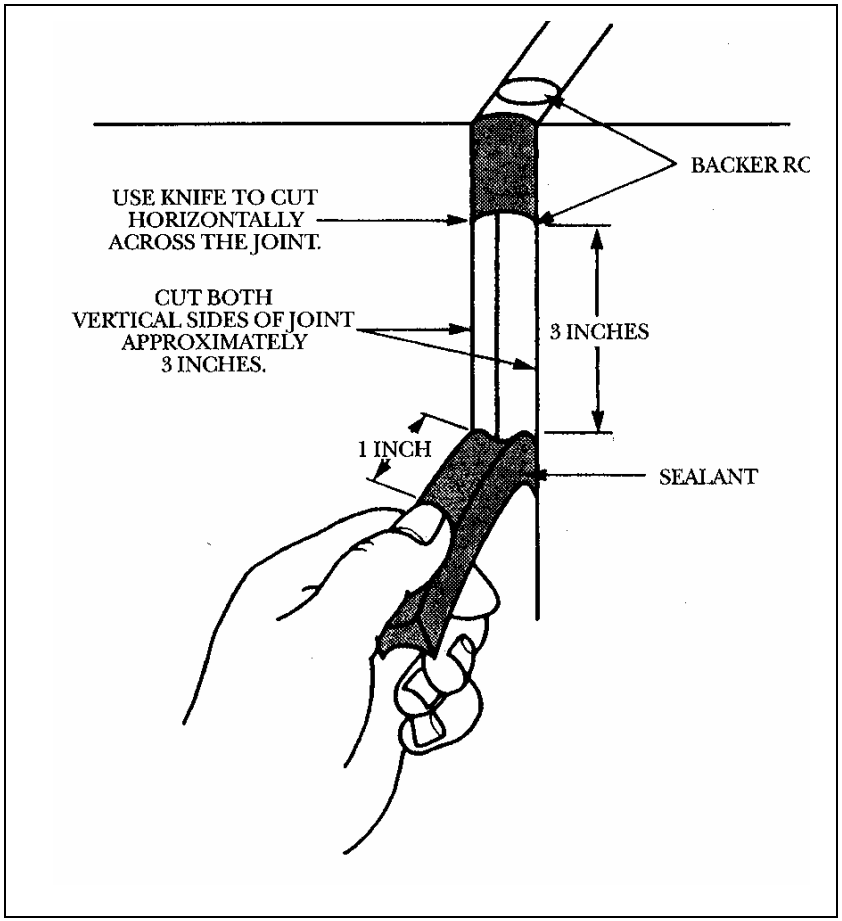
Construction

Jobsite Mock-Up

- Jobsite Pull Test:
  - After material has cured to ensure proper bond



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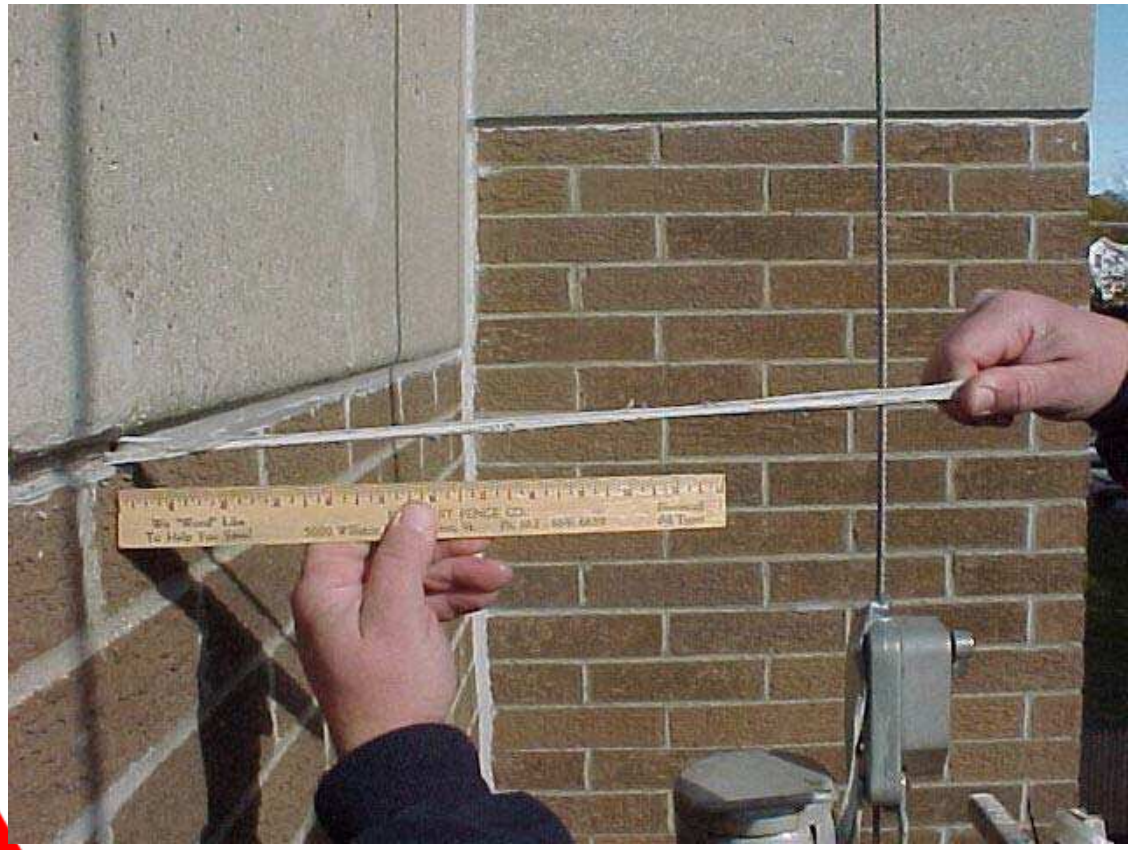
Construction

Jobsite Pull Test



Place sealant and allow to cure. Cut a 2-3 piece of the sealant and pull at a 90º angle from the substrate. The sealant should not peel from the joint interface.

Sika Corporation

Construction

Sikaflex 2c

Sika Technical Data Sheets can be obtained via:

www.sikaconstruction.com

Refer to data sheets for specific information on each Sika product.

SikaFlex®-2c Color Guide

Two-component polyurethane elastomeric sealant


WHITE


ALUMINUM GRAY


GRAY


DESERT TAUPE


BLUSH BEIGE


SIERRA BEIGE


BRITE WHITE


ARMARILLO WHITE


MEDIUM BROWN


BAPTIST RED


SANDALWOOD


BUFF


VAN DYKE


BRICK


DARK BRONZE


LIMESTONE


PARCHMENT


PRECAST


EVERGREEN


SAHARA

COLONIAL WHITE


MINNESOTA GRAY


TAN


ADOBE ACCENT


GREEN GRAY


SANDALWOOD BEIGE


EGGSHELL CREAM


CAPITOL


REDWOOD


GEOGRAPHIC BEIGE


PEARL ASH


DOVER SKY


RUSTIC RED


BRONZE


BLACK

Colors show approximate tone without any texture, and color of actual product may vary slightly. Custom colors available with adequate lead time and minimum batch quantities. Please consult your Sika representative for further information and pricing. Color representation will vary between screens. For more accurate colors, consult a cured sample or physical color card.

Sika Corporation
201 Polito Avenue, Lyndhurst, NJ 07071
Phone: 1-800-933-8800
Fax: 201-933-6225

BUILDING TRUST

Section:	07 90 00 Joint Protection
#:	0012
Specified:	2.02.C., Silicone Sealant
Reference:	view spec
Item submitted:	Pecora 864NST

Pecora-864NST-Product-Data-1844318.pdf
Pecora-864NST-SDS-1844323.pdf
Pecora-864NST-Environmentally-Responsive-Documentation-1844322.pdf
Pecora-864NST-Color-Chart-1429345.pdf

Pecora 864 NST
NON STAINING TECHNOLOGY™

Non-Staining, Low Modulus Architectural Silicone Sealant

PECORA CORPORATION®

SPECIFICATION DATA SHEET

BASIC USES

For sealing expansion and control joints in precast concrete panels, masonry and metal curtainwalls, natural stones, perimeter sealing of doors and windows, and other building components.

MANUFACTURER

PECORA CORPORATION

165 Wambold Road

Harleysville, PA 19438

Phone: 215-723-6051

Fax: 215-721-0286

Website: www.pecora.com

PRODUCT DESCRIPTION

Pecora 864NST is one-part, low-modulus, neutral-curing, high-performance silicone sealant that cures via atmospheric moisture to form a durable, flexible building seal. Pecora 864NST will not stain natural stone such as marble and granite. Because of its low-modulus, high extension/compression and recovery properties, and its strong adhesion to most building materials, Pecora 864NST performs exceptionally well under dynamic conditions accommodating long-term movement of ±50% in properly designed joints.

Limitations:

Pecora 864NST should not be used in the following applications:

- Sealing horizontal decks, patios, driveway or terrace joints where abrasion or physical abuse is encountered.
- Sealing submerged joints or below the waterline in marine applications.
- In totally confined or air-free spaces.
- In designs that will be painted after application of the sealant. (Sealant should be applied after painting is completed).
- To surfaces with special protective or decorative coatings without prior consultation with Technical Services department.
- With building materials that bleed oils, plasticizers or solvents, i.e. impregnated wood, oil-based caulks, some vulcanized rubber gaskets or tapes, etc.

Fire Rated Systems:

Two-hour fire and temperature rated wall Design U900 O (WWS 0010, WWS 0038) and floor Design J900H (FFS 0006) joint systems up to 3/4" (19 mm) wide can be designed with Ultra Block® fire blocking material.

Ref: Standard Fire Tests of Building Construction Materials, ANSI/UL 263, ASTM E119, NFPA #251.
Ultra Block® is a product of Backer Rod Mfg. Co., Denver, CO.

PACKAGING

- 10.1 fl. oz. (300 ml) plastic cartridges
- 2-gallon (7.57 L) pails
- 20 oz. (592 ml) sausages

COLOR

- Black, Limestone, Precast, Charcoal Gray, Sandstone, Red Rock, Hartford Green, Tru-White, Aluminum Stone, Beige, Classic Bronze, Natural Stone, Anodized Aluminum.
- Custom colors are available in 30 gallon minimum quantities.

TABLE 1: TYPICAL UNCURED PROPERTIES (AT 77°F, (25°C), 50% RH)

TEST PROPERTY	VALUE	TEST PROCEDURE
Flow, Sag, Slump (inches)	< 0.1	ASTM C639
Tool/Work Time (minutes)	15-25	Pecora Corporation
Tack Free Time (hours)	1-2	ASTM C-679
Curing Time (days)	7-14	Pecora Corporation
Full Adhesion (days)	7-14	Pecora Corporation
VOC Content (g/L)	98	EPA Method 24
SCAQMD Rule #1168*	<50	
VOC Emissions (TVOC)	<2 ug (0.002 mg)/cu m	CDPH v1.1-2010 (CA Specfication 01350)

TABLE 2: TYPICAL CURED PROPERTIES (AFTER 7 DAYS CURE AT 77°F, (25°C), 50% RH)

TEST PROPERTY	VALUE	TEST PROCEDURE
Hardness, Shore A	25	ASTM C661
Elongation (%)	900	ASTM D412
Modulus @ 100% Elongation (psi)	38	ASTM D412
Ultimate Tensile Strength (psi)	175	ASTM D412
Tear Strength (ppi)	35	ASTM D624
Peel Strength (pli)	30	ASTM C794
on Aluminum, Glass and Concrete		
Dynamic Movement Capability (%)	+/-50	ASTM C719
Ozone/UV Resistance	Excellent	Weatherometer
Staining of porous substrates	Pass	ASTM C1248
such as white marble		
Service Temperature Range (degree F)	-60 to 300	Pecora Corporation

*VOC content of <50g/l applies to joint sealants manufactured for sale in areas regulated by SCAQMD Rule #1168 only.

Since Pecora Architectural Sealants are applied to varied substrates under diverse environmental conditions and construction situations it is recommended that substrate testing be conducted prior to application.

Pecora 864 NST NON STAINING TECHNOLOGY™

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TECHNICAL DATA

Applicable Standards: Pecora 864NST Silicone meets or exceeds the requirements of the following industry specifications; TT-S-230C, Class A. ASTM C-920, Class 50, Type S, Grade NS, Use G,A,M,O and CGSB-19GP-9, ASTM C-1248.
Acceptance by U.S. Department of Agriculture for use in meat and poultry processing plants.

Joint Design: Proper sealant dimensions are critical when installing elastomeric joint sealants. Generally, a sealant width-to-depth ratio of 2:1 is recommended. Dynamic joint conditions will require a minimum 1/4" width and 3/16" depth in order to maintain the sealant's movement capabilities. For joints greater than 1", consult Technical Services. Lap shear joints should have a bead width which is equal to or greater than the total anticipated movement. Small curtainwall panels and lites should allow a minimum width of 1/4" (6 mm) for the sealant bead. Larger panels for which a great deal of movement is expected should allow a minimum width of 1/2" (12 mm) for the sealant bead. Glazing of plastic lites and panels fabricated from plastic require larger than usual joint dimensions due to the plastics high coefficient of thermal expansion.

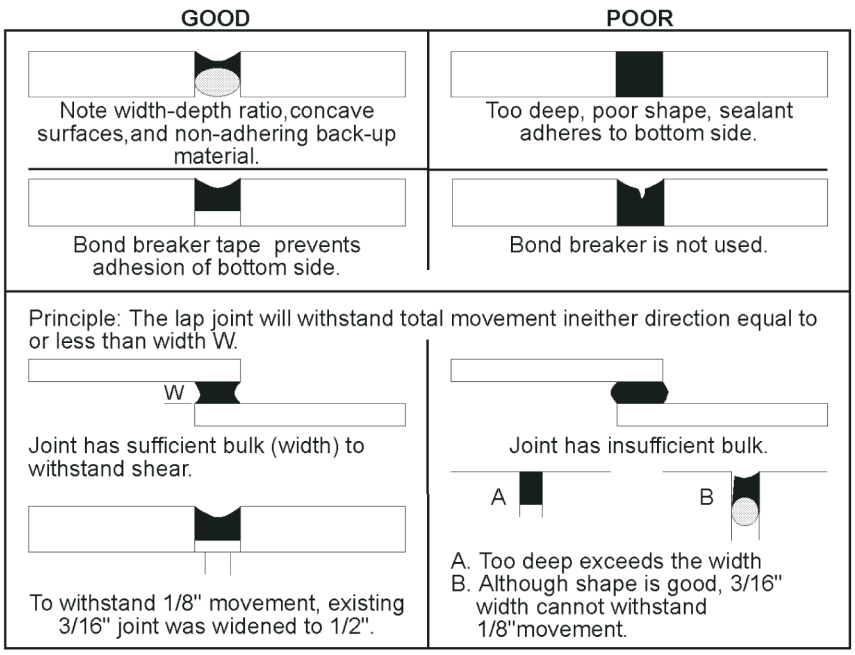
The width of building expansion joints varies because of seasonal and daily changes in temperature. If Pecora 864NST silicone cannot be installed when the design width is approximately halfway between the dimensional extremes, the designed joint must be at least twice the total anticipated joint movement. Good architectural practice calls for joint design of four times the anticipated movement due to construction tolerances and material variations.

INSTALLATION

Surface Preparation: Clean all joints and glazing areas by removal of foreign matter and contaminants such as oil, dust, grease, frost, water, surface dirt, old sealants or glazing compounds and any protective coating.
Porous substrates and precast concrete panels using form release agents other than polyethylene film should be cleaned by grinding, saw cutting, blast cleaning (water or sand), mechanical abrading or a combination of these methods which will provide a sound, clean and dry surface for sealant application. Dust, loose particles, etc. should be blown out of joints with oil-free compressed air or vacuum cleaned. Metal, glass and plastic surfaces should be cleaned by solvent procedure or by mechanical means. Soap or detergent and water cleaning treatments are not recommended. Cleaning of all surfaces should be done on the same day on which the sealant is applied.
CAUTION: Solvents may be toxic and/or flammable. Refer to solvent manufacturer's instructions or Safety Data Sheets (SDS).
Priming: Pecora 864NST does not require priming on most common substrates. However, we strongly suggest adhesion pretesting, either in the field or our laboratory, on all porous substrates, particularly brick, as well as unusual building materials and other substrates where special coatings or surface treatments may impair optimum adhesion. Where primer is indicated, P-150 should be used on porous substrates and P-120 on special metal and plastic surfaces. All precast substrates require priming with P-225 primer.
Also, Pecora offers complimentary adhesion and stain testing in its laboratory on actual field samples of substrate from the jobsite or on representative samples from the same lots. Contact Technical Services for details.
Joint Backing: Backer rod controls the depth of the sealant and allows it to be applied under pressure. Use a size that will compress 25%.
Denver Foam open-cell polyurethane or reticulated (soft) polyethylene rod is recommended. Closed-cell polyethylene may be used but care must be taken not to puncture the rod which can cause outgassing or bubbling/blistering in the sealant.
In joints too shallow for backer rod, use a polyethylene bond-breaker tape to prevent three-sided adhesion.

(continued on last page)

EXAMPLES OF DIFFERENT JOINTS



Pecora 864 NST NON STAINING TECHNOLOGY™

SPECIFICATION DATA SHEET

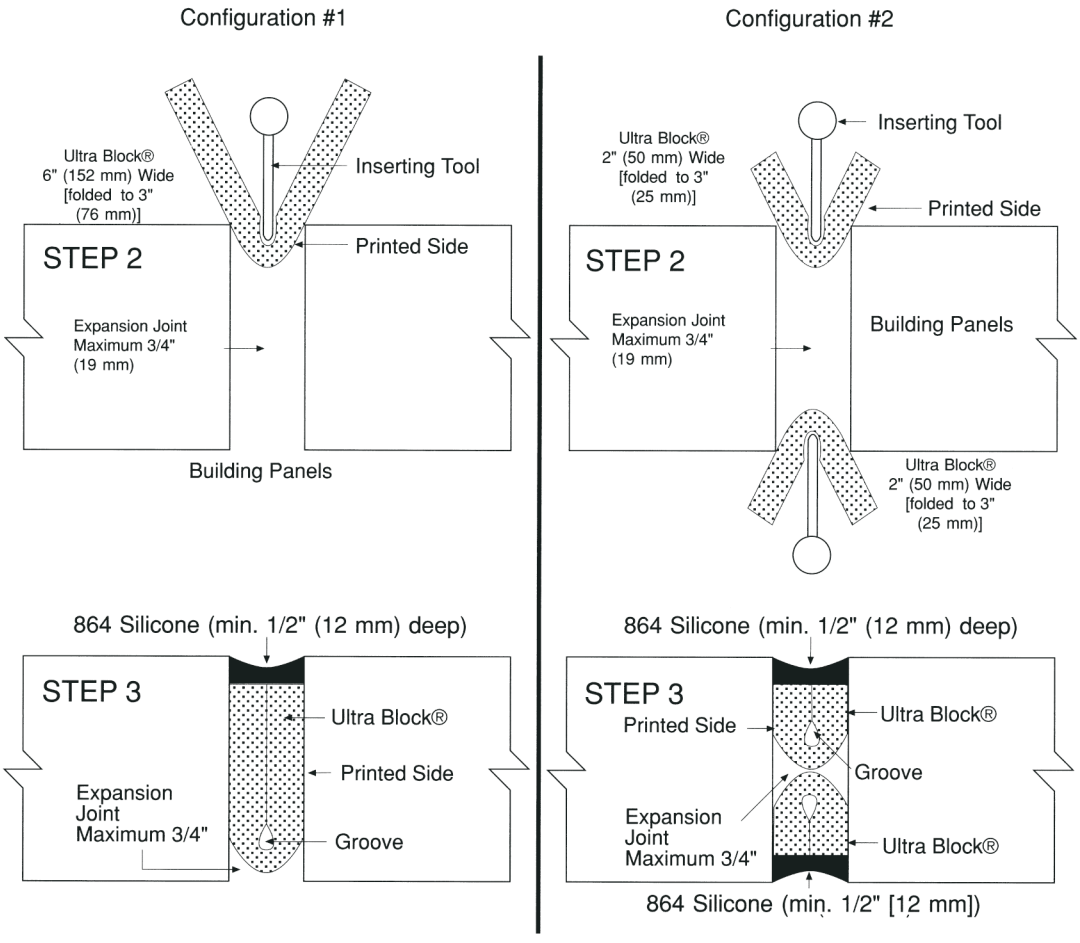
SUGGESTED PECORA 864NST - ULTRA BLOCK® SYSTEM SPECIFICATION

Expansion joints shall have a 2-hour Fire and Temperature rating. Unless otherwise specified for a specific area, only system tested per ASTM E-119 Standard, complying with Underwriters Laboratories U/L-263, Designs FFS 0006, WWS 0010, and WW-S-0038 classified as 2-Hour Fire & Temperature Rated are approved. Pecora 864NST - Ultra Block® systems using such classified sealants shall be used in both Configuration #1 and Configuration #2 whichever is applicable. Reference U/L File #13729.

This is a performance specification. Bidders will be required to furnish technical data and Underwriters Laboratories reports for "or equal" approval.

INSTALLATION PROCEDURES

UL CLASSIFIED



PECORA 864NST - ULTRA BLOCK® UL Rated Wall and Floor Expansion Joint System

This system should be used in high rise office buildings, hospitals, schools, hotels, prisons, enclosed sports arenas, airport terminals, shopping malls, nursing homes, manufacturing plants, precast and prestressed concrete structures, parking garages, warehouses, chemical plants, elevator shafts and others to comply with existing building and fire codes. The system will effectively contain fire, smoke and toxic fumes within a given area surrounded by fire walls for a 2-hour period, thereby enabling a safe an orderly evacuation of the surrounding areas.

Pecora 864 NST NON STAINING TECHNOLOGY™

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Application: All joints should be masked to ensure a neat appearance and prevent sealant applied outside the joint confines from imparting a discoloration to the substrate. Sealant should be applied in a continuous operation using sufficient pressure to fill the joint and make complete contact to the joint sides. Tool the sealant slightly concave using dry-tooling techniques. Consult Technical Services prior to tooling with solvent. Do not tool with soap or detergent and water solutions.

Tool Time: (Initial skin): 15-25 minutes at 77˚F (25˚C), 50% relative humidity. Higher temperatures and\or humidity will shorten this time.

Cleaning: Immediately remove all excess sealant and smears adjacent to joints with mineral spirits. Also use mineral spirits for removing uncured sealant from equipment. Remove cured sealant by scraping, sandpapering, etc. (Caution: mineral spirits is flammable and toxic. Observe manufacturer's precautions.)

Shelf Life: Pecora 864NST has a shelf life of twelve months from date of manufacture when stored in unopened cartridges or sausages at temperatures lower than 80° F (27° C), or nine months in tightlysealed bulk packages at temperatures lower than 80° F (27° C).

Precautions: Use with adequate ventilation or wear an appropriate NIOSH approved respirator. Contact with uncured sealant or with vapors generated during curing may cause respiratory tract irritation. Contact with skin or eyes may cause irritation or allergic reaction. Avoid contact and wash thoroughly after handling. May be harmful if swallowed. Refer to Safety Data Sheet (SDS) for more information.

FOR PROFESSIONAL USE ONLY.
KEEP OUT OF THE REACH OF CHILDREN.

AVAILABILITY AND COST

Pecora products are available from stocking distributors nationwide. For the name and telephone number of your nearest representative, call the number below or visit our website at www.pecora.com.

WARRANTY

Pecora Corporation warrants its products to be free of defects. Under this warranty, we will provide, at no charge, replacement materials for, or refund the purchase price of, any product proven to be defective when used in strict accordance with our published recommendations and in applications considered by us as suitable for this product. The determination of eligibility for this warranty, or the choice of remedy available under this warranty, shall be made in our sole discretion and any decisions made by Pecora Corporation shall be final. This warranty is in lieu of any and all other warranties, expressed or implied, including but not limited to a warranty of merchantability or fitness for a particular purpose and in no case will Pecora be liable for damages other than those expressly stated in this warranty, including but not limited to incidental or consequential damages.

MAINTENANCE

If the sealant is damaged and the bond is intact, cut out the damaged area and recaulk. No primer is necessary. If the bond has been affected, remove the sealant, clean and prepare the joint in accordance with the instructions under "INSTALLATION".

TECHNICAL SERVICES

Pecora representatives are available to assist you in selecting an appropriate product and to provide on-site application instructions or to conduct jobsite inspections. For further information and assistance, please call our Technical Services department at 215-723-6051 or 800-523-6688.

FILING SYSTEMS

- CSI MasterFormat Designations:
  - 07 84 43 – Joint Firestopping
  - 07 92 00 – Joint Sealants

DON'T STAIN YOUR REPUTATION® - Pecora NST Non-Staining Technology

SWRI INSTITUTE
SEALANT • WATERPROOFING & RESTORATION INSTITUTE

Issued to: Pecora Corporation
Product: 864 NST Silicone Sealant
C719: Pass ✔ Ext:+50% Comp:-50%
Substrate: Unprimed anodized aluminum, mortar and glass substrates
Validation Date: 4/18/18 – 4/17/23

No. 418-PEC423 *Copyright © 2018*

SEALANT VALIDATION
www.swrionline.org

Pecora is a member of and supports: SWRI, CSI, AIA, ICRI, ABAA, USGBC, IPI.
Pecora products are proudly made in America.

165 Wambold Road, Harleysville, PA 19438 | 800.523.6688 | pecora.com

PECORA SEALANTS

SAFETY DATA SHEET

PECORA CORPORATION®
Architectural Weatherproofing Products
U.S.A. • since 1862

864 NST NON-STAINING TECHNOLOGY™

1. PRODUCT IDENTIFICATION

IDENTIFICATION of the SUBSTANCE or PREPARATION

TRADE NAME (AS LABELED):	**Pecora 864 NST Non-Staining Technology™™**
PRODUCT DESCRIPTION:	Architectural Silicone Sealant
CHEMICAL NAME/CLASS:	Polydimethylsiloxane Silicone
SYNONYMS:	864 NST
RELEVANT USE:	Non-Staining Sealant/Caulking Compound
USES ADVISED AGAINST:	Other Than Relevant Use

COMPANY/UNDERTAKING IDENTIFICATION:

SUPPLIER/MANUFACTURER'S NAME:	**Pecora Corporation**
ADDRESS:	165 Wambold Road, Harleysville, PA 19438
EMERGENCY PHONE:	800-424-9300 (CHEMTREC, 24-hours)
BUSINESS PHONE:	215-723-6051 (Mon–Fri, 8 AM–5 PM ET)

PREPARATION DATE:	July 13, 2007
REVISION DATE:	May 10, 2017

This product is sold for commercial use. This SDS has been developed to address safety concerns of those individuals working with bulk quantities of this material, as well as those of potential users of this product in industrial/occupational settings. ALL United States Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalent Standards, Canadian WHMIS 2015 and the Global Harmonization required information is included in appropriate sections based on the Global Harmonization Standard format. This product has been classified in accordance with the hazard criteria of the countries listed above and the SDS contains all the information required by the Canadian WHMIS 2015 [HPR-GHS] , the Global Harmonization Standard and OSHA 1910.120.

2. HAZARD IDENTIFICATION

GLOBAL HARMONIZATION LABELING AND CLASSIFICATION: Classified in accordance with Global Harmonization Standard under U.S. OSHA Hazard Communication Standard, Canadian WHMIS HPR-GHS 2015.

Classification: Reproductive Toxicity Cat. 2, Acute Oral Toxicity Cat. 5, Eye Irritation Cat. 2B, Skin Irritation Cat. 3, Skin Sensitization Cat. 1, Aquatic Chronic Toxicity Cat. 4

Signal Word: Warning

Hazard Statement Codes: H361fd, H303, H316, H320, H317, H413

Precautionary Statement Codes: P201, P202, P261, P264, P272, P273, P280, P308 + P313, P305 + P351 + P338, P337 + P313, P302 + P352, P321, P333 + P313, P362 + P364, P405, P501

Hazard Symbols/Pictogram: GHS07, GHS08

EMERGENCY OVERVIEW:

Physical Description: This product is a smooth paste with a slightly solvent odor and comes in several colors (Black, Tru-White, Aluminum Stone, Translucent, and Bronze).

Health Hazards: WARNING! Contains trace compound that may cause adverse effects on fertility (based on animal data). May cause eye, skin, and respiratory tract irritation, especially if exposure is prolonged. May be harmful if ingested. May cause skin sensitization in susceptible individuals.

Flammability Hazard: This product is combustible and can ignite if exposed to high temperature or direct flame.

Reactivity Hazard: This product is not reactive.

Environmental Hazard: This product has not been tested for environmental impact. This product contains a compound that can cause chronic aquatic toxicity.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS®)

Health	**2***
Flammability	**1**
Physical Hazard	**0**

See Section 16 for definitions of ratings

0 = Minimal
1 = Slight
2 = Moderate
3 = Serious
4 = Severe
* = Chronic

HMIS® is a registered trademark of the National Paint and Coatings Association.

CANADIAN WHMIS (HPR-GHS) 2015 CLASSIFICATION AND SYMBOLS: See Section 16 for in Classification and Symbols under HPR-GHS 2015.

U.S. OSHA REGULATORY STATUS: This material has a classification under the Global Harmonization Standard, as applied under OSHA regulations, as given earlier in this Section.

3. MATERIAL IDENTIFICATION

Chemical Name	CAS #	W/W%	LABEL ELEMENTS GHS Classification under U.S. OSHA Hazard Communication Standard & Canadian WHMIS (HPR-GHS) 2015 Hazard Statement Codes
Calcium Carbonate (Limestone)	1317-65-3	30.0–60.0	NOTIFIED CLASSIFICATION Classification: Skin Irritation Cat. 2 Hazard Statement Codes: H315
Proprietary Polydimethyl Siloxane Mixture Contains the following compound		30.0-50.0	NOTIFIED CLASSIFICATION Classification: Eye Irritation Cat. 2A Hazard Statement Codes: H319
Octamethylcyclotetra-siloxane	556-67-2	>/= 0.01 to < 0.5	HARMONISED CLASSIFICATION AND LABELLING (CLP00) Classification: Reproductive Toxicity Cat. 2, Aquatic Chronic Toxicity Cat. 4 Hazard Statement Codes: H361f, H413 ADDITIONAL SELF-CLASSIFICATION Classification: Flammable Liquid Cat. 3, Acute Oral Toxicity Cat. 4, Acute Dermal Toxicity Cat. 4 Hazard Statement Codes: H226, H302 + H312
Proprietary Phenylated Ketoxomio Silane		1.0–5.0	NOTIFIED CLASSIFICATION Classification: Skin Sensitization Cat. 1B Hazard Statement Codes: H317 ADDITIONAL MFG CLASSIFICATION Classification: STOT RE Cat. 2, Aquatic Chronic Toxicity Cat. 3 Hazard Statement Codes: H373, H412
Proprietary Silicon Dioxide, Fumed		1.0–5.0	Classification: Not Applicable
Mineral Spirits (contains less than 0.1% benzene)		2.0-5.0	HARMONISED CLASSIFICATION - ANNEX VI OF REGULATION (EC) NO 1272/2008 (CLP REGULATION) Classification: Aspiration Hazard Cat. 1 Hazard Statement Codes: H304 ADDITIONAL MFG CLASSIFICATION Classification: Flammable Liquid Cat. 4, STOT (Inhalation-Narcotic Effect) SE Cat. 3, Aquatic Chronic Cat. 1 Hazard Statement Codes: H227, H336, H411
The following is component information for some of the individual pigmented colors of this product:			
Carbon Black	1333-86-4	0.0-2.0	NOTIFIED CLASSIFICATION Classification: Carcinogenic Cat. 2 Hazard Statement Codes: H351i
Brown Iron Oxide Pigment	Mixture	0.0-2.0	SELF-CLASSIFICATION BASED ON MFG SDS Classification: Skin Irritation Cat. 2, STOT (Inhalation-Respiratory Irritation) SE Cat. 3 Hazard Statement Codes: H315, H335
Titanium Dioxide	13463-67-7	0.0-1.1	SELF-CLASSIFICATION Classification: Carcinogenic Cat. 2 Hazard Statement Codes: H351i
Red Iron Oxide Pigment	Mixture	0.0-0.5	SELF-CLASSIFICATION BASED ON MFG SDS Classification: Skin Irritation Cat. 2, STOT (Inhalation-Respiratory Irritation) SE Cat. 3 Hazard Statement Codes: H315, H335
Other components. Each of the other components is present in less than 1 percent concentration (0.1% concentration for potential carcinogens, reproductive toxins, respiratory tract sensitizers, and mutagens).		Balance	Classification: Not Applicable

See Section 16 for full text of classification

4. FIRST-AID MEASURES

PROTECTION OF FIRST AID RESPONDERS: Rescuers should not attempt to retrieve victims of exposure to this material without adequate personal protective equipment. Rescuers should be taken for medical attention, if necessary.

DESCRIPTION OF FIRST AID MEASURES: Remove victim(s) to fresh air, as quickly as possible. Only trained personnel should administer supplemental oxygen and/or cardio-pulmonary resuscitation, if necessary. Remove and isolate contaminated clothing and shoes. Seek immediate medical attention. Take copy of label and MSDS to physician or other health professional with victim(s).

Inhalation: If aerosols of this material are inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions.

Skin Exposure: If the material contaminates the skin, immediately begin decontamination with running water. Minimum flushing is for 20 minutes. Do not interrupt flushing. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Victim must seek immediate medical attention.

Eye Exposure: If this product enters the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 20 minutes. Do not interrupt flushing.

Ingestion: If this material is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. DO NOT INDUCE VOMITING, unless directly by medical personnel. Have victim rinse mouth with water or give several cupfuls of water, if conscious. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Dermatitis or other pre-existing skin disorders may be aggravated by exposure to this product.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT IF NEEDED: Treat symptoms and eliminate exposure.

5. FIRE-FIGHTING MEASURES

FLASH POINT: > 140°C (> 300°F) AUTOIGNITION: Unknown.

FLAMMABLE LIMITS IN AIR: Unknown.

EXTINGUISHING MEDIA:

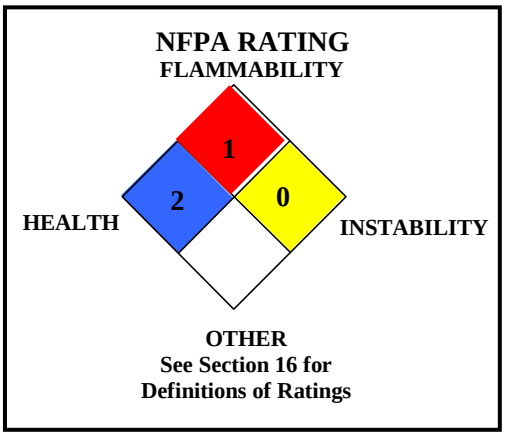
Suitable Extinguishing Media: Use extinguishing material suitable to the surrounding fire, including foam, halon, carbon dioxide and dry chemical.

Unsuitable Extinguishing Media: None known.

PROTECTION OF FIREFIGHTERS:

Special Hazards Arising From the Substance: This product is combustible and can be ignited when exposed to its flashpoint. Not sensitive to mechanical impact under normal conditions. Not sensitive to static discharge under normal conditions. Closed containers may develop pressure and rupture in event of fire.

Special Protective Actions For Fire-Fighters: Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Move containers from fire area if it can be done without risk to personnel. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.



6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS AND EMERGENCY PROCEDURES: An accidental release can result in a fire. Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. Eliminate any possible sources of ignition, and provide maximum explosion-proof ventilation. Use only non-sparking tools and equipment during the response. The atmosphere must at least 19.5 percent Oxygen before non-emergency personnel can be allowed in the area without Self-Contained Breathing Apparatus and fire protection.

PERSONAL PROTECTIVE EQUIPMENT: Responders should wear the level of protection appropriate to the type of chemical released, the amount of the material spilled, and the location where the incident has occurred.

Small Spills: For releases of 1 drum or less, Level D Protective Equipment (gloves, chemical resistant apron, boots, and eye protection) should be worn.

Large Spills: Minimum Personal Protective Equipment should be rubber gloves, rubber boots, face shield, and Tyvek suit. Minimum level of personal protective equipment for releases in which the level of oxygen is less than 19.5% or is unknown must be **Level B: triple-gloves (rubber gloves and nitrile gloves over latex gloves), chemical resistant suit, fire-retardant clothing and boots, hard hat, and Self-Contained Breathing Apparatus.**

METHODS FOR CLEAN-UP AND CONTAINMENT:

All Spills: Access to the spill area should be restricted. Spread should be limited by gently covering the spill with polypads. Scrape up or pick-up spilled material, placing in suitable containers. Absorb any residual on appropriate material, such as sand. All contaminated absorbents and other materials should be placed in an appropriate container and seal. Do not mix with wastes from other materials. Dispose of in accordance with applicable Federal, State, and local procedures (see Section 13, Disposal Considerations). Dispose of recovered material and report spill per regulatory requirements. Remove all residue before decontamination of spill area. Clean spill area with soap and copious amounts of water.

ENVIRONMENTAL PRECAUTIONS: Minimize use of water to prevent environmental contamination. Prevent spill or rinsate from contaminating storm drains, sewers, soil or groundwater. Place all spill residues in a suitable container and seal. Do not discharge effluent containing this product into streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

OTHER INFORMATION: U.S. regulations may require reporting of spills of this material that reach surface waters if a sheen is formed. If necessary, the toll-free phone number for the US Coast Guard National Response Center is 1-800-424-8802.

REFERENCE TO OTHER SECTIONS: See information in Section 8 (Exposure Controls – Personal Protection) and Section 13 (Disposal Considerations) for additional information.

7. HANDLING and STORAGE

PRECAUTIONS FOR SAFE HANDLING: As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat or drink while handling this material. Avoid contact with eyes, skin, and clothing. Avoid breathing fumes, dusts, vapors or mist. Do not taste or swallow. Use only with adequate ventilation. Keep away from heat and flame. In the event of a spill, follow practices indicated in Section 6: ACCIDENTAL RELEASE MEASURES.

CONDITIONS FOR SAFE STORAGE: This product is stable under ordinary conditions of handling, use and storage. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Store away from incompatible materials (see Section 10: STABILITY AND REACTIVITY). Keep container tightly closed when not in use. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. To prolong shelf life, store at temperatures below 26°C (80°F).

PRODUCT END USE: This product is used as a sealant. Follow all industry standards for use of this product.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

EXPOSURE LIMITS/CONTROL PARAMETERS:

Ventilation and Engineering Controls: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided below.

Occupational/Workplace Exposure Limits/Guidelines:

Chemical Name	CAS #	Guideline	Value
Calcium Carbonate, Natural	1317-65-3	OSHA PEL TWA NIOSH REL TWA	15 mg/m^3 total dust 5 mg/m^3 respirable fraction 10 mg/m^3 total dust 5 mg/m^3 respirable fraction
Carbon Black	1333-86-4	ACGIH TLV TWA OSHA PEL TWA NIOSH REL TWA DFG MAK TWA	3.5 mg/m^3 (inhalable fraction) 3.5 mg/m^3 3.5 mg/m^3 (0.1 in the presence of PAHs, as PAHs: 10-hr TWA) As inhalable dust
Proprietary Red and Brown Iron Pigment		ACGIH TLV TWA OSHA PEL TWA NIOSH REL TWA NIOSH IDLH DFG MAK TWA	5 mg/m^3 respirable fraction 10 mg/m^3 fume 5 mg/m^3 dust and fume, as Fe 2500 mg/m^3, as Fe With the exception of iron oxides which are not biologically available
Proprietary Phenylated Ketoxomio Silane Exposure limits given are for decomposition product methylethyl ketoxime		AIHA WEEL TWA DFG MAK TWA	10 ppm (Dermal Sensitizer) Skin, Danger of Sensitization of the skin.
Octamethylcyclotetrasiloxane	556-67-2	NE	NE
Proprietary Polydimethyl Siloxane Mixture		NE	NE
Proprietary Mineral Spirits Exposure limits given are for Mineral Spirits CAS # 8052-41-3		ACGIH TLV TWA OSHA PEL TWA NIOSH REL TWA NIOSH REL STEL	525 mg/m^3 2900 mg/m^3 350 mg/m^3 1800 mg/m^3 (15 min.)
Titanium Dioxide	13463-67-7	ACGIH TLV TWA OSHA PEL TWA NIOSH REL	10 mg/m3 NIC: 1 mg/m3 15 mg/m3 total dust Lowest feasible concentration (LOQ 0.2 mg/m3)
The following compounds are possible reaction products from contact with water and during curing:			
Methyl Ethyl Ketoxime	96-29-7	DFG MAK TWA AIHA WEEL TWA	Skin, Danger of Sensitization of the Skin 10 ppm (DSEN: May cause dermal senstization)

NE = Not Established. See Section 16 for Definitions of Terms Used.

Biological Exposure Indices (BEIs): Currently, no BEI's have been established for components of this product.

PERSONAL PROTECTIVE EQUIPMENT (PPE): *The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132, including the Respiratory Protection Standard (29 CFR 1910.134*), *Eye Protection Standard 29 CFR 1910.13, the Hand Protection Standard 29 CFR 1910.138, and the Foot Protection Standard 29 CFR 1910.136), equivalent standards of Canada (including the Canadian CSA Respiratory Standard Z94.4-93-02, the CSA Eye Protection Standard Z94.3-M1982, Industrial Eye and Face Protectors and the Canadian CSA Foot Protection Standard Z195-M1984, Protective Footwear). Please reference applicable regulations and standards for relevant details.*

Eye/Face Protection: Use approved safety goggles or safety glasses. If necessary, refer to appropriate regulations and standards.

Skin Protection: Wear chemical impervious gloves (e.g., Nitrile or Neoprene). Use triple gloves for spill response. If necessary, refer to appropriate regulations and standards.

Body Protection: Use body protection appropriate for task (e.g., lab coat, coveralls, Tyvek suit). If necessary, refer to the OSHA Technical Manual (Section VII: Personal Protective Equipment) or appropriate Standards of Canada. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection, as described in appropriate regulations and standards.

Respiratory Protection: If mists or sprays from this product are created during use, use appropriate respiratory protection. If necessary, use only respiratory protection authorized in appropriate regulations. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under appropriate regulations and standards.

9. PHYSICAL and CHEMICAL PROPERTIES

FORM: Smooth paste.

COLORS: Black, Tru-White, Aluminum Stone, Translucent, and Bronze.

MOLECULAR WEIGHT: Mixture.

MOLECULAR FORMULA: Mixture.

ODOR: Mildly solvent-like.

ODOR THRESHOLD: Not available.

SPECIFIC GRAVITY: 1.1-1.4

VAPOR PRESSURE, mm Hg @ 20°C: Not established.

RELATIVE VAPOR DENSITY (air = 1): Heavier than air.

EVAPORATION RATE (BuAc = 1): < 1

SOLUBILITY IN WATER: Insoluble.

OTHER SOLUBILITIES: Not available.

MELTING/FREEZING POINT: Not available.

BOILING POINT: Not established.

VOC (less water and exempt): <100 g/L

WEIGHT % VOC: < 10%

FLASH POINT: > 140°C (> 300°F)

AUTOIGNITION TEMPERATURE: Not established.

pH: Not available.

FLAMMABLE LIMITS (in air by volume, %): Lower: Not established; Upper: Not established.

COEFFICIENT OF OIL/WATER DISTRIBUTION (PARTITION COEFFICIENT): Not established.

HOW TO DETECT THIS SUBSTANCE (IDENTIFYING PROPERTIES): The appearance of this product may act as an identifying property in the event of an accidental release.

10. STABILITY and REACTIVITY

CHEMICAL STABILITY: Stable under normal circumstances of use and handling. Methylethyl Ketoxime is generated during curing.

CONDITIONS TO AVOID: Avoid contact with incompatible chemicals and exposure to extreme temperatures.

INCOMPATIBLE MATERIALS: This product is not compatible with strong acids and oxidizers and may have some compatibility with aluminum, ammonium salts and mercury/hydrogen mixtures.

HAZARDOUS DECOMPOSITION PRODUCTS: Combustion: Thermal decomposition of this product can generate dusts, irritating fumes, and toxic gases (e.g., carbon, iron, aluminum, titanium, nitrogen and silicone oxides, silicon carbides, formaldehyde, various hydrocarbons). Hydrolysis: Methylethyl ketoxime.

POSSIBILITY OF HAZARDOUS REACTIONS/POLYMERIZATION: This product is not expected to undergo hazardous polymerization, decomposition, condensation, or self-reactivity.

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS: The most significant routes of occupational exposure are inhalation and contact with skin and eyes. The symptoms of exposure to this product are as follows:

Contact with Skin or Eyes: Contact may mildly irritate the skin and cause redness and discomfort. Prolonged or repeated skin contact may cause dermatitis (dry, red skin). Eye contact may cause redness, pain, and tearing.

Skin Absorption: The components of this product are not known to be absorbed through intact skin. Skin contact may cause sensitization and allergic reaction in susceptible individuals. Symptoms may include redness, itching and rash.

Ingestion: If the product is swallowed, it may mildly irritate the mouth, throat, and other tissues of the gastro-intestinal system and may cause nausea, vomiting, and diarrhea.

Inhalation: Exposure to vapors of this product generated during curing, or dusts of this product generated during use after curing may mildly irritate the respiratory tract and cause coughing and sneezing. Vapors or fumes when used in an enclosed space, if heated or during curing may cause irritation of the respiratory system. Symptoms include nose irritation, dry or sore or burning throat, runny nose, shortness of breath, dizziness, incoordination.

Injection: Accidental injection of this product (e.g. puncture with a contaminated object) may cause burning, redness, and swelling in addition to the wound.

Target Organs: Acute: Skin, eyes, central nervous system. Chronic: Skin, fertility.

Chronic Effects: Prolonged or repeated skin contact may cause dermatitis (dry, red skin), sensitization to the skin or adverse liver or kidney effects.

TOXICITY DATA: There are currently no toxicity data available for this product; the following toxicology information is available for components greater than 1% in concentration. Due to the large amount of data for the Carbon Black component, only LD50 Oral-Rat and LD50 Skin-Rabbit data are presented in this SDS. Contact Pecora for additional information.

PHENYLATED KETOXIMIO SILANE::

LD_{50} (Oral-Rat) > 8000 mg/kg

LD_{50} (Dermal-Rat) > 4000 mg/kg

LC_{50} (Inhalation-Rat) > 8000 mg/m^3, 4 hours

CALCIUM CARBONATE, NATURAL:

TDLo (Intravenous-Rat) 30 mg/kg: Vascular: BP lowering not characterized in autonomic section; Lungs, Thorax, or Respiration: changes in lung weight; Blood: other changes

TCLo (Inhalation-Rat) 84 mg/m^3/4 hours/40 weeks-intermittent: Lungs, Thorax, or Respiration: fibrosis (interstitial); Liver: other changes; Kidney/Ureter/Bladder: other changes

TCLo (Inhalation-Rat) 250 mg/m^3/2 hours/24 weeks-intermittent: Lungs, Thorax, or Respiration: fibrosis, focal (pneumoconiosis)

FUMED SILICA:

LD_{50} (Oral-Rat) 3160 mg/kg

LD_{50} (Intravenous-Rat) 15 mg/kg: Lungs, Thorax, or Respiration: acute pulmonary edema

TCLo (Inhalation-Rat) 154 mg/m^3/6 hours/4 weeks-intermittent: Lungs, Thorax, or Respiration: structural or functional change in trachea or bronchi; Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: dehydrogenases, Metabolism (Intermediary): other proteins

TCLo (Inhalation-Rat) 5.41 mg/m^3/5 days-intermittent: Lungs, Thorax, or Respiration: other changes, changes in lung weight; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TCLo (Inhalation-Rat) 1.39 mg/m^3/5 days-intermittent: Nutritional and Gross Metabolic: weight loss or decreased weight gain

TDLo (Intratracheal-Mouse) 96.77 mg/kg: Lungs, Thorax, or Respiration: acute pulmonary edema, other changes; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TDLo (Intratracheal-Mouse) 50 mg/kg: Lungs, Thorax, or Respiration: changes in lung weight

TDLo (Intratracheal-Mouse) 2 mg/kg: 2 mg/kg: Lungs, Thorax, or Respiration: fibrosis, focal (pneumoconiosis), other changes; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TDLo (Intratracheal-Mouse) 2 mg/kg: Lungs, Thorax, or Respiration: other changes; Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: peptidases

TDLo (Intratracheal-Mouse) 2 mg/kg: Lungs, Thorax, or Respiration: fibrosing alveolitis; Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: peptidases, Metabolism (Intermediary): effect on inflammation or mediation of inflammation

LDLo (Intratracheal-Rat) 50 mg/kg

LDLo (Intratracheal-Rat) 10 mg/kg

LDLo (Intratracheal-Mouse) 96.77 mg/kg: Lungs, Thorax, or Respiration: acute pulmonary edema, dyspnea, other changes

MINERAL SPIRITS:

Standard Draize Test (Eye-Human) 100 ppm: Mild

Standard Draize Test (Eye-Rabbit) 500 mg/24 hours: Moderate

LC_{50} (Inhalation-Rat) > 1400 ppm/8 hours

LD (Oral-Rat) > 5 gm/kg: Behavioral: somnolence (general depressed activity)

MINERAL SPIRITS (continued):

LD (Skin-Rabbit) > 3 gm/kg

LC (Inhalation-Rat) > 5500 mg/m^3/4 hours: Behavioral: somnolence (general depressed activity)

LC (Inhalation-Dog) > 8 gm/m^3/8 hours-continuous: Behavioral: tremor, convulsions or effect on seizure threshold

LCLo (Inhalation-Cat) 1700 ppm/7 hours: Behavioral: tremor, convulsions or effect on seizure threshold

LCLo (Inhalation-Dog) 8000 mg/m^3/3 hours.....Behavioral: alteration of classical conditioning

TCLo (Inhalation-Rat) 330 ppm/65 days-intermittent: Kidney/Ureter/Bladder: changes in tubules (including acute renal failure, acute tubular necrosis); Blood: other changes

TCLo (Inhalation-Rat) 480 mg/m^3/65 days-intermittent: Blood: normocytic anemia

TCLo (Inhalation-Rat) 1100 mg/m^3/65 days-intermittent: Kidney/Ureter/Bladder: renal function tests depressed; Blood: normocytic anemia

TDLo (Oral-Rat) 10 mg/kg: Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TDLo (Skin-Rabbit) 2 gm/kg/4 weeks-intermittent: Skin and Appendages: dermatitis, other (after systemic exposure)

PROPRIETARY POLYDIMETHYL SILOXANE:

LD_{50} (Oral-Rat) 3160 mg/kg

LD_{50} (Intravenous-Rat) 15 mg/kg: Lungs, Thorax, or Respiration: acute pulmonary edema

TCLo (Inhalation-Rat) 154 mg/m^3/6 hours/4 weeks-intermittent: Lungs, Thorax, or Respiration: structural or functional change in trachea or bronchi; Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: dehydrogenases, Metabolism (Intermediary): other proteins

TCLo (Inhalation-Rat) 5.41 mg/m^3/5 days-intermittent: Lungs, Thorax, or Respiration: other changes, changes in lung weight; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TCLo (Inhalation-Rat) 1.39 mg/m^3/5 days-intermittent: Nutritional and Gross Metabolic: weight loss or decreased weight gain

TDLo (Intratracheal-Mouse) 96.77 mg/kg: Lungs, Thorax, or Respiration: acute pulmonary edema, other changes; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TDLo (Intratracheal-Mouse) 50 mg/kg: Lungs, Thorax, or Respiration: changes in lung weight

TDLo (Intratracheal-Mouse) 2 mg/kg: 2 mg/kg: Lungs, Thorax, or Respiration: fibrosis, focal (pneumoconiosis), other changes; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TDLo (Intratracheal-Mouse) 2 mg/kg: Lungs, Thorax, or Respiration: other changes; Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: peptidases

TDLo (Intratracheal-Mouse) 2 mg/kg: Lungs, Thorax, or Respiration: fibrosing alveolitis; Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: peptidases, Metabolism (Intermediary): effect on inflammation or mediation of inflammation

LDLo (Intratracheal-Rat) 50 mg/kg

LDLo (Intratracheal-Rat) 10 mg/kg

LDLo (Intratracheal-Mouse) 96.77 mg/kg: Lungs, Thorax, or Respiration: acute pulmonary edema, dyspnea, other changes

11. TOXICOLOGICAL INFORMATION (Continued)

TOXICITY DATA (continued):

TITANIUM DIOXIDE:

Standard Draize Test (Skin-Human) 300 µg/3 days-intermittent: Mild

TC (Inhalation-Rat) 10 mg/m^3/18 hours/2 years-intermittent: Tumorigenic: carcinogenic by RTECS criteria; Lungs, Thorax, or Respiration: tumors

LD (Intratracheal-Rat) > 100 µg/kg: Lungs, Thorax, or Respiration: structural or functional change in trachea or bronchi; Blood: changes in serum composition (e.g. TP, bilirubin, cholesterol); Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: other Enzymes

TD (Intramuscular-Rat) 260 mg/kg/84 weeks-intermittent: Tumorigenic: equivocal tumorigenic agent by RTECS criteria; Blood: lymphoma, including Hodgkin's disease; Tumorigenic: tumors at site of application

TDLo (Oral-Rat) 60 gm/kg: Gastrointestinal: hypermotility, diarrhea, other changes

TDLo (Intramuscular-Rat) 360 mg/kg/2 years-intermittent: Tumorigenic: neoplastic by RTECS criteria; Blood: lymphoma, including Hodgkin's disease; Tumorigenic: tumors at site of application

TDLo (Intratracheal-Rat) 1.25 mg/kg: Vascular: regional or general arteriolar constriction; Lungs, Thorax, or Respiration: other changes

TDLo (Intratracheal-Rat) 1.6 mg/kg: Lungs, Thorax, or Respiration: other changes

TDLo (Intratracheal-Rat) 5 mg/kg: Lungs, Thorax, or Respiration: other changes; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TDLo (Intratracheal-Mouse) 100 mg/kg: Tumorigenic: increased incidence of tumors in susceptible strains

TCLo (Inhalation-Rat) 1 mg/kg: Lungs, Thorax, or Respiration: other changes; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TCLo (Inhalation-Rat) 250 mg/m^3/6 hours/4 weeks-intermittent: Lungs, Thorax, or Respiration: chronic pulmonary edema, other changes

TCLo (Inhalation-Rat) 50 mg/m^3/6 hours/13 weeks-intermittent: Lungs, Thorax, or Respiration: structural or functional change in trachea or bronchi

TCLo (Inhalation-Rat) 10 mg/m^3/6 hours/13 weeks-intermittent: Lungs, Thorax, or Respiration: fibrosis (interstitial), other changes; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TCLo (Inhalation-Rat) 10 mg/m^3/13 weeks-intermittent: Lungs, Thorax, or Respiration: other changes; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TCLo (Inhalation-Rat) 50 mg/m^3/13 weeks-intermittent: Lungs, Thorax, or Respiration: sputum; Blood: changes in cell count (unspecified); Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: dehydrogenases

TITANIUM DIOXIDE (continued):

TCLo (Inhalation-Rat) 250 mg/m^3/13 weeks-intermittent: Lungs, Thorax, or Respiration: other changes; Blood: changes in cell count (unspecified); Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: dehydrogenases

TCLo (Inhalation-Rat) 274 mg/m^3/5 days-intermittent: Lungs, Thorax, or Respiration: changes in lung weight; Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: multiple enzyme effects, Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TCLo (Inhalation-Rat) 250 mg/m^3/6 hours/2 years-intermittent: Tumorigenic: carcinogenic by RTECS criteria; Lungs, Thorax, or Respiration: tumors

TCLo (Inhalation-Mouse) 10 mg/m^3/6 hours/13 weeks-intermittent: Lungs, Thorax, or Respiration: other changes; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TCLo (Inhalation-Mouse) 10 mg/m^3/6 hours/13 weeks-intermittent: Lungs, Thorax, or Respiration: structural or functional change in trachea or bronchi

TCLo (Inhalation-Mouse) 10 mg/m^3/13 weeks-intermittent: Lungs, Thorax, or Respiration: other changes; Biochemical: Metabolism (Intermediary): effect on inflammation or mediation of inflammation

TCLo (Inhalation-Mouse) 50 mg/m^3/13 weeks-intermittent: Lungs, Thorax, or Respiration: sputum; Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: dehydrogenases

TCLo (Inhalation-Mouse) 250 mg/m^3/13 weeks-intermittent: Lungs, Thorax, or Respiration: sputum; Blood: changes in cell count (unspecified); Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: dehydrogenases

TCLo (Inhalation-Hamster) 250 mg/m^3/13 weeks-intermittent: Lungs, Thorax, or Respiration: sputum; Blood: changes in cell count (unspecified); Biochemical: Enzyme inhibition, induction, or change in blood or tissue levels: dehydrogenases

TCLo (Inhalation-Hamster) 250 mg/m^3/6 hours/13 weeks-intermittent: Lungs, Thorax, or Respiration: structural or functional change in trachea or bronchi

DNA Damage (Human Lung) 100 µg/plate

DNA Damage (Human Lung) 20 µg/disk/4 hours

Sister Chromatid Exchange (Human Lymphocyte) 2 µmol/L/72 hours

Micronucleus Test (Human Lymphocyte) 5 µmol/L/72 hours

Micronucleus Test (Intraperitoneal-Mouse) 3 gm/kg/3 days-continuous

Micronucleus Test (Hamster Ovary) 5 µmol/L

DNA Inhibition (Hamster Lung) 500 mg/L

Sister Chromatid Exchange (Hamster Ovary) 1 µmol/L

CARCINOGENIC POTENTIAL: The following table summarizes the carcinogenicity listing for the components of this product. "NO" indicates that the substance is not considered to be or suspected to be a carcinogen by the listed agency, see section 16 for definitions of other ratings.

CHEMICAL	EPA	IARC	NTP	NIOSH	ACGIH	OSHA	PROP 65
Calcium Carbonate (Natural)	No	No	No	No	No	No	No
Carbon Black	No	2B	No	Ca	No	No	Yes (airborne, unbound particles of respirable size)
Iron Oxide	No	3	No	No	A4	No	No
Mineral Spirits	No	No	No	No	No	No	No
Octamethylcyclotetrasiloxane	No	No	No	No	No	No	No
Phenylated Ketoxomio Silane	No	No	No	No	No	No	No
Fumed Silicon Dioxide	No	No	No	No	No	No	No
Titanium Dioxide	2B	No	No	Ca	A4	No	Yes (airborne unbound particles of respirable size)
The following is a compound from reaction with water and generated during curing:							
Methyl Ethyl Ketoxime	No	No	No	No	No	No	No

IARC 1: Carcinogenic to Humans. IARC-2B: Possibly Carcinogenic to Humans. IARC-3: Possibly Carcinogenic to Humans. NTP-K: Known to Be a Human Carcinogen. NIOSH-Ca: Potential Occupational Carcinogen, with No Further Categorization. ACGIH TLV-A2: Suspected Human Carcinogen. ACGIH TLV-A4: Not Classifiable as a Human Carcinogen.

IRRITANCY OF PRODUCT: This product may mildly irritate contaminated tissue, especially if contact is prolonged. Eye irritation may be more pronounced.

SENSITIZATION TO THE PRODUCT: This product may cause skin sensitization and allergic reaction in susceptible individuals due to the Phenyl Oximino Silane component.

TOXICOLOGICAL SYNERGISTIC PRODUCTS: None known.

REPRODUCTIVE TOXICITY INFORMATION: This product has not been tested for reproductive toxicity. Information for some components is given, as follows.

Mutagenicity/Embryotoxicity/ Teratogenicity/Reproductive Toxicity: In a developmental and reproductive toxicity study involving female rats and the trace Octamethylcyclotetrasilane component, a significant percentage of female rats exposed experienced reduction of proestrus LH levels, a reduction of ovulation and decreased FSH hormone levels.

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

MOBILITY: This product has not been tested for mobility in soil.

PERSISTENCE AND BIODEGRADABILITY: This product has not been tested for persistence or biodegradability.

BIO-ACCUMULATION POTENTIAL: This product has not been tested for bio-accumulation potential.

ECOTOXICITY: This product has not been tested for aquatic or animal toxicity. Data are available for the trace Octamethylcyclotetrasiloxane component.

12. ECOLOGICAL INFORMATION (Continued)

ECOTOXICITY (continued): Although no data is available, under the Global Harmonization Standard, the Phenyl Oximino Silane component is classified as having chronic aquatic toxicity.

OCTAMETHYLCYCLOTETRASILOXANE:

LC_{50} (*Oncorhynchus mykiss* Rainbow trout) 14 days = 10 µg/L

LC_{50} (*Lepomis macrochirus* Bluegill) 96 hours = > 1000 mg/L

LC_{50} (*Brachydanio rerio* Zebra danio) 96 hours = >500 mg/L

OTHER ADVERSE EFFECTS: This material is not expected to have any ozone depletion potential.

ENVIRONMENTAL EXPOSURE CONTROLS: Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: As supplied, this product would not be a hazardous waste as defined by U.S. federal regulation (40 CFR 261) if discarded or disposed. State and local regulations may differ from federal regulations. The generator of the waste is responsible for proper waste determination and management.

U.S. EPA WASTE NUMBER: Not applicable.

14. TRANSPORTATION INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION: This product is NOT classified as Dangerous Goods, per U.S. DOT regulations, under 49 CFR 172.101.

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This product is NOT classified as Dangerous Goods, per regulations of Transport Canada.

INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA): This product is NOT classified as dangerous goods, per the International Air Transport Association.

INTERNATIONAL MARITIME ORGANIZATION SHIPPING INFORMATION (IMO): This product is not classified as dangerous goods, per the International Maritime Organization.

15. REGULATORY INFORMATION

U.S. REGULATIONS:

U.S. SARA Reporting Requirements: No component of this product is subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.

U.S. SARA Hazard Categories (Section 311/312, 40 CFR 370-21): ACUTE: Yes; CHRONIC: Yes; FIRE: No; REACTIVE: No; SUDDEN RELEASE: No

U.S. TSCA Inventory Status: 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.

U.S. CERCLA Reportable Quantity (RQ): Not applicable.

U.S. Clean Air Act (CA 112r) Threshold Quantity (TQ): Not applicable.

Other U.S. Federal Regulations: Not applicable.

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): This product contains Titanium Dioxide and Carbon Black, suspect carcinogens which are on the list, by the route of inhalation. Due to the form of the product, the Proposition 65 warning is not applicable to these compounds in this product.

CANADIAN REGULATIONS:

Canadian DSL/NDSL Inventory Status: The components of this product are listed on the DSL Inventory.

Canadian Environmental Protection Act (CEPA) Priorities Substances Lists: No component of this product is on the CEPA Priorities Substances Lists.

Canadian WHMIS (HPR-GHS) 2015 Classification and Symbols: See Section 16 in Classification and Symbols under HPR-GHS 2015.

MEXICAN REGULATIONS:

Mexican Workplace Regulations (NOM-018-STPS-2000): This product is not classified as hazardous.

16. OTHER INFORMATION

WARNINGS (per ANSI Z129.1): WARNING! CONTAINS TRACE COMPONENT THAT MAY CAUSE ADVERSE EFFECTS ON FERTILITY, BASED ON ANIMAL DATA. MAY CAUSE EYE, SKIN, AND RESPIRATORY TRACT IRRITATION, ESPECIALLY IF EXPOSURE IS PROLONGED. MAY BE HARMFUL IF ACCIDENTALLY INGESTED. MAY CAUSE SKIN SENSITIZATION AND ALLERGIC REACTION IN SUSCEPTIBLE INDIVIDUALS. COMBUSTIBLE – CAN IGNITE IF EXPOSED TO DIRECT FLAME. CONTAINS COMPOUNDS ACUTELY AND CHRONICALLY TOXIC TO AQUATIC ORGANISMS. Avoid contact with eyes, skin, and clothing. Avoid breathing fumes, dusts, vapors or mist. Do not taste or swallow. Wash thoroughly after handling. Keep container tightly closed. Use only with adequate ventilation. Keep away from heat and flame. Wear gloves, eye protection, respiratory protection, and appropriate body protection. FIRST-AID: In case of contact, immediately flush skin and eyes with plenty of water. Remove contaminated clothing and shoes. Get medical attention if irritation develops or persists. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, do not induce vomiting. Get medical attention. IN CASE OF FIRE: Use water fog, foam, dry chemical, or CO_2. IN CASE OF SPILL: Absorb spilled product with polypads or other suitable absorbing material. Place all spill residue in an appropriate container and seal. Dispose of in accordance with U.S. Federal, State, and local hazardous waste disposal regulations and those of Canada.

16. OTHER INFORMATION (Continued)

GLOBAL HARMONIZATION LABELING AND CLASSIFICATION: Classified in accordance with Global Harmonization Standard under U.S. OSHA Hazard Communication Standard, Canadian WHMIS HPR-GHS 2015.

Classification: Reproductive Toxicity Category 2, Acute Oral Toxicity Category 5, Eye Irritation Category 2B, Skin Irritation Category 3, Skin Sensitization Category 1, Aquatic Chronic Toxicity Category 4

Signal Word: Warning

Hazard Statements: H361f: Suspected of damaging fertility. H303: May be harmful if ingested. H316: Causes mild skin irritation. H320: Causes eye irritation. H317: May cause an allergic skin reaction. H413: May be harmful to aquatic life with long-lasting effects.

Precautionary Statements:

Prevention: P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P261: Avoid breathing fume. P264: Wash thoroughly after handling. P272: Contaminated work clothing should not be allowed out of the workplace. P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response: P308 + P313: IF exposed or concerned: Get medical advice/attention. P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. P337 + P313: If eye irritation persists: Get medical advice/attention. P302 + P352: IF ON SKIN: Wash with plenty of soap and water. P333 + P313: If skin irritation or rash occurs: Get medical advice/attention. P362 + P364: Take off contaminated clothing and wash it before reuse. P321: Specific treatment (remove from exposure and treat symptoms).

Storage: P405: Store locked up.

Disposal: P501: Dispose of contents/containers in accordance with all local, regional, national and international regulations.

Hazard Symbols/Pictogram: GHS07, GHS08

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

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REFERENCES AND DATA SOURCES: Contact the supplier for information.

METHODS OF EVALUATING INFORMATION FOR THE PURPOSE OF CLASSIFICATION: Bridging principles were used to classify this product.

REVISION DETAILS: July 2012: Up-date and revise entire MSDS to include current GHS requirements. December 2015: Correction of classification. Up-date to most current format. May 2017: Up-date of entire SDS due to formulation up-date.

DATE OF PRINTING May 19, 2017

DEFINITIONS OF TERMS

A large number of abbreviations and acronyms appear on a MSDS. Some of these, which are commonly used, include the following:

KEY ACRONYMS:

CHEMTREC: Chemical Transportation Emergency Center, a 24-hour emergency information and/or emergency assistance to emergency responders.

CEILING LEVEL: The concentration that shall not be exceeded during any part of the working exposure.

DFG MAKs: Federal Republic of Germany Maximum Concentration Values in the workplace. Exposure limits are given as TWA (Time-Weighted Average) or PEAK (short-term exposure) values.

DFG MAK Germ Cell Mutagen Categories: 1: Germ cell mutagens that have been shown to increase the mutant frequency in the progeny of exposed humans. **2:** Germ cell mutagens that have been shown to increase the mutant frequency in the progeny of exposed mammals. **3A:** Substances that have been shown to induce genetic damage in germ cells of human of animals, or which produce mutagenic effects in somatic cells of mammals *in vivo* and have been shown to reach the germ cells in an active form. **3B:** Substances that are suspected of being germ cell mutagens because of their genotoxic effects in mammalian somatic cell *in vivo*; in exceptional cases, substances for which there are no *in vivo* data, but that are clearly mutagenic in vitro and structurally related to known in vivo mutagens. **4:** Not applicable (Category 4 carcinogenic substances are those with non-genotoxic mechanisms of action. By definition, germ cell mutagens are genotoxic. Therefore, a Category 4 for germ cell mutagens cannot apply. At some time in the future, it is conceivable that a Category 4 could be established for genotoxic substances with primary targets other than DNA [e.g. purely aneugenic substances] if research results make this seem sensible.) **5:** Germ cell mutagens, the potency of which is considered to be so low that, provided the MAK value is observed, their contribution to genetic risk for humans is expected not to be significant.

DFG MAK Pregnancy Risk Group Classification: Group A: A risk of damage to the developing embryo or fetus has been unequivocally demonstrated. Exposure of pregnant women can lead to damage of the developing organism, even when MAK and BAT (Biological Tolerance Value for Working Materials) values are observed. **Group B:** Currently available information indicates a risk of damage to the developing embryo or fetus must be considered to be probable. Damage to the developing organism cannot be excluded when pregnant women are exposed, even when MAK and BAT values are observed. **Group C:** There is no reason to fear a risk of damage to the developing embryo or fetus when MAK and BAT values are observed. **Group D:** Classification in one of the groups A–C is not yet possible because, although the data available may indicate a trend, they are not sufficient for final evaluation.

IDLH: Immediately Dangerous to Life and Health. This level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury.

LOQ: Limit of Quantitation.

NE: Not Established. When no exposure guidelines are established, an entry of NE is made for reference.

NIC: Notice of Intended Change.

NIOSH CEILING: The exposure that shall not be exceeded during any part of the workday. If instantaneous monitoring is not feasible, the ceiling shall be assumed as a 15-minute TWA exposure (unless otherwise specified) that shall not be exceeded at any time during a workday.

NIOSH RELs: NIOSH's Recommended Exposure Limits.

KEY ACRONYMS (continued):

PEL: OSHA's Permissible Exposure Limits. This exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase, "Vacated 1989 PEL" is placed next to the PEL that was vacated by Court Order.

SKIN: Used when a there is a danger of cutaneous absorption.

STEL: Short Term Exposure Limit, usually a 15-minute time-weighted average (TWA) exposure that should not be exceeded at any time during a workday, even if the 8-hr TWA is within the TLV-TWA, PEL-TWA or REL-TWA.

TLV: Threshold Limit Value. An airborne concentration of a substance that represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour.

TWA: Time Weighted Average exposure concentration for a conventional 8-hr (TLV, PEL) or up to a 10-hr (REL) workday and a 40-hr workweek.

WEEL: Workplace Environmental Exposure Limits from the AIHA.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS: This rating system was developed by the National Paint and Coating Association and has been adopted by industry to identify the degree of chemical hazards.

HEALTH HAZARD: **0** Minimal Hazard: No significant health risk, irritation of skin or eyes not anticipated. *Skin Irritation*: Essentially non-irritating. Mechanical irritation may occur. PII or Draize = 0. *Eye Irritation*: Essentially non-irritating, minimal effects clearing in < 24 hours. Mechanical irritation may occur. Draize = 0. *Oral Toxicity LD_{50} Rat*: > 5000 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: > 2000 mg/kg. *Inhalation Toxicity 4-hrs LC_{50} Rat*: > 20 mg/L. **1** Slight Hazard: Minor reversible injury may occur; may irritate the stomach if swallowed; may defat the skin and exacerbate existing dermatitis. *Skin Irritation*: Slightly or mildly irritating. PII or Draize > 0 < 5. *Eye Irritation*: Slightly to mildly irritating, but reversible within 7 days. Draize > 0 ≤ 25. *Oral Toxicity LD_{50} Rat*: > 500–5000 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: > 1000–2000 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: > 2–20 mg/L. **2** Moderate Hazard: Temporary or transitory injury may occur; prolonged exposure may affect the CNS. *Skin Irritation*: Moderately irritating; primary irritant; sensitizer. PII or Draize ≥ 5, with no destruction of dermal tissue. *Eye Irritation*: Moderately to severely irritating; reversible corneal opacity; corneal involvement or irritation clearing in 8–21 days. Draize = 26–100, with reversible effects. *Oral Toxicity LD_{50} Rat*: > 50–500 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: > 200–1000 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: > 0.5–2 mg/L. **3** Serious Hazard: Major injury likely unless prompt action is taken and medical treatment is given; high level of toxicity; corrosive. *Skin Irritation*: Severely irritating and/or corrosive; may cause destruction of dermal tissue, skin burns, and dermal necrosis. PII or Draize > 5–8, with destruction of tissue. *Eye Irritation*: Corrosive, irreversible destruction of ocular tissue; corneal involvement or irritation persisting for more than 21 days. Draize > 80 with effects irreversible in 21 days. *Oral Toxicity LD_{50} Rat*: > 1–50 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: > 20–200 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: > 0.05–0.5 mg/L.

DEFINITIONS OF TERMS (Continued)

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS (continued):

HEALTH HAZARD (continued): **4** Severe Hazard: Life-threatening; major or permanent damage may result from single or repeated exposure; extremely toxic; irreversible injury may result from brief contact. *Skin Irritation*: Not appropriate. Do not rate as a 4, based on skin irritation alone. *Eye Irritation*: Not appropriate. Do not rate as a 4, based on eye irritation alone. *Oral Toxicity LD_{50} Rat*: ≤ 1 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: ≤ 20 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: ≤ 0.05 mg/L.

FLAMMABILITY HAZARD: **0** Minimal Hazard: Materials that will not burn in air when exposure to a temperature of 815.5°C (1500°F) for a period of 5 minutes. **1** Slight Hazard: Materials that must be pre-heated before ignition can occur. Material requires considerable pre-heating, under all ambient temperature conditions before ignition and combustion can occur. This usually includes the following: Materials that will burn in air when exposed to a temperature of 815.5°C (1500°F) for a period of 5 minutes or less; Liquids, solids and semisolids having a flash point at or above 93.3°C (200°F) (i.e. OSHA Class IIIB); and Most ordinary combustible materials (e.g. wood, paper, etc.). **2** Moderate Hazard: Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not, under normal conditions, form hazardous atmospheres in air, but under high ambient temperatures or moderate heating may release vapor in sufficient quantities to produce hazardous atmospheres with air. This usually includes the following: Liquids having a flash-point at or above 37.8°C (100°F); Solid materials in the form of course dusts that may burn rapidly but that generally do not form explosive atmospheres; Solid materials in a fibrous or shredded form that may burn rapidly and create flash fire hazards (e.g. cotton, sisal, hemp); and Solids and semisolids (e.g. viscous and slow flowing as asphalt) that readily give off flammable vapors. **3** Serious Hazard: Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures, or, unaffected by ambient temperature, are readily ignited under almost all conditions. This usually includes the following: Liquids having a flash point below 22.8°C (73°F) and having a boiling point at or above 38°C (100°□F) and those liquids having a flash point at or above 22.8°C (73°F) and below 37.8°C (100°F) (i.e. OSHA Class IB and IC); Materials that on account of their physical form or environmental conditions can form explosive mixtures with air and are readily dispersed in air (e.g., dusts of combustible solids, mists or droplets of flammable liquids); and Materials that burn extremely rapidly, usually by reason of self-contained oxygen (e.g. dry nitrocellulose and many organic peroxides). **4** Severe Hazard: Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air, and that will burn readily. This usually includes the following: Flammable gases; Flammable cryogenic materials; Any liquid or gaseous material that is liquid while under pressure and has a flash point below 22.8°C (73°F) and a boiling point below 37.8°C (100°F) (i.e. OSHA Class IA); and Materials that ignite spontaneously when exposed to air at a temperature of 54.4°C (130°F) or below (pyrophoric).

PHYSICAL HAZARD: **0** *Water Reactivity*: Materials that do not react with water. *Organic Peroxides*: Materials that are normally stable, even under fire conditions and will not react with water. *Explosives*: Substances that are Non-Explosive. *Compressed Gases*: No Rating. *Pyrophorics*: No Rating. *Oxidizers*: No 0 rating. *Unstable Reactives*: Substances that will not polymerize, decompose, condense, or self-react.). **1** *Water Reactivity*: Materials that change or decompose upon exposure to moisture. *Organic Peroxides*: Materials that are normally stable, but can become unstable at high temperatures and pressures. These materials may react with water, but will not release energy violently. *Explosives*: Division 1.5 & 1.6 explosives. Substances that are very insensitive explosives or that do not have a mass explosion hazard. *Compressed Gases*: Pressure below OSHA definition. *Pyrophorics*: No Rating. *Oxidizers*: Packaging Group III oxidizers; Solids: any material that in either concentration tested, exhibits a mean burning time less than or equal to the mean burning time of a 3:7 potassium bromate/cellulose mixture and the criteria for Packing Group I and II are not met. Liquids: any material that exhibits a mean pressure rise time less than or equal to the pressure rise time of a 1:1 nitric acid (65%)/cellulose mixture and the criteria for Packing Group I and II are not met. *Unstable Reactives*: Substances that may decompose condense, or self-react, but only under conditions of high temperature and/or pressure and have little or no potential to cause significant heat generation or explosion hazard. Substances that readily undergo hazardous polymerization in the absence of inhibitors. **2** *Water Reactivity*: Materials that may react violently with water. *Organic Peroxides*: Materials that, in themselves, are normally unstable and will readily undergo violent chemical change, but will not detonate. These materials may also react violently with water. *Explosives*: Division 1.4 explosives. Explosive substances where the explosive effects are largely confined to the package and no projection of fragments of appreciable size or range are expected. An external fire must not cause virtually instantaneous explosion of almost the entire contents of the package. *Compressed Gases*: Pressurized and meet OSHA definition but < 514.7 psi absolute at 21.1°C (70°F) [500 psig]. *Pyrophorics*: No Rating. *Oxidizers*: Packing Group II oxidizers. Solids: any material that, either in concentration tested, exhibits a mean burning time of less than or equal to the mean burning time of a 2:3 potassium bromate/cellulose mixture and the criteria for Packing Group I are not met. Liquids: any material that exhibits a mean pressure rise time less than or equal to the pressure rise of a 1:1 aqueous sodium chlorate solution (40%)/cellulose mixture and the criteria for Packing Group I are not met. *Reactives*: Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure, but have a low potential (or low risk) for significant heat generation or explosion. Substances that readily form peroxides upon exposure to air or oxygen at room temperature.**3** *Water Reactivity*: Materials that may form explosive reactions with water. *Organic Peroxides*: Materials that are capable of detonation or explosive reaction, but require a strong initiating source or must be heated under confinement before initiation; or materials that react explosively with water. *Explosives*: Division 1.3 explosives. Explosive substances that have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but do not have a mass explosion hazard. *Compressed Gases*: Pressure ≥ 514.7 psi absolute at 21.1°C (70°F) [500 psig]. *Pyrophorics*: No Rating. *Oxidizers*: Packing Group I oxidizers. Solids: any material that, in either concentration tested, exhibits a mean burning time less than the mean burning time of a 3:2 potassium bromate/cellulose mixture. Liquids: any material that spontaneously ignites when mixed with cellulose in a 1:1 ratio, or which exhibits a mean pressure rise time less than the pressure rise time of a 1:1 perchloric acid (50%)/cellulose mixture. *Unstable Reactives*: Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure and have a moderate potential (or moderate risk) to cause significant heat generation or explosion. **4** *Water Reactivity*: Materials that react explosively with water without requiring heat or confinement. *Organic Peroxides*: Materials that are readily capable of detonation or explosive decomposition at normal temperature and pressures. *Explosives*: Division 1.1 & 1.2 explosives. Explosive substances that have a mass explosion hazard or have a projection hazard. A mass explosion is one that affects almost the entire load instantaneously. *Compressed Gases*: No Rating. *Pyrophorics*: Add to the definition of Flammability

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS (continued):

PHYSICAL HAZARD (continued): 4. *Oxidizers*: No 4 rating. *Unstable Reactives*: Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure and have a high potential (or high risk) to cause significant heat generation or explosion. *Pyrophorics*: Add to the definition of Flammability 4.

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS

HEALTH HAZARD: **0** Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials. Gases and vapors with an LC_{50} for acute inhalation toxicity greater than 10,000 ppm. Dusts and mists with an LC_{50} for acute inhalation toxicity greater than 200 mg/L. Materials with an LD_{50} for acute dermal toxicity greater than 2000 mg/kg. Materials with an LD_{50} for acute oral toxicity greater than 2000 mg/kg. Materials essentially non-irritating to the respiratory tract, eyes, and skin. **1** Materials that, under emergency conditions, can cause significant irritation. Gases and vapors with an LC_{50} for acute inhalation toxicity greater than 5,000 ppm but less than or equal to 10,000 ppm. Dusts and mists with an LC_{50} for acute inhalation toxicity greater than 10 mg/L but less than or equal to 200 mg/L. Materials with an LD_{50} for acute dermal toxicity greater than 1000 mg/kg but less than or equal to 2000 mg/kg. Materials that slightly to moderately irritate the respiratory tract, eyes and skin. Materials with an LD_{50} for acute oral toxicity greater than 500 mg/kg but less than or equal to 2000 mg/kg. **2** Materials that, under emergency conditions, can cause temporary incapacitation or residual injury. Gases with an LC_{50} for acute inhalation toxicity greater than 3,000 ppm but less than or equal to 5,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than one-fifth its LC_{50} for acute inhalation toxicity, if its LC_{50} is less than or equal to 5000 ppm and that does not meet the criteria for either degree of hazard 3 or degree of hazard 4. Dusts and mists with an LC_{50} for acute inhalation toxicity greater than 2 mg/L but less than or equal to 10 mg/L. Materials with an LD_{50} for acute dermal toxicity greater than 200 mg/kg but less than or equal to 1000 mg/kg. Compressed liquefied gases with boiling points between -30°C (-22°F) and -55°C (-66.5°F) that cause severe tissue damage, depending on duration of exposure. Materials that are respiratory irritants. Materials that cause severe, but reversible irritation to the eyes or are lachrymators. Materials that are primary skin irritants or sensitizers. Materials whose LD_{50} for acute oral toxicity is greater than 50 mg/kg but less than or equal to 500 mg/kg. **3** Materials that, under emergency conditions, can cause serious or permanent injury. Gases with an LC_{50} for acute inhalation toxicity greater than 1,000 ppm but less than or equal to 3,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater its LC_{50} for acute inhalation toxicity, if its LC_{50} is less than or equal to 3000 ppm and that does not meet the criteria for degree of hazard 4. Dusts and mists with an LC_{50} for acute inhalation toxicity greater than 0.5 mg/L but less than or equal to 2 mg/L. Materials with an LD_{50} for acute dermal toxicity greater than 40 mg/kg but less than or equal to 200 mg/kg. Materials that are corrosive to the respiratory tract. Materials that are corrosive to the eyes or cause irreversible corneal opacity. Materials corrosive to the skin. Cryogenic gases that cause frostbite and irreversible tissue damage. Compressed liquefied gases with boiling points below -55°C (-66.5°F) that cause frostbite and irreversible tissue damage. Materials with an LD_{50} for acute oral toxicity greater than 5 mg/kg but less than or equal to 50 mg/kg. **4** Materials that, under emergency conditions, can be lethal. Gases with an LC_{50} for acute inhalation toxicity less than or equal to 1,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than ten times its LC_{50} for acute inhalation toxicity, if its LC_{50} is less than or equal to 1000 ppm. Dusts and mists whose LC_{50} for acute inhalation toxicity is less than or equal to 0.5 mg/L. Materials whose LD_{50} for acute dermal toxicity is less than or equal to 40 mg/kg. Materials whose LD_{50} for acute oral toxicity is less than or equal to 5 mg/kg.

FLAMMABILITY HAZARD: **0** Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 816°C (1500°F) for a period of 5 minutes in according with Annex D of NFPA 704. **1** Materials that must be preheated before ignition can occur. Materials in this degree require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur: Materials that will burn in air when exposed to a temperature of 816°C (1500°F) for a period of 5 minutes in according with Annex D of NFPA 704. Liquids, solids, and semisolids having a flash point at or above 93.4°C (200°F) (i.e. Class IIIB liquids). Liquids with a flash point greater than 35°C (95°F) that do not sustain combustion when tested using the *Method of Testing for Sustained Combustibility*, per 49 CFR 173, Appendix H or the UN *Recommendations on the Transport of Dangerous Goods, Model Regulations* (current edition) and the related *Manual of Tests and Criteria* (current edition). Liquids with a flash point greater than 35°C (95°F) in a water-miscible solution or dispersion with a water non-combustible liquid/solid content of more than 85% by weight. Liquids that have no fire point when tested by ASTM D 92, *Standard Test Method for Flash and Fire Points by Cleveland Open Cup*, up to the boiling point of the liquid or up to a temperature at which the sample being tested shows an obvious physical change. Combustible pellets with a representative diameter of greater than 2 mm (10 mesh). Most ordinary combustible materials. Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. **2** Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not under normal conditions form hazardous atmospheres with air, but under high ambient temperatures or under moderate heating could release vapor in sufficient quantities to produce hazardous atmospheres with air. Liquids having a flash point at or above 37.8°C (100°F) and below 93.4°C (200°F) (i.e. Class II and Class IIIA liquids.) Solid materials in the form of powders or coarse dusts of representative diameter between 420 microns (40 mesh) and 2 mm (10 mesh) that burn rapidly but that generally do not form explosive mixtures with air. Solid materials in fibrous or shredded form that burn rapidly and create flash fire hazards, such as cotton, sisal, and hemp. Solids and semisolids that readily give off flammable vapors. Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. **3** Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures or, though unaffected by ambient temperatures, are readily ignited under almost all conditions. Liquids having a flash point below 22.8°C (73°F) and having a boiling point at or above 37.8°C (100°F) and those liquids having a flash point at or above 22.8°C (73°F) and below 37.8°C (100°F) (i.e. Class IB and IC liquids). Materials that on account of their physical form or environmental conditions can form explosive mixtures with air and are readily dispersed in air. Flammable or combustible dusts with representative diameter less than 420 microns (40 mesh). Materials that burn with extreme rapidity, usually by reason of self-contained oxygen (e.g. dry nitrocellulose and many organic peroxides). Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent.

DEFINITIONS OF TERMS (Continued)

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS (continued):

FLAMMABILITY HAZARD (continued): **4** Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and will burn readily. Flammable gases. Flammable cryogenic materials. Any liquid or gaseous materials that is liquid while under pressure and has a flash point below 22.8°C (73°F) and a boiling point below 37.8°C (100°F) (i.e. Class IA liquids). Materials that ignite when exposed to air, Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent.

INSTABILITY HAZARD: **0** Materials that in themselves are normally stable, even under fire conditions. Materials that have an instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) below 0.01 W/mL. Materials that do not exhibit an exotherm at temperatures less than or equal to 500°C (932°F) when tested by differential scanning calorimetry.**1** Materials that in themselves are normally stable, but that can become unstable at elevated temperatures and pressures. Materials that have an instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 0.01 W/mL and below 10 W/mL. **2** Materials that readily undergo violent chemical change at elevated temperatures and pressures. Materials that have an instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 10 W/mL and below 100W/mL. **3** Materials that in themselves are capable of detonation or explosive decomposition or explosive reaction, but that require a strong initiating source or that must be heated under confinement before initiation. Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 100 W/mL and below 1000 W/mL. Materials that are sensitive to thermal or mechanical shock at elevated temperatures and pressures. **4** Materials that in themselves are readily capable of detonation or explosive decomposition or explosive reaction at normal temperatures and pressures. Materials that are sensitive to localized thermal or mechanical shock at normal temperatures and pressures. Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) of 1000 W/mL or greater.

FLAMMABILITY LIMITS IN AIR:

Much of the information related to fire and explosion is derived from the National Fire Protection Association (**NFPA**). Flash Point: Minimum temperature at which a liquid gives off sufficient vapor to form an ignitable mixture with air near the surface of the liquid or within the test vessel used. Autoignition Temperature: Minimum temperature of a solid, liquid, or gas required to initiate or cause self-sustained combustion in air with no other source of ignition. LEL: Lowest concentration of a flammable vapor or gas/air mixture that will ignite and burn with a flame. UEL: Highest concentration of a flammable vapor or gas/air mixture that will ignite and burn with a flame.

TOXICOLOGICAL INFORMATION:

Human and Animal Toxicology: Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented. LD_{50}: Lethal Dose (solids & liquids) that kills 50% of the exposed animals. LC_{50}: Lethal Concentration (gases) that kills 50% of the exposed animals. ppm: Concentration expressed in parts of material per million parts of air or water. mg/m^3: Concentration expressed in weight of substance per volume of air. mg/kg: Quantity of material, by weight, administered to a test subject, based on their body weight in kg. TDLo: Lowest dose to cause a symptom. TCLo: Lowest concentration to cause a symptom. TDo, LDLo, and LDo, or TC, TCo, LCLo, and LCo: Lowest dose (or concentration) to cause lethal or toxic effects. **Cancer Information:** IARC: International Agency for Research on Cancer. NTP: National Toxicology Program. RTECS: Registry of Toxic Effects of Chemical Substances. IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used. **Other Information:** BEI: ACGIH Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV.

REPRODUCTIVE INFORMATION:

A mutagen is a chemical that causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An embryotoxin is a chemical that causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical that causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance that interferes in any way with the reproductive process.

ECOLOGICAL INFORMATION:

EC: Effect concentration in water. BCF: Bioconcentration Factor, which is used to determine if a substance will concentrate in life forms that consume contaminated plant or animal matter. TLm: Median threshold limit. $\log K_{OW}$ or $\log K_{OC}$: Coefficient of Oil/Water Distribution is used to assess a substance's behavior in the environment.

REGULATORY INFORMATION:

This section explains the impact of various laws and regulations on the material.

U.S.:

EPA: U.S. Environmental Protection Agency. ACGIH: American Conference of Governmental Industrial Hygienists, a professional association that establishes exposure limits. OSHA: U.S. Occupational Safety and Health Administration. NIOSH: National Institute of Occupational Safety and Health, which is the research arm of OSHA. DOT: U.S. Department of Transportation. TC: Transport Canada. SARA: Superfund Amendments and Reauthorization Act. TSCA: U.S. Toxic Substance Control Act. CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act. Marine Pollutant status according to the DOT; CERCLA or Superfund; and various state regulations. This section also includes information on the precautionary warnings that appear on the material's package label.

CANADA:

WHMIS: Canadian Workplace Hazardous Materials Information System. TC: Transport Canada. DSL/NDSL: Canadian Domestic/Non-Domestic Substances List.

Green Building Certification Data

MasterFormat Designation: 07 92 00 – Joint Sealants

June 27, 2017

RE: Pecora *864NST Non-Staining, Low Modulus Architectural Silicone Sealant*

Pecora Corporation hereby declares the following information for Pecora *864NST*:

LEED® v4 and LEED® 2009:

MR Credit Building Product Disclosure and Optimization–Sourcing of Raw Materials, Option 2 (*MR Credit 4.1 and 4.2, Recycled Content): For the purposes of the LEED Rating System, Pecora *864NST* contains 0% recycled content.

MR Credit Building Product Disclosure and Optimization–Sourcing of Raw Materials, Options 1 and 2 (*MR Credit 5.1 and 5.2, Regional Materials): Pecora *864NST* is manufactured in Harleysville, PA 19438. Due to the complexity of its raw material supply chain, the point source of Pecora *864NST*'s material ingredients cannot be determined.

EQ Credit Low-Emitting Materials, Options 1 and 2 (*IEQ Credit 4.1, Low-Emitting Materials–Adhesives & Sealants):

VOC Content: Pecora *864NST* contains 98 g/L volatile organic compound (VOC) content, well below the 250 g/L VOC limit set by South Coast Air Quality Management District (SCAQMD) Rule 1168 (effective 7/1/2005) for architectural sealants.

VOC Emissions (LEED v4 and LEED 2009 for Schools): Pecora *864NST* has been tested and meets the interior air quality (IAQ) emissions requirements for the classroom, private office, and new single-family residential scenarios of CDPH Standard Method v1.1-2010 (California Specification 01350). After 14 days (336 hours), the total VOC was <2 µg (0.002 mg)/m^3, well within the lowest of three prescribed TVOC ranges.

* LEED 2009 credits and options (June 30, 2021 sunset date)

Green Globes for New Construction

Criterion 3.7.2.1 Volatile Organic Compounds: Pecora *864NST* contains 98 g/L volatile organic compound (VOC), well below the 250 g/L VOC limit set by South Coast Air Quality Management District (SCAQMD) Rule 1168 for architectural sealants.

Living Building Challenge℠ 3.0

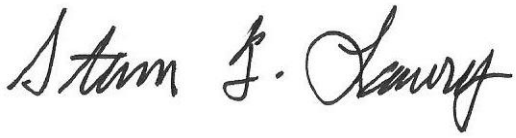
Imperative 08 Healthy Interior Environment: Pecora *864NST* has been tested and meets the interior air quality (IAQ) emissions requirements for the classroom, private office, and new single-family residential scenarios of CDPH Standard Methodv1.1-2010 (California Specification 01350). After 14 days (336 hours), the total VOC was <2 µg (0.002 mg)/m^3.

Imperative 10 Red List: Contact the Technical Services Department.

165 Wambold Road, Harleysville, PA 19438 • 1-800-523-6688 • 215-723-6051 • FAX 215-799-2518

Should you require additional information, please contact the Technical Services Department at 1-800-523-6688 or techservices@pecora.com.

Sincerely,



Steven T. Lawrey AIA, CSI, CCPR, CCS, CCCA, LEED® AP
Building Science Engineer
Pecora Corporation

PECORA CORPORATION®
Architectural Weatherproofing Products
U.S.A. • since 1862

ARCHITECTURAL SILICONE SEALANTS

STANDARD SILICONE COLORS

Custom colors available upon request

Non-standard colors
Minimum order quantity per color:
30 gallons for cartridges and pails
30 gallons for sausages

This guide offers a representation of color; when matching is critical, a cured or applied color sample is highly recommended.

Pecora Corporation
165 Wambold Rd
Harleysville, PA 19438
Phone: (215) 723-6051
(800) 523-6688
Fax: (215) 721-0286
www.pecora.com
An ISO-9001:2000 certified company.

864NST NON-STAINING TECHNOLOGY™

Tru-White	345
Precast	113
Beige	595
Limestone	039
Aluminum Stone	515
Classic Bronze	046
Black	012
Hartford Green	196

890NST NON-STAINING TECHNOLOGY™

Tru-White	345
Precast	113
Beige	595
Limestone	039
Anodized Aluminum	804
Aluminum Stone	515
Natural Stone	565
Sandstone	951
Charcoal Gray	950
Classic Bronze	046
Black	012
Hartford Green	196
Red Rock	955

895NST NON-STAINING TECHNOLOGY™

Translucent	610
Tru-White	345
Anodized Aluminum	804
Aluminum Stone	515
Classic Bronze	046
Black	012

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U.S.A. • since 1862

ARCHITECTURAL SILICONE SEALANTS

STANDARD SILICONE COLORS

Custom colors available upon request

Non-standard colors
Minimum order quantity per color:
30 gallons for cartridges and pails

310 SL

Limestone	039

311 NS

Limestone	039

860

Translucent	610
Tru-White	345
Metallic Aluminum	027
Black	012

898NST
NON-STAINING TECHNOLOGY™

Translucent	610
Tru-White	345
Almond	792
Black	012

COVERAGE CHART (231 cu. in./gal.)

Joint Depth (in.) x Width (in.)	Linear feet per Gal.		Joint Depth (in.) x Width (in.)	Linear feet per Gal.
1/8 x 1/8	1232.0		3/8 x 7/8	58.7
1/8 x 1/4	616.0		3/8 x 1	51.3
1/8 x 3/8	410.7			
1/8 x 1/2	308.0		1/2 x 1/2	77.0
1/8 x 5/8	246.4		1/2 x 5/8	61.6
1/8 x 3/4	205.3		1/2 x 3/4	51.3
1/8 x 7/8	176.0		1/2 x 7/8	44.0
1/8 x 1	154.0		1/2 x 1	38.5
1/4 x 1/4	308.0		5/8 x 5/8	49.3
1/4 x 3/8	205.0		5/8 x 3/4	41.1
1/4 x 1/2	154.0		5/8 x 7/8	35.2
1/4 x 5/8	123.2		5/8 x 1	30.8
1/4 x 3/4	102.7			
1/4 x 7/8	88.0		3/4 x 3/4	34.2
1/4 x 1	77.0		3/4 x 7/8	29.3
			3/4 x 1	25.7
3/8 x 3/8	136.9			
3/8 x 1/2	102.7		7/8 x 7/8	25.1
3/8 x 5/8	82.1		7/8 x 1	22.0
3/8 x 3/4	68.4		1 x 1	19.3

Joint Depth (in.) x Width (in.) x Length (in.) x 0.053 = gallons required

This guide offers a representation of color; when matching is critical, a cured or applied color sample is highly recommended.

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Fax: (215) 721-0286
www.pecora.com
An ISO-9001:2000 certified company.

PEC184 10/14

Section:	07 90 00 Joint Protection
#:	0013
Specified:	2.02.D., Single Component Siliconized Acrylic Latex Sealant
Reference:	view spec
Item submitted:	AC-20 + Silicone

AC-20-Silicone-Product-Data-1770567.pdf
AC-20-Silicone-SDS-1770571.pdf
AC-20-Silicone-Environmentally-Responsive-Documentation-1843873.pdf
AC-20-Silicone-Color-Chart-1770568.pdf
AC-20-Silicone-Test-Report-1429582.pdf

AC-20® +Silicone

Non-Sag, Acrylic Latex Caulking Compound

PECORA CORPORATION

SPECIFICATION DATA SHEET

BASIC USES

AC-20's elastomeric properties make it an excellent sealant for caulking interior concrete joints, hollow core ceiling and floor planks, window and door frames, vinyl, aluminum, steel and plywood siding, sheetrock, baseboards and bathroom and kitchen fixtures.

It may be used to grout marble and ceramic tile, repair mortar joints, and, under controlled conditions, to bed insulated glass units and storm windows.

MANUFACTURER

Pecora Corporation
165 Wambold Road
Harleysville, PA 19438
Phone: 215-723-6051
800-523-6688
Fax: 215-721-0286
Website: www.pecora.com

PRODUCT DESCRIPTION

AC-20 is a pure acrylic latex sealant for general purpose interior and exterior caulking in architectural applications where slight to moderate movement is anticipated. Formulated with the highest quality ingredients including a silicone additive for greater adhesion and weatherability, AC-20 is completely compatible with premium-grade latex and oil paints and will not stain adjacent surfaces. AC-20 has superb color stability and resistance to ultraviolet rays, ozone and airborne contaminants. It is mildew resistant and has United States Department of Agriculture acceptance for use in meat and poultry processing plants. In addition to the substrates listed above, AC-20 is compatible with polystyrene, polyurethane, cork, foamed and fibrous glass and gypsum board.

Limitations:

- The sealant must be protected from water for 24 hours after application; do not caulk outdoors when rain is imminent.
- Windows must be properly weeped since entrapped water could cause reversion. Sealant must be given additional time to fully cure before windows are installed because of the closed-in conditions.
- Installed sealant shall not be subjected to repeated exposure of aggressive cleaning or disinfecting compounds.

PACKAGING

- 10.1 fl. oz. (.300 L) cartridges
- 5-gallon (18.9 L) pails
- 55-gallon (208 L) drums
- 29 fl. oz. (.858 L) cartridges
  Tru-White Only:
- 29 fl. oz. (.858L) cartridges
- 20 oz (592 ml) sausages

COLOR

- Black, Ivory, Limestone, Brown, Bronze, Cedar, Almond, Tan,
- Beige-Grey,
  Tru-White and Aluminum Stone

TECHNICAL DATA

Applicable Standards: AC-20 exceeds the requirements of ASTM C834 Specification For Latex Sealants.

Movement Capability: 7 ½% in extension, 7 ½% in compression (15%) when installed in properly designed joints within its range of thermal movement capabilities. Refer to Test Data Box below for further technical information.

Joint Design: The width of the joint should be approximately 12 times the anticipated movement and should fall within the range of 1/4" (6 mm) to 3/4" (19 mm). The depth of the joints should be 1/4" (6 mm) minimum to 3/8" (9 mm) maximum.

TYPICAL PHYSICAL PROPERTIES at 77°F (25°C), 50% R.H.

TEST PROPERTY	VALUE	TEST PROCEDURE
Adhesion Loss (%)	0.5	ASTM C736
Artificial Weathering		
Adhesion Loss (%)	1.0	ASTM C732
Cracking	None	ASTM C732
Discoloration	None	ASTM C732
Slump	None	ASTM C732
Wash-Out	None	ASTM C732
Elongation, Ultimate (%)	200	ASTM D412
Extrudability (g/sec)	9.8	ASTM C731
Low-Temperature Flexibility (pass/fail)	Pass	ASTM C734
100% Modulus (psi)	60-65	ASTM D412
Recovery (%)	90	ASTM C736
Slump (in)	< 0.05	ASTM D2202
Stain Index	1.1	ASTM D2203
Tack-free time pass/fail)	Pass	ASTM D2377
Tensile, Ultimate (psi)	80-90	ASTM D412
VOC Content (g/L)	31	ASTM D3960
Volume Shrinkage (%)	25-28	ASTM C733
VOC Emissions (TVOC)	<2 ug (0.002 mg)/cu m	CDPH v1.1-2010

Since Pecora Architectural Sealants are applied to varied substrates under diverse environmental conditions and construction situations it is recommended that substrate testing be conducted prior to application.

AC-20® +Silicone SPECIFICATION DATA SHEET

INSTALLATION

Surface Preparation: Contact area must be clean, sound and free of contaminating substances such as oil, grease, asphalt, tar, etc. Priming is not generally required. Dampness but not saturation or standing water in porous substrates can be tolerated.

Joint Backing: Joints greater than 3/8" (9 mm) should be filled to within 3/8" (9 mm) of the surface with either polyethylene or polyurethane backer rod, preferrably of a non-gassing, non-absorbing type. Use a diameter that will compress about 25% when installed. In joints too shallow to take backer rod, use a bond breaker tape to prevent three-sided adhesion.

Application: Although the freezing point of AC-20 is considerably below 32˚ F (0˚C), and the sealant can withstand five freeze-thaw cycles, for best performance protect it from severe cold and apply above 40˚ F (4˚C) to lessen the possibility of frost in the joints. Fill joints completely and tool lightly to insure full contact to both sides of the joint and present a smooth surface. As with any waterborne product, the cure time is dependent on ambient conditions. Low temperatures or high humidity will extend cure time, while higher temperatures or low humidity will accelerate the cure.

Painting: Sealant may be painted 30-45 minutes after application with quality grades of latex or oil paints.

Cleaning: Water may be used to remove excess sealant from substrate and clean tools before cure; after cure, sealant must be removed with mechanical means.

Storage Life: One year when stored in unopened containers in dry areas below 80˚ F (26˚C).

Precautions: AC-20 is non-flammable, non-toxic, non-irritating and environmentally safe. However, do not take internally. Refer to our Safety Data Sheet(SDS) for additional information.

FOR PROFESSIONAL USE ONLY. KEEP OUT OF THE REACH OF CHILDREN.

AVAILABILITY AND COST

Pecora products are available from stocking distributors nationwide. For the name and telephone number of your nearest representative, call the number below or visit our website at www.pecora.com.

WARRANTY

Pecora Corporation warrants its products to be free of defects. Under this warranty, we will provide, at no charge, replacement materials for, or refund the purchase price of, any product proven to be defective when used in strict accordance with our published recommendations and in applications considered by us as suitable for this product. The determination of eligibility for this warranty, or the choice of remedy available under this warranty, shall be made in our sole discretion and any decisions made by Pecora Corporation shall be final. This warranty is in lieu of any and all other warranties, expressed or implied, including but not limited to a warranty of merchantability or fitness for a particular purpose and in no case will Pecora be liable for damages other than those expressly stated in this warranty, including but not limited to incidental or consequential damages

MAINTENANCE

If the sealant is damaged and the bond is intact, cut out the damaged area and recaulk. No primer is necessary. If the bond has been affected, remove the sealant, clean and prepare the joint in accordance with instructions under "Installation."

TECHNICAL SERVICES

Pecora representatives are available to assist you in selecting an appropriate product and to provide on-site application instructions or to conduct jobsite inspections. For further assistance call our Technical Service Department at 800-523-6688.

FILING SYSTEMS

- CSI MasterFormat Designations:
  -07 92 00: Joint Sealants

SAFETY DATA SHEET

PECORA CORPORATION®
Architectural Weatherproofing Products
U.S.A. • since 1862

AC-20® +Silicone

1. PRODUCT IDENTIFICATION

IDENTIFICATION of the SUBSTANCE or PREPARATION

TRADE NAME (AS LABELED):	**AC-20® +Silicone**
PRODUCT DESCRIPTION:	Acrylic Latex Sealant
CHEMICAL NAME/CLASS:	Acrylic Latex
OTHER MEANS OF IDENTIFICATION/SYNONYMS	AC-20; AC-20 Acrylic Latex Plus Silicone
RELEVANT USE:	Sealant
USES ADVISED AGAINST:	Other Than Relevant Use

COMPANY/UNDERTAKING IDENTIFICATION:

SUPPLIER/MANUFACTURER'S NAME:	**Pecora Corporation**
ADDRESS:	165 Wambold Road, Harleysville, PA 19438
EMERGENCY PHONE:	800-424-9300 (CHEMTREC, 24-hours)
BUSINESS PHONE:	215-723-6051 (Mon–Fri, 8 AM–5 PM ET)

PREPARATION DATE:	February 20, 2009
REVISION DATE:	December 6, 2016

This product is sold for commercial use. This SDS has been developed to address safety concerns of those individuals working with bulk quantities of this material, as well as those of potential users of this product in industrial/occupational settings. ALL United States Occupational Safety and Health Administration Standard (29 CFR 1910.1200), U.S. State equivalent Standards, Canadian WHMIS 2015 and the Global Harmonization required information is included in appropriate sections based on the Global Harmonization Standard format. This product has been classified in accordance with the hazard criteria of the countries listed above and the SDS contains all the information required by the Canadian WHMIS 2015 [HPR-GHS] , the Global Harmonization Standard and OSHA 1910.120.

2. HAZARD IDENTIFICATION

GLOBAL HARMONIZATION LABELING AND CLASSIFICATION: Classified in accordance with Global Harmonization Standard under U.S. OSHA Hazard Communication Standard, Canadian WHMIS HPR-GHS 2015

Classification: Skin Irritation Cat. 2
Signal Word: Warning
Hazard Statement Codes: H315
Precautionary Statement Codes: P264, P280, P302 + P352, P332 + P313, P362 + P364, P321
Hazard Symbols/Pictogram: GHS07

EMERGENCY OVERVIEW:

Physical Description: This product is a smooth paste with an acrylic odor that comes in a variety of colors.
Health Hazards: CAUTION! May cause skin irritation, especially if exposure is prolonged. May be harmful if ingested. Contains a trace compound (Crystalline Silica), a known human carcinogen by inhalation of particles.
Flammability Hazards: This product is combustible and can ignite if exposed to high temperature or direct flame.
Reactivity Hazards: This product is not reactive.
Environmental Hazard: This product has not been tested for environmental impact. This product contains a compound that can cause chronic aquatic toxicity.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS®)

Health	**1**
Flammability	**1**
Physical Hazard	**0**

See Section 16 for definitions of ratings

0 = Minimal
1 = Slight
2 = Moderate
3 = Serious
4 = Severe
* = Chronic

HMIS® is a registered trademark of the National Paint and Coatings Association.

CANADIAN WHMIS (HPR-GHS) 2015 CLASSIFICATION AND SYMBOLS: See Section 16 for in Classification and Symbols under HPR-GHS 2015.

U.S. OSHA REGULATORY STATUS: This product has a classification under the Global Harmonization Standard, as applied under OSHA regulations, as given earlier in this Section. See Section 16 for full classification details.

3. COMPOSITION and INFORMATION ON INGREDIENTS

Chemical Name	CAS #	W/W%	LABEL ELEMENTS GHS Classification under U.S. OSHA Hazard Communication Standard & Canadian WHMIS (HPR-GHS) 2015 Hazard Statement Codes
Calcium Carbonate	1317-65-3	30.0–60.0	SELF CLASSIFICATION Classification: Not Applicable

3. COMPOSITION and INFORMATION ON INGREDIENTS (Continued)

Chemical Name	CAS #	W/W%	LABEL ELEMENTS GHS Classification under U.S. OSHA Hazard Communication Standard & Canadian WHMIS (HPR-GHS) 2015 Hazard Statement Codes
Proprietary Acrylic Polymer Emulsion		15.0–25.0	SELF CLASSIFICATION Classification: Not Applicable
Proprietary Benzoate Esters		3.0-7.0	SELF CLASSIFICATION Classification: Not Applicable
Proprietary Mineral Spirits (contains less than 0.1% benzene)		1.0–3.0	HARMONISED CLASSIFICATION - ANNEX VI OF REGULATION (EC) NO 1272/2008 (CLP REGULATION) Classification: Aspiration Hazard Cat. 1 Hazard Statement Codes: H304 ADDITIONAL SELF-CLASSIFICATION Classification: Flammable Liquid Cat. 3, Skin Irritation Cat. 2, STOT (Central Nervous System) SE Cat. 3, Aquatic Chronic Cat. 2 Hazard Statement Codes: H226, H315, H336, H411
Quartz	14808-60-7	0.01-0.4	SELF CLASSIFICATION Classification: Carcinogenic Cat. 1B Hazard Statement Codes: H350i
The following are pigments that can be in the product, depending on coloration:			
Titanium Dioxide	13463-67-7	0.0-5.0	SELF-CLASSIFICATION Classification: Carcinogenic Cat. 2 Hazard Statement Codes: H351i
Water and other components. Each of the other components is present in less than 1 percent concentration (0.1% concentration for potential carcinogens, reproductive toxins, respiratory tract sensitizers, and mutagens).		Balance	Classification: Not Applicable

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES

PROTECTION OF FIRST AID RESPONDERS: Rescuers should not attempt to retrieve victims of exposure to this material without adequate personal protective equipment. Rescuers should be taken for medical attention, if necessary.

DESCRIPTION OF FIRST AID MEASURES: Remove victim(s) to fresh air, as quickly as possible. Only trained personnel should administer supplemental oxygen and/or cardio-pulmonary resuscitation, if necessary. Remove and isolate contaminated clothing and shoes. Seek immediate medical attention. Take copy of label and MSDS to physician or other health professional with victim(s).

Inhalation: If dusts of this material are inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions.

Skin Exposure: If the material contaminates the skin, immediately begin decontamination with running water. Minimum flushing is for 20 minutes. Do not interrupt flushing. Remove exposed or contaminated clothing, taking care not to contaminate eyes. Victim must seek immediate medical attention.

Eye Exposure: If this product enters the eyes, open victim's eyes while under gently running water. Use sufficient force to open eyelids. Have victim "roll" eyes. Minimum flushing is for 20 minutes. Do not interrupt flushing.

Ingestion: If this material is swallowed, CALL PHYSICIAN OR POISON CONTROL CENTER FOR MOST CURRENT INFORMATION. DO NOT INDUCE VOMITING, unless directly by medical personnel. Have victim rinse mouth with water or give several cupfuls of water, if conscious. Never induce vomiting or give diluents (milk or water) to someone who is unconscious, having convulsions, or unable to swallow. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Dermatitis or other pre-existing skin disorders may be aggravated by exposure to this product.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT IF NEEDED: Treat symptoms and eliminate exposure. Persons suffering allergic reactions must seek immediate medical attention.

5. FIRE-FIGHTING MEASURES

FLASH POINT: Not determined. AUTOIGNITION: Unknown.

FLAMMABLE LIMITS IN AIR: Unknown.

EXTINGUISHING MEDIA:

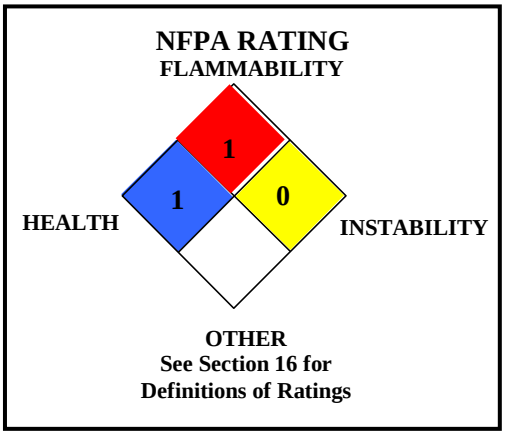
Suitable Extinguishing Media: Use extinguishing material suitable to the surrounding fire, including foam, halon, carbon dioxide and dry chemical.

Unsuitable Extinguishing Media: None known.

PROTECTION OF FIREFIGHTERS:

Special Hazards Arising From The Substance: This product is combustible and can be ignited when exposed to its flashpoint. Not sensitive to mechanical impact under normal conditions. Not sensitive to static discharge under normal conditions. Closed containers may develop pressure and rupture in event of fire.

SPECIAL PROTECTIVE ACTIONS FOR FIRE-FIGHTERS: Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus and full protective equipment. Move containers from fire area if it can be done without risk to personnel. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.



6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS AND EMERGENCY PROCEDURES: An accidental release can result in a fire. Uncontrolled releases should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. Eliminate any possible sources of ignition, and provide maximum explosion-proof ventilation. Use only non-sparking tools and equipment during the response. The atmosphere must at least 19.5 percent Oxygen before non-emergency personnel can be allowed in the area without Self-Contained Breathing Apparatus and fire protection.

PERSONAL PROTECTIVE EQUIPMENT: Responders should wear the level of protection appropriate to the type of chemical released, the amount of the material spilled, and the location where the incident has occurred.

Small Spills: For releases of 1 drum or less, Level D Protective Equipment (gloves, chemical resistant apron, boots, and eye protection) should be worn.

Large Spills: Minimum Personal Protective Equipment should be rubber gloves, rubber boots, face shield, and Tyvek suit. Minimum level of personal protective equipment for releases in which the level of oxygen is less than 19.5% or is unknown must be **Level B: triple-gloves (rubber gloves and nitrile gloves over latex gloves), chemical resistant suit, fire-retardant clothing and boots, hard hat, and Self-Contained Breathing Apparatus.**

METHODS FOR CLEAN-UP AND CONTAINMENT:

All Spills: Access to the spill area should be restricted. Spread should be limited by gently covering the spill with polypads. Scrape up or pick-up spilled material, placing in suitable containers. Absorb any residual on appropriate material, such as sand. All contaminated absorbents and other materials should be placed in an appropriate container and seal. Do not mix with wastes from other materials. Dispose of in accordance with applicable Federal, State, and local procedures (see Section 13, Disposal Considerations). Dispose of recovered material and report spill per regulatory requirements. Remove all residue before decontamination of spill area. Clean spill area with soap and copious amounts of water.

ENVIRONMENTAL PRECAUTIONS: Minimize use of water to prevent environmental contamination. Prevent spill or rinsate from contaminating storm drains, sewers, soil or groundwater. Place all spill residues in a suitable container and seal. Do not discharge effluent containing this product into streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

OTHER INFORMATION: U.S. regulations may require reporting of spills of this material that reach surface waters if a sheen is formed. If necessary, the toll-free phone number for the US Coast Guard National Response Center is 1-800-424-8802.

REFERENCE TO OTHER SECTIONS: See information in Section 8 (Exposure Controls – Personal Protection) and Section 13 (Disposal Considerations) for additional information.

7. HANDLING and STORAGE

PRECAUTIONS FOR SAFE HANDLING: As with all chemicals, avoid getting this product ON YOU or IN YOU. Wash thoroughly after handling this product. Do not eat or drink while handling this material. Avoid contact with eyes, skin, and clothing. Avoid breathing fumes, dusts, vapors or mist. Do not taste or swallow. Use only with adequate ventilation. Keep away from heat and flame. In the event of a spill, follow practices indicated in Section 6: ACCIDENTAL RELEASE MEASURES.

CONDITIONS FOR SAFE STORAGE: This product is stable under ordinary conditions of handling, use and storage. Store containers in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Store away from incompatible materials (see Section 10: STABILITY AND REACTIVITY). Keep container tightly closed when not in use. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. To prolong shelf life, store at temperatures below 26°C (80°F).

PRODUCT END USE: This product is used as a sealant. Follow all industry standards for use of this product.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

EXPOSURE LIMITS/CONTROL PARAMETERS:

Ventilation and Engineering Controls: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided below.

Occupational/Workplace Exposure Limits/Guidelines:

Chemical Name	CAS #	Guideline	Value
Acrylic Polymer	Proprietary	NE	NE
Benzoate Esters	Proprietary	NE	NE
Calcium Carbonate	1317-65-3	OSHA PEL TWA NIOSH REL TWA	15 mg/m^3 total dust 5 mg/m^3 respirable fraction 10 mg/m^3 total dust 5 mg/m^3 respirable fraction
Crystalline Silica/Quartz	14808-60-7	ACGIH TLV TWA OSHA PEL TWA NIOSH REL TWA	0.025 mg/m^3 respirable fraction 30 mg/m^3 / % Sio_2 + 2 total dust; 10 mg/m^3 / % Sio_2 + 2 respirable fraction 0.05 mg/m^3 respirable dust, See Pocket Guide Appendix A
Proprietary Mineral Spirits Exposure limits given are for Petroleum Distillates, Naphtha		OSHA PEL TWA NIOSH REL TWA NIOSH REL STEL	2000 mg/m^3 300 mg/m^3 1800 mg/m^3, 15 minutes
Titanium Dioxide	13463-67-7	ACGIH TLV TWA OSHA PEL TWA NIOSH REL & NIOSH STEL	10 mg/m^3 15 mg/m^3 total dust See Pocket Guide Appendix A

NE = Not Established. See Section 16 for Definitions of Terms Used.

Biological Exposures Indices (BEIs): Currently, the no BEI's have been established for components.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION (Continued)

PERSONAL PROTECTIVE EQUIPMENT (PPE): *The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132, including the Respiratory Protection Standard (29 CFR 1910.134*), *Eye Protection Standard 29 CFR 1910.13, the Hand Protection Standard 29 CFR 1910.138, and the Foot Protection Standard 29 CFR 1910.136), equivalent standards of Canada (including the Canadian CSA Respiratory Standard Z94.4-93-02, the CSA Eye Protection Standard Z94.3-M1982, Industrial Eye and Face Protectors and the Canadian CSA Foot Protection Standard Z195-M1984, Protective Footwear). Please reference applicable regulations and standards for relevant details.*

Eye/Face Protection: Use approved safety goggles or safety glasses. If necessary, refer to appropriate regulations and standards.

Skin Protection: Wear chemical impervious gloves (e.g., Nitrile or Neoprene). Use triple gloves for spill response. If necessary, refer to appropriate regulations and standards.

Body Protection: Use body protection appropriate for task (e.g., lab coat, coveralls, Tyvek suit). If necessary, refer to the OSHA Technical Manual (Section VII: Personal Protective Equipment) or appropriate Standards of Canada. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection, as described in appropriate regulations and standards.

Respiratory Protection: If mists or sprays from this product are created during use, use appropriate respiratory protection. If necessary, use only respiratory protection authorized in appropriate regulations. Oxygen levels below 19.5% are considered IDLH by OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under appropriate regulations and standards.

9. PHYSICAL and CHEMICAL PROPERTIES

FORM: Smooth paste.
COLOR: Variety of colors.
MOLECULAR WEIGHT: Mixture.
MOLECULAR FORMULA: Mixture.
ODOR: Acrylic
ODOR THRESHOLD: Not available.
SPECIFIC GRAVITY: 18.73
VAPOR PRESSURE, mm Hg @ 20°C: Not established.
RELATIVE VAPOR DENSITY (air = 1): Heavier than air.
EVAPORATION RATE (BuAc = 1): Not determined.
SOLUBILITY IN WATER: Soluble.
OTHER SOLUBILITIES: Not available.
MELTING/FREEZING POINT: < 0°C (< 32°F)
BOILING POINT: Not established.
VOC (less water and exempt): 1.0–10.0 g/L
WEIGHT % VOC: 0.1–0.9%
FLASH POINT: Not determined.
AUTOIGNITION TEMPERATURE: Not established.
pH: 7.0-7.5
FLAMMABLE LIMITS (in air by volume, %): Lower: Not established; Upper: Not established.
COEFFICIENT OF OIL/WATER DISTRIBUTION (PARTITION COEFFICIENT): Not established.
HOW TO DETECT THIS SUBSTANCE (IDENTIFYING PROPERTIES): The appearance of this product may act as an identifying property in the event of an accidental release.

10. STABILITY and REACTIVITY

CHEMICAL STABILITY: Stable under normal circumstances of use and handling. Product cures upon contact with air.
CONDITIONS TO AVOID: Avoid contact with incompatible chemicals and exposure to extreme temperatures.
INCOMPATIBLE MATERIALS: This product is not compatible with strong acids.
HAZARDOUS DECOMPOSITION PRODUCTS: Combustion: Thermal decomposition of this product can generate dusts, irritating fumes, and toxic gases (e.g., calcium, carbon, magnesium and titanium oxides, and acrylic compounds depending on formulation). Hydrolysis: None known.
POSSIBILITY OF HAZARDOUS REACTIONS/POLYMERIZATION: This product is not expected to undergo hazardous polymerization, decomposition, condensation, or self-reactivity. Product slowly cures upon contact with air.

11. TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS: The most significant routes of occupational exposure are inhalation and contact with skin and eyes. The symptoms of exposure to this product are as follows:

Contact with Skin or Eyes: Contact may mildly irritate the skin and cause redness and discomfort. Prolonged or repeated skin contact may cause dermatitis (dry, red skin). Eye contact may cause redness, pain, and tearing.

Skin Absorption: The components of this product are not known to be absorbed through intact skin.

Ingestion: If the product is swallowed, it may mildly irritate the mouth, throat, and other tissues of the gastro-intestinal system and may cause nausea, vomiting, and diarrhea.

Inhalation: Exposure to vapors of this product generated during curing, or dusts of this product generated during use after curing may mildly irritate the respiratory tract and cause coughing and sneezing.

Injection: Accidental injection of this product (e.g. puncture with a contaminated object) may cause burning, redness, and swelling in addition to the wound.

Target Organs: Acute: Skin, eyes. Chronic: Skin.

Chronic Effects: Prolonged or repeated skin contact may cause dermatitis (dry, red skin).

11. TOXICOLOGICAL INFORMATION (Continued)

TOXICITY DATA: There are currently no toxicity data available for this product; the following toxicology information is available for components greater than 1% in concentration. Due to large amount of data for components, only Human data, Irritancy data, LD50 Oral-Rat, LD50 Oral-Mouse, LD50 Skin-Rat, LD50 Skin-Rabbit, LC50 Inhalation-Rat, LC50 Inhalation-Mouse and select reproductive toxicity data are provided in this SDS. Contact Pecora for information on additional data.

CALCIUM CARBONATE:
Skin Irritancy (rabbit) = 500 mg/24 hours; moderate
Eye Irritancy (rabbit) = 750 µg/24 hours; severe
LD_{50} (oral, rat) = 6450 mg/k

ACRYLIC POLYMER:
Patch test on human volunteers did not demonstrate sensitization properties.

PROPRIETARY MINERAL SPIRITS:
Standard Draize Test (Eye-Human) 100 ppm: Mild
Standard Draize Test (Eye-Rabbit) 500 mg/24 hours: Moderate

PROPRIETARY MINERAL SPIRITS (continued):
LC_{50} (Inhalation-Rat) > 1400 ppm/8 hours

TITANIUM DIOXIDE:
Standard Draize Test (Skin-Human) 300 µg/3 days-intermittent: Mild
DNA Damage (Human Lung) 100 µg/plate
DNA Damage (Human Lung) 20 µg/disk/4 hours
Sister Chromatid Exchange (Human Lymphocyte) 2 µmol/L/72 hours
Micronucleus Test (Human Lymphocyte) 5 µmol/L/72 hours
DNA Inhibition (Hamster Lung) 500 mg/L

CARCINOGENIC POTENTIAL: The following table summarizes the carcinogenicity listing for the components of this product. "NO" indicates that the substance is not considered to be or suspected to be a carcinogen by the listed agency, see section 16 for definitions of other ratings.

CHEMICAL	ACGIH	EPA	IARC	DFG MAK	NTP	NIOSH	OSHA	PROP 65
Calcium Carbonate	No	No	No	No	No	No	No	No
Crystalline Silica/Quartz	A2	No	1	MAK-1 (respirable fraction)	K (respirable fraction)	Ca	No	Yes (airborne unbound particles of respirable size)
Mineral Spirits	No	No	No	No	No	No	No	No
Titanium Dioxide	A4	No	2B	No	No	Ca	No	Yes (airborne unbound particles of respirable size)

ACGIH TLV-A2: Suspected Human Carcinogen. ACGIH TLV-A4: Not Classifiable as a Human Carcinogen. IARC-1: Carcinogenic to Humans. IARC Group 2B: Possibly Carcinogenic to Humans. MAK-1 Substances that Cause Cancer in Man and Can Be Assumed to Make a Significant Contribution to Cancer Risk. NIOSH-Ca: Potential Occupational Carcinogen, with No Further Categorization. NTP-K: Known to Be a Human Carcinogen.

IRRITANCY OF PRODUCT: This product may irritate contaminated tissue, especially if contact is prolonged.

SENSITIZATION TO THE PRODUCT: The components of this product are not known to be human skin or respiratory sensitizers.

TOXICOLOGICAL SYNERGISTIC PRODUCTS: None known.

REPRODUCTIVE TOXICITY INFORMATION: This product has not been tested for reproductive toxicity. The following information is available for some components.

Mutagenicity: The components of this product are not reported to produce mutagenic effects in humans. Animal or microorganism data for components are as follows: Titanium dioxide was not mutagenic to *Salmonella typhimurium* TA1535, TA1537, TA1538, TA97, TA98 or TA100 or to *Escherichia coli* WP2, either in the presence or absence of an exogenous metabolic system from the livers of uninduced and Aroclor-induced rats, mice and Syrian hamsters. Positive results for Carbon Black have been obtained in somatic cells following live animal inhalation exposure.

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

MOBILITY: This product has not been tested for mobility in soil.

PERSISTENCE AND BIODEGRADABILITY: This product has not been tested for persistence or biodegradability.

BIO-ACCUMULATION POTENTIAL: This product has not been tested for bio-accumulation potential.

ECOTOXICITY: This product has not been tested for aquatic or animal toxicity. All release to terrestrial, atmospheric and aquatic environments should be avoided.

OTHER ADVERSE EFFECTS: This material is not expected to have any ozone depletion potential.

ENVIRONMENTAL EXPOSURE CONTROLS: Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

13. DISPOSAL CONSIDERATIONS

PREPARING WASTES FOR DISPOSAL: As supplied, this product would not be a hazardous waste as defined by U.S. federal regulation (40 CFR 261) if discarded or disposed. State and local regulations may differ from federal regulations. The generator of the waste is responsible for proper waste determination and management.

U.S. EPA WASTE NUMBER: Not applicable.

14. TRANSPORTATION INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION: This product is NOT classified as Dangerous Goods, per U.S. DOT regulations, under 49 CFR 172.101.

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This product is NOT classified as Dangerous Goods, per regulations of Transport Canada.

INTERNATIONAL AIR TRANSPORT ASSOCIATION SHIPPING INFORMATION (IATA): This product is NOT classified as dangerous goods, per the International Air Transport Association.

INTERNATIONAL MARITIME ORGANIZATION SHIPPING INFORMATION (IMO): This product is not classified as dangerous goods, per the International Maritime Organization.

15. REGULATORY INFORMATION

U.S. REGULATIONS:

U.S. SARA Reporting Requirements: No component of this product is subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.

U.S. SARA Hazard Categories (Section 311/312, 40 CFR 370-21): ACUTE: Yes; CHRONIC: Yes; FIRE: No; REACTIVE: No; SUDDEN RELEASE: No

U.S. TSCA Inventory Status: 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.

U.S. CERCLA Reportable Quantity (RQ): Not applicable.

U.S. Clean Air Act (CA 112r) Threshold Quantity (TQ): Not applicable.

Other U.S. Federal Regulations: Not applicable.

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): The trace Quartz component (airborne, unbound particles of respirable size) is found on the Proposition 65 List of chemicals known to the state to cause cancer. Due to the form of the product, the Proposition 65 warning for Quartz is not applicable to this compound in this product.

CANADIAN REGULATIONS:

Canadian DSL/NDSL Inventory Status: The components of this product listed by CAS# in Section 3 (MATERIAL IDENTIFICATION) are listed on the DSL Inventory.

Canadian Environmental Protection Act (CEPA) Priorities Substances Lists: Not applicable.

Canadian WHMIS (HPR-GHS) 2015 Classification and Symbols: See Section 16 for in Classification and Symbols under HPR-GHS 2015.

MEXICAN REGULATIONS:

Mexican Workplace Regulations (NOM-018-STPS-2000): This product is not classified as hazardous.

16. OTHER INFORMATION

WARNINGS (per ANSI Z129.1): WARNING! MAY CAUSE SKIN IRRITATION, ESPECIALLY IF EXPOSURE IS PROLONGED. CONTAINS TRACE AMOUNT OF CRYSTALLINE SILICA, A KNOWN HUMAN CARCINOGEN BY INHALATION. Avoid contact with eyes, skin, and clothing. Avoid breathing fumes, dusts, vapors or mist. Do not taste or swallow. Wash thoroughly after handling. Keep container tightly closed. Use only with adequate ventilation. Keep away from heat and flame. Wear gloves, eye protection, respiratory protection, and appropriate body protection. FIRST-AID: In case of contact, immediately flush skin and eyes with plenty of water. Remove contaminated clothing and shoes. Get medical attention if irritation develops or persists. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, do not induce vomiting. Get medical attention. IN CASE OF FIRE: Use water fog, foam, dry chemical, or CO_2. IN CASE OF SPILL: Absorb spilled product with polypads or other suitable absorbing material. Place all spill residue in an appropriate container and seal. Dispose of in accordance with U.S. Federal, State, and local hazardous waste disposal regulations and those of Canada.

GLOBAL HARMONIZATION LABELING AND CLASSIFICATION: Classified in accordance with the Global Harmonization Standard.

Classification: Skin Irritation Category 2

Signal Word: Warning

Hazard Statements: H315: Causes skin irritation.

Precautionary Statements:

Prevention: P264: Wash thoroughly after handling. P280: Wear protective gloves/protective clothing/eye protection/face protection.

Response: P302 + P352: IF ON SKIN: Wash with plenty of soap and water. P332 + P313: If skin irritation occurs, get medical attention. P362 + P364: Take off contaminated clothing and wash it before reuse. P321: Specific treatment (remove from exposure and treat symptoms). Refer to other portions of precautionary text on this label, SDS or other product information sheets, as appropriate.

Storage: None.

Disposal: None

Hazard Symbols/Pictogram: GHS07

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

The information presented in this Material Safety Data Sheet is presented in good faith based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. In no case shall the descriptions, information, data or designs provided be considered a part of our terms and conditions of sale.

All materials may present hazards and should be used with caution. Because many factors may affect processing or application/use, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices or applicable federal, state, or local laws or regulations. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

REFERENCES AND DATA SOURCES: Contact the supplier for information.

METHODS OF EVALUATING INFORMATION FOR THE PURPOSE OF CLASSIFICATION: Bridging principles were used to classify this product.

REVISION DETAILS: February 2012: Up-date and revise entire SDS to include current GHS requirements. May 2012: Up-date for formulation change. December 2012: Revision due to formula change. April 2014: Addition of missing GHS Symbol. December 2016: Revision of SDS due formulation revision. Up-date entire SDS accordingly.

DATE OF PRINTING December 6, 2016

DEFINITIONS OF TERMS

A large number of abbreviations and acronyms appear on a SDS. Some of these, which are commonly used, include the following:

KEY ACRONYMS:

CHEMTREC: Chemical Transportation Emergency Center, a 24-hour emergency information and/or emergency assistance to emergency responders.

CEILING LEVEL: The concentration that shall not be exceeded during any part of the working exposure.

DFG MAKs: Federal Republic of Germany Maximum Concentration Values in the workplace. Exposure limits are given as TWA (Time-Weighted Average) or PEAK (short-term exposure) values.

DFG MAK Germ Cell Mutagen Categories: 1: Germ cell mutagens that have been shown to increase the mutant frequency in the progeny of exposed humans. **2:** Germ cell mutagens that have been shown to increase the mutant frequency in the progeny of exposed mammals. **3A:** Substances that have been shown to induce genetic damage in germ cells of human of animals, or which produce mutagenic effects in somatic cells of mammals *in vivo* and have been shown to reach the germ cells in an active form. **3B:** Substances that are suspected of being germ cell mutagens because of their genotoxic effects in mammalian somatic cell *in vivo*; in exceptional cases, substances for which there are no *in vivo* data, but that are clearly mutagenic in vitro and structurally related to known in vivo mutagens. **4:** Not applicable (Category 4 carcinogenic substances are those with non-genotoxic mechanisms of action. By definition, germ cell mutagens are genotoxic. Therefore, a Category 4 for germ cell mutagens cannot apply. At some time in the future, it is conceivable that a Category 4 could be established for genotoxic substances with primary targets other than DNA [e.g. purely aneugenic substances] if research results make this seem sensible.) **5:** Germ cell mutagens, the potency of which is considered to be so low that, provided the MAK value is observed, their contribution to genetic risk for humans is expected not to be significant.

DFG MAK Pregnancy Risk Group Classification: Group A: A risk of damage to the developing embryo or fetus has been unequivocally demonstrated. Exposure of pregnant women can lead to damage of the developing organism, even when MAK and BAT (Biological Tolerance Value for Working Materials) values are observed. **Group B:** Currently available information indicates a risk of damage to the developing embryo or fetus must be considered to be probable. Damage to the developing organism cannot be excluded when pregnant women are exposed, even when MAK and BAT values are observed. **Group C:** There is no reason to fear a risk of damage to the developing embryo or fetus when MAK and BAT values are observed. **Group D:** Classification in one of the groups A–C is not yet possible because, although the data available may indicate a trend, they are not sufficient for final evaluation.

IDLH: Immediately Dangerous to Life and Health. This level represents a concentration from which one can escape within 30-minutes without suffering escape-preventing or permanent injury.

LOQ: Limit of Quantitation.

NE: Not Established. When no exposure guidelines are established, an entry of NE is made for reference.

NIC: Notice of Intended Change.

NIOSH CEILING: The exposure that shall not be exceeded during any part of the workday. If instantaneous monitoring is not feasible, the ceiling shall be assumed as a 15-minute TWA exposure (unless otherwise specified) that shall not be exceeded at any time during a workday.

NIOSH RELs: NIOSH's Recommended Exposure Limits.

PEL: OSHA's Permissible Exposure Limits. This exposure value means exactly the same as a TLV, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase, "Vacated 1989 PEL" is placed next to the PEL that was vacated by Court Order.

SKIN: Used when a there is a danger of cutaneous absorption.

KEY ACRONYMS (continued):

STEL: Short Term Exposure Limit, usually a 15-minute time-weighted average (TWA) exposure that should not be exceeded at any time during a workday, even if the 8-hr TWA is within the TLV-TWA, PEL-TWA or REL-TWA.

TLV: Threshold Limit Value. An airborne concentration of a substance that represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour.

TWA: Time Weighted Average exposure concentration for a conventional 8-hr (TLV, PEL) or up to a 10-hr (REL) workday and a 40-hr workweek.

WEEL: Workplace Environmental Exposure Limits from the AIHA.

HAZARD RATINGS:

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS: This rating system was developed by the National Paint and Coating Association and has been adopted by industry to identify the degree of chemical hazards.

HEALTH HAZARD: **0** Minimal Hazard: No significant health risk, irritation of skin or eyes not anticipated. *Skin Irritation*: Essentially non-irritating. Mechanical irritation may occur. PII or Draize = 0. *Eye Irritation*: Essentially non-irritating, minimal effects clearing in < 24 hours. Mechanical irritation may occur. Draize = 0. *Oral Toxicity LD_{50} Rat*: > 5000 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: > 2000 mg/kg. *Inhalation Toxicity 4-hrs LC_{50} Rat*: > 20 mg/L. **1** Slight Hazard: Minor reversible injury may occur; may irritate the stomach if swallowed; may defat the skin and exacerbate existing dermatitis. *Skin Irritation*: Slightly or mildly irritating. PII or Draize > 0 < 5. *Eye Irritation*: Slightly to mildly irritating, but reversible within 7 days. Draize > 0 ≤ 25. *Oral Toxicity LD_{50} Rat*: > 500–5000 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: > 1000–2000 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: > 2–20 mg/L. **2** Moderate Hazard: Temporary or transitory injury may occur; prolonged exposure may affect the CNS. *Skin Irritation*: Moderately irritating; primary irritant; sensitizer. PII or Draize ≥ 5, with no destruction of dermal tissue. *Eye Irritation*: Moderately to severely irritating; reversible corneal opacity; corneal involvement or irritation clearing in 8–21 days. Draize = 26–100, with reversible effects. *Oral Toxicity LD_{50} Rat*: > 50–500 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: > 200–1000 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: > 0.5–2 mg/L. **3** Serious Hazard: Major injury likely unless prompt action is taken and medical treatment is given; high level of toxicity; corrosive. *Skin Irritation*: Severely irritating and/or corrosive; may cause destruction of dermal tissue, skin burns, and dermal necrosis. PII or Draize > 5–8, with destruction of tissue. *Eye Irritation*: Corrosive, irreversible destruction of ocular tissue; corneal involvement or irritation persisting for more than 21 days. Draize > 80 with effects irreversible in 21 days. *Oral Toxicity LD_{50} Rat*: > 1–50 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: > 20–200 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: > 0.05–0.5 mg/L.**4** Severe Hazard: Life-threatening; major or permanent damage may result from single or repeated exposure; extremely toxic; irreversible injury may result from brief contact. *Skin Irritation*: Not appropriate. Do not rate as a 4, based on skin irritation alone. *Eye Irritation*: Not appropriate. Do not rate as a 4, based on eye irritation alone. *Oral Toxicity LD_{50} Rat*: ≤ 1 mg/kg. *Dermal Toxicity LD_{50} Rat or Rabbit*: ≤ 20 mg/kg. *Inhalation Toxicity LC_{50} 4-hrs Rat*: ≤ 0.05 mg/L.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS (continued):

FLAMMABILITY HAZARD: **0** Minimal Hazard: Materials that will not burn in air when exposure to a temperature of 815.5°C (1500°F) for a period of 5 minutes. **1** Slight Hazard: Materials that must be pre-heated before ignition can occur. Material requires considerable pre-heating, under all ambient temperature conditions before ignition and combustion can occur. This usually includes the following: Materials that will burn in air when exposed to a temperature of 815.5°C (1500°F) for a period of 5 minutes or less; Liquids, solids and semisolids having a flash point at or above 93.3°C (200°F) (i.e. OSHA Class IIIB); and Most ordinary combustible materials (e.g. wood, paper, etc.). **2** Moderate Hazard: Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not, under normal conditions, form hazardous atmospheres in air, but under high ambient temperatures or moderate heating may release vapor in sufficient quantities to produce hazardous atmospheres with air. This usually includes the following: Liquids having a flash-point at or above 37.8°C (100°F); Solid materials in the form of course dusts that may burn rapidly but that generally do not form explosive atmospheres; Solid materials in a fibrous or shredded form that may burn rapidly and create flash fire hazards (e.g. cotton, sisal, hemp); and Solids and semisolids (e.g. viscous and slow flowing as asphalt) that readily give off flammable vapors. **3** Serious Hazard: Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures, or, unaffected by ambient temperature, are readily ignited under almost all conditions. This usually includes the following: Liquids having a flash point below 22.8°C (73°F) and having a boiling point at or above 38°C (100°□F) and those liquids having a flash point at or above 22.8°C (73°F) and below 37.8°C (100°F) (i.e. OSHA Class IB and IC); Materials that on account of their physical form or environmental conditions can form explosive mixtures with air and are readily dispersed in air (e.g., dusts of combustible solids, mists or droplets of flammable liquids); and Materials that burn extremely rapidly, usually by reason of self-contained oxygen (e.g. dry nitrocellulose and many organic peroxides). **4** Severe Hazard: Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air, and that will burn readily. This usually includes the following: Flammable gases; Flammable cryogenic materials; Any liquid or gaseous material that is liquid while under pressure and has a flash point below 22.8°C (73°F) and a boiling point below 37.8°C (100°F) (i.e. OSHA Class IA); and Materials that ignite spontaneously when exposed to air at a temperature of 54.4°C (130°F) or below (pyrophoric).

PHYSICAL HAZARD: **0** *Water Reactivity*: Materials that do not react with water. *Organic Peroxides*: Materials that are normally stable, even under fire conditions and will not react with water. *Explosives*: Substances that are Non-Explosive. *Compressed Gases*: No Rating. *Pyrophorics*: No Rating. *Oxidizers*: No 0 rating. *Unstable Reactives*: Substances that will not polymerize, decompose, condense, or self-react.). **1** *Water Reactivity*: Materials that change or decompose upon exposure to moisture. *Organic Peroxides*: Materials that are normally stable, but can become unstable at high temperatures and pressures. These materials may react with water, but will not release energy violently. *Explosives*: Division 1.5 & 1.6 explosives. Substances that are very insensitive explosives or that do not have a mass explosion hazard. *Compressed Gases*: Pressure below OSHA definition. *Pyrophorics*: No Rating. *Oxidizers*: Packaging Group III oxidizers; Solids: any material that in either concentration tested, exhibits a mean burning time less than or equal to the mean burning time of a 3:7 potassium bromate/cellulose mixture and the criteria for Packing Group I and II are not met. Liquids: any material that exhibits a mean pressure rise time less than or equal to the pressure rise time of a 1:1 nitric acid (65%)/cellulose mixture and the criteria for Packing Group I and II are not met. *Unstable Reactives*: Substances that may decompose condense, or self-react, but only under conditions of high temperature and/or pressure and have little or no potential to cause significant heat generation or explosion hazard. Substances that readily undergo hazardous polymerization in the absence of inhibitors. **2** *Water Reactivity*: Materials that may react violently with water. *Organic Peroxides*: Materials that, in themselves, are normally unstable and will readily undergo violent chemical change, but will not detonate. These materials may also react violently with water. *Explosives*: Division 1.4 explosives. Explosive substances where the explosive effects are largely confined to the package and no projection of fragments of appreciable size or range are expected. An external fire must not cause virtually instantaneous explosion of almost the entire contents of the package. *Compressed Gases*: Pressurized and meet OSHA definition but < 514.7 psi absolute at 21.1°C (70°F) [500 psig]. *Pyrophorics*: No Rating. *Oxidizers*: Packing Group II oxidizers. Solids: any material that, either in concentration tested, exhibits a mean burning time of less than or equal to the mean burning time of a 2:3 potassium bromate/cellulose mixture and the criteria for Packing Group I are not met. Liquids: any material that exhibits a mean pressure rise time less than or equal to the pressure rise of a 1:1 aqueous sodium chlorate solution (40%)/cellulose mixture and the criteria for Packing Group I are not met. *Reactives*: Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure, but have a low potential (or low risk) for significant heat generation or explosion. Substances that readily form peroxides upon exposure to air or oxygen at room temperature.**3** *Water Reactivity*: Materials that may form explosive reactions with water. *Organic Peroxides*: Materials that are capable of detonation or explosive reaction, but require a strong initiating source or must be heated under confinement before initiation; or materials that react explosively with water. *Explosives*: Division 1.3 explosives. Explosive substances that have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but do not have a mass explosion hazard. *Compressed Gases*: Pressure ≥ 514.7 psi absolute at 21.1°C (70°F) [500 psig]. *Pyrophorics*: No Rating. *Oxidizers*: Packing Group I oxidizers. Solids: any material that, in either concentration tested, exhibits a mean burning time less than the mean burning time of a 3:2 potassium bromate/cellulose mixture. Liquids: any material that spontaneously ignites when mixed with cellulose in a 1:1 ratio, or which exhibits a mean pressure rise time less than the pressure rise time of a 1:1 perchloric acid (50%)/cellulose mixture. *Unstable Reactives*: Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure and have a moderate potential (or moderate risk) to cause significant heat generation or explosion. **4** *Water Reactivity*: Materials that react explosively with water without requiring heat or confinement. *Organic Peroxides*: Materials that are readily capable of detonation or explosive decomposition at normal temperature and pressures. *Explosives*: Division 1.1 & 1.2 explosives. Explosive substances that have a mass explosion hazard or have a projection hazard. A mass explosion is one that affects almost the entire load instantaneously. *Compressed Gases*: No Rating. *Pyrophorics*: Add to the definition of Flammability 4. *Oxidizers*: No 4 rating. *Unstable Reactives*: Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure and have a high potential (or high risk) to cause significant heat generation or explosion. *Pyrophorics*: Add to the definition of Flammability 4. *Oxidizers*: No 4 rating. *Unstable Reactives*: Substances that may polymerize, decompose, condense, or self-react at ambient temperature and/or pressure and have a high potential (or high risk) to cause significant heat generation or explosion.

DEFINITIONS OF TERMS (Continued)

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS

HEALTH HAZARD: **0** Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials. Gases and vapors with an LC_{50} for acute inhalation toxicity greater than 10,000 ppm. Dusts and mists with an LC_{50} for acute inhalation toxicity greater than 200 mg/L. Materials with an LD_{50} for acute dermal toxicity greater than 2000 mg/kg. Materials with an LD_{50} for acute oral toxicity greater than 2000 mg/kg. Materials essentially non-irritating to the respiratory tract, eyes, and skin. **1** Materials that, under emergency conditions, can cause significant irritation. Gases and vapors with an LC_{50} for acute inhalation toxicity greater than 5,000 ppm but less than or equal to 10,000 ppm. Dusts and mists with an LC_{50} for acute inhalation toxicity greater than 10 mg/L but less than or equal to 200 mg/L. Materials with an LD_{50} for acute dermal toxicity greater than 1000 mg/kg but less than or equal to 2000 mg/kg. Materials that slightly to moderately irritate the respiratory tract, eyes and skin. Materials with an LD_{50} for acute oral toxicity greater than 500 mg/kg but less than or equal to 2000 mg/kg. **2** Materials that, under emergency conditions, can cause temporary incapacitation or residual injury. Gases with an LC_{50} for acute inhalation toxicity greater than 3,000 ppm but less than or equal to 5,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than one-fifth its LC_{50} for acute inhalation toxicity, if its LC_{50} is less than or equal to 5000 ppm and that does not meet the criteria for either degree of hazard 3 or degree of hazard 4. Dusts and mists with an LC_{50} for acute inhalation toxicity greater than 2 mg/L but less than or equal to 10 mg/L. Materials with an LD_{50} for acute dermal toxicity greater than 200 mg/kg but less than or equal to 1000 mg/kg. Compressed liquefied gases with boiling points between -30°C (-22°F) and -55°C (-66.5°F) that cause severe tissue damage, depending on duration of exposure. Materials that are respiratory irritants. Materials that cause severe, but reversible irritation to the eyes or are lachrymators. Materials that are primary skin irritants or sensitizers. Materials whose LD_{50} for acute oral toxicity is greater than 50 mg/kg but less than or equal to 500 mg/kg. **3** Materials that, under emergency conditions, can cause serious or permanent injury. Gases with an LC_{50} for acute inhalation toxicity greater than 1,000 ppm but less than or equal to 3,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater its LC_{50} for acute inhalation toxicity, if its LC_{50} is less than or equal to 3000 ppm and that does not meet the criteria for degree of hazard 4. Dusts and mists with an LC_{50} for acute inhalation toxicity greater than 0.5 mg/L but less than or equal to 2 mg/L. Materials with an LD_{50} for acute dermal toxicity greater than 40 mg/kg but less than or equal to 200 mg/kg. Materials that are corrosive to the respiratory tract. Materials that are corrosive to the eyes or cause irreversible corneal opacity. Materials corrosive to the skin. Cryogenic gases that cause frostbite and irreversible tissue damage. Compressed liquefied gases with boiling points below -55°C (-66.5°F) that cause frostbite and irreversible tissue damage. Materials with an LD_{50} for acute oral toxicity greater than 5 mg/kg but less than or equal to 50 mg/kg. **4** Materials that, under emergency conditions, can be lethal. Gases with an LC_{50} for acute inhalation toxicity less than or equal to 1,000 ppm. Any liquid whose saturated vapor concentration at 20°C (68°F) is equal to or greater than ten times its LC_{50} for acute inhalation toxicity, if its LC_{50} is less than or equal to 1000 ppm. Dusts and mists whose LC_{50} for acute inhalation toxicity is less than or equal to 0.5 mg/L. Materials whose LD_{50} for acute dermal toxicity is less than or equal to 40 mg/kg. Materials whose LD_{50} for acute oral toxicity is less than or equal to 5 mg/kg.

FLAMMABILITY HAZARD: **0** Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 816°C (1500°F) for a period of 5 minutes in according with Annex D of NFPA 704. **1** Materials that must be preheated before ignition can occur. Materials in this degree require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur: Materials that will burn in air when exposed to a temperature of 816°C (1500°F) for a period of 5 minutes in according with Annex D of NFPA 704. Liquids, solids, and semisolids having a flash point at or above 93.4°C (200°F) (i.e. Class IIIB liquids). Liquids with a flash point greater than 35°C (95°F) that do not sustain combustion when tested using the *Method of Testing for Sustained Combustibility*, per 49 CFR 173, Appendix H or the UN *Recommendations on the Transport of Dangerous Goods, Model Regulations* (current edition) and the related *Manual of Tests and Criteria* (current edition). Liquids with a flash point greater than 35°C (95°F) in a water-miscible solution or dispersion with a water non-combustible liquid/solid content of more than 85% by weight. Liquids that have no fire point when tested by ASTM D 92, *Standard Test Method for Flash and Fire Points by Cleveland Open Cup*, up to the boiling point of the liquid or up to a temperature at which the sample being tested shows an obvious physical change. Combustible pellets with a representative diameter of greater than 2 mm (10 mesh). Most ordinary combustible materials. Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. **2** Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not under normal conditions form hazardous atmospheres with air, but under high ambient temperatures or under moderate heating could release vapor in sufficient quantities to produce hazardous atmospheres with air. Liquids having a flash point at or above 37.8°C (100°F) and below 93.4°C (200°F) (i.e. Class II and Class IIIA liquids.) Solid materials in the form of powders or coarse dusts of representative diameter between 420 microns (40 mesh) and 2 mm (10 mesh) that burn rapidly but that generally do not form explosive mixtures with air. Solid materials in fibrous or shredded form that burn rapidly and create flash fire hazards, such as cotton, sisal, and hemp. Solids and semisolids that readily give off flammable vapors. Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. **3** Liquids and solids that can be ignited under almost all ambient temperature conditions. Materials in this degree produce hazardous atmospheres with air under almost all ambient temperatures or, though unaffected by ambient temperatures, are readily ignited under almost all conditions. Liquids having a flash point below 22.8°C (73°F) and having a boiling point at or above 37.8°C (100°F) and those liquids having a flash point at or above 22.8°C (73°F) and below 37.8°C (100°F) (i.e. Class IB and IC liquids). Materials that on account of their physical form or environmental conditions can form explosive mixtures with air and are readily dispersed in air. Flammable or combustible dusts with representative diameter less than 420 microns (40 mesh). Materials that burn with extreme rapidity, usually by reason of self-contained oxygen (e.g. dry nitrocellulose and many organic peroxides). Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent. **4** Materials that will rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and will burn readily. Flammable gases. Flammable cryogenic materials. Any liquid or gaseous materials that is liquid while under pressure and has a flash point below 22.8°C (73°F) and a boiling point below 37.8°C (100°F) (i.e. Class IA liquids). Materials that ignite when exposed to air, Solids containing greater than 0.5% by weight of a flammable or combustible solvent are rated by the closed cup flash point of the solvent.

NATIONAL FIRE PROTECTION ASSOCIATION HAZARD RATINGS (continued):

INSTABILITY HAZARD: **0** Materials that in themselves are normally stable, even under fire conditions. Materials that have an instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) below 0.01 W/mL. Materials that do not exhibit an exotherm at temperatures less than or equal to 500°C (932°F) when tested by differential scanning calorimetry.**1** Materials that in themselves are normally stable, but that can become unstable at elevated temperatures and pressures. Materials that have an instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 0.01 W/mL and below 10 W/mL. **2** Materials that readily undergo violent chemical change at elevated temperatures and pressures. Materials that have an instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 10 W/mL and below 100W/mL. **3** Materials that in themselves are capable of detonation or explosive decomposition or explosive reaction, but that require a strong initiating source or that must be heated under confinement before initiation. Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) at or above 100 W/mL and below 1000 W/mL. Materials that are sensitive to thermal or mechanical shock at elevated temperatures and pressures. **4** Materials that in themselves are readily capable of detonation or explosive decomposition or explosive reaction at normal temperatures and pressures. Materials that are sensitive to localized thermal or mechanical shock at normal temperatures and pressures. Materials that have an estimated instantaneous power density (product of heat of reaction and reaction rate) at 250°C (482°F) of 1000 W/mL or greater.

FLAMMABILITY LIMITS IN AIR:

Much of the information related to fire and explosion is derived from the National Fire Protection Association (**NFPA**). Flash Point: Minimum temperature at which a liquid gives off sufficient vapor to form an ignitable mixture with air near the surface of the liquid or within the test vessel used. Autoignition Temperature: Minimum temperature of a solid, liquid, or gas required to initiate or cause self-sustained combustion in air with no other source of ignition. LEL: Lowest concentration of a flammable vapor or gas/air mixture that will ignite and burn with a flame. UEL: Highest concentration of a flammable vapor or gas/air mixture that will ignite and burn with a flame.

TOXICOLOGICAL INFORMATION:

Human and Animal Toxicology: Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented. LD_{50}: Lethal Dose (solids & liquids) that kills 50% of the exposed animals. LC_{50}: Lethal Concentration (gases) that kills 50% of the exposed animals. ppm: Concentration expressed in parts of material per million parts of air or water. mg/m^3: Concentration expressed in weight of substance per volume of air. mg/kg: Quantity of material, by weight, administered to a test subject, based on their body weight in kg. TDLo: Lowest dose to cause a symptom. TCLo: Lowest concentration to cause a symptom. TDo, LDLo, and LDo, or TC, TCo, LCLo, and LCo: Lowest dose (or concentration) to cause lethal or toxic effects. **Cancer Information:** IARC: International Agency for Research on Cancer. NTP: National Toxicology Program. RTECS: Registry of Toxic Effects of Chemical Substances. IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4. Subrankings (2A, 2B, etc.) are also used. **Other Information:** BEI: ACGIH Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV.

REPRODUCTIVE INFORMATION: A mutagen is a chemical that causes permanent changes to genetic material (DNA) such that the changes will propagate through generational lines. An embryotoxin is a chemical that causes damage to a developing embryo (i.e. within the first eight weeks of pregnancy in humans), but the damage does not propagate across generational lines. A teratogen is a chemical that causes damage to a developing fetus, but the damage does not propagate across generational lines. A reproductive toxin is any substance that interferes in any way with the reproductive process.

ECOLOGICAL INFORMATION:

EC: Effect concentration in water. BCF: Bioconcentration Factor, which is used to determine if a substance will concentrate in life forms that consume contaminated plant or animal matter. TLm: Median threshold limit. $\log K_{OW}$ or $\log K_{OC}$: Coefficient of Oil/Water Distribution is used to assess a substance's behavior in the environment.

REGULATORY INFORMATION: This section explains the impact of various laws and regulations on the material.

U.S.:

EPA: U.S. Environmental Protection Agency. ACGIH: American Conference of Governmental Industrial Hygienists, a professional association that establishes exposure limits. OSHA: U.S. Occupational Safety and Health Administration. NIOSH: National Institute of Occupational Safety and Health, which is the research arm of OSHA. DOT: U.S. Department of Transportation. TC: Transport Canada. SARA: Superfund Amendments and Reauthorization Act. TSCA: U.S. Toxic Substance Control Act. CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act. Marine Pollutant status according to the DOT; CERCLA or Superfund; and various state regulations. This section also includes information on the precautionary warnings that appear on the material's package label.

CANADA:

WHMIS: Canadian Workplace Hazardous Materials Information System. TC: Transport Canada. DSL/NDSL: Canadian Domestic/Non-Domestic Substances List.

Green Building Certification Data

MasterFormat Designation: 07 92 00 – Joint Sealants

June 27, 2017

RE: Pecora *AC-20® +Silicone Non-Sag, Acrylic Latex Caulking Compound*

Pecora Corporation hereby declares the following information for Pecora *AC-20® +Silicone*:

LEED® v4 and LEED® 2009:

MR Credit Building Product Disclosure and Optimization–Sourcing of Raw Materials, Option 2 (*MR Credit 4.1 and 4.2, Recycled Content): For the purposes of the LEED Rating System Pecora *AC-20® +Silicone* contains 0% recycled content.

MR Credit Building Product Disclosure and Optimization–Sourcing of Raw Materials, Options 1 and 2 (*MR Credit 5.1 and 5.2, Regional Materials): Pecora *AC-20® +Silicone* is manufactured in Harleysville, PA 19438. Due to the complexity of its raw material supply chain, the point source of Pecora *AC-20® +Silicone*'s material ingredients cannot be determined.

EQ Credit Low-Emitting Materials, Options 1 and 2 (*IEQ Credit 4.1, Low-Emitting Materials–Adhesives & Sealants):

VOC Content: Pecora *AC-20 + Silicone* contains 31 g/L volatile organic compound (VOC) content, well below the 250 g/L VOC content limit for architectural sealants set by South Coast Air Quality Management District (SCAQMD) Rule 1168 (effective 7/1/2005).

VOC Emissions (LEED v4 and LEED 2009 for Schools): Pecora *AC-20 + Silicone* has been tested and meets the interior air quality (IAQ) emissions requirements for the classroom, private office, and new single-family residential scenarios of CDPH Standard Methodv1.1-2010 (California Specification 01350). After 14 days (336 hours), the total VOC was <2 µg (0.002 mg)/m^3, well within the lowest of three prescribed TVOC ranges.

* LEED 2009 credits and options (June 30, 2021 sunset date)

Green Globes for New Construction

Criterion 3.7.2.1 Volatile Organic Compounds: Pecora *AC-20 + Silicone* contains 31 g/L volatile organic compound (VOC) content, well below the 250 g/L VOC content limit for architectural sealants set by South Coast Air Quality Management District (SCAQMD) Rule 1168 (effective 7/1/2005).

Living Building Challenge℠ 3.0

Imperative 08 Healthy Interior Environment: Pecora *AC-20 + Silicone* has been tested and meets the interior air quality (IAQ) emissions requirements for the classroom, private office, and new single family residential scenarios of CDPH Standard Methodv1.1-2010 (California Specification 01350). After 14 days (336 hours), the total VOC was <2 µg (0.002 mg)/m^3.

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Living Building Challenge℠ 3.0 (continued)

Imperative 10 Red List: None of the chemicals listed on the "Living Building Challenge 3.0 Chemical Red List" are used in the manufacture of Pecora *AC-20 + Silicone*. Based on Pecora's current knowledge of its raw materials and manufacturing processes, there is no reason to expect that the listed chemicals would be present in Pecora *AC-20® +Silicone* as supplied, except as a possible trace impurity. In addition, the ingredients used in the manufacture of Pecora *AC-20 + Silicone* are listed on its Globally Harmonized Safety Data Sheet (GHS SDS) together with its VOC content.

Should you require additional information, please contact the Technical Services Department at 1-800-523-6688 or techservices@pecora.com.

Sincerely,

Steven T. Lawrey AIA, CSI, CCPR, CCS, CCCA, LEED® AP
Building Science Engineer
Pecora Corporation

PECORA CORPORATION®
Architectural Weatherproofing Products

STANDARD COLOR GUIDE

Custom colors available upon request.

This guide offers a representation of color; when matching is critical, a cured or applied color sample is highly recommended.

PECORA CORPORATION

165 Wambold Road
Harleysville, PA 19438

800.523.6688

pecora.com

PECORA SEALANTS

AC-20® LATEX and AC-20® FTR SEALANTS

AC-20® LATEX

TRU-WHITE	345
LIMESTONE	039
ALUMINUM STONE	515
ALMOND	360
BEIGE-GRAY	525
IVORY	365
TAN	545
CEDAR	594
BROWN	379
BRONZE	314
BLACK	012

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PECORA SEALANTS

AC-20® LATEX and AC-20® FTR SEALANTS

AC-20® FTR

TRU-WHITE	345
BEIGE-GRAY	525

COVERAGE CHART (231 cu. in./gal.)

Joint Depth (in.) x Width (in.)	Linear Feet/ Gallon	Joint Depth (in.) x Width (in.)	Linear Feet/ Gallon	Joint Depth (in.) x Width (in.)	Linear Feet/ Gallon
1/8 x 1/8	1,232.0	1/4 x 3/4	102.7	1/2 x 7/8	44.0
1/8 x 1/4	616.0	1/4 x 7/8	88.0	1/2 x 1	38.5
1/8 x 3/8	410.7	1/4 x 1	77.0	5/8 x 5/8	49.3
1/8 x 1/2	308.0	3/8 x 3/8	136.9	5/8 x 3/4	41.1
1/8 x 5/8	246.4	3/8 x 1/2	102.7	5/8 x 7/8	35.2
1/8 x 3/4	205.3	3/8 x 5/8	82.1	5/8 x 1	30.8
1/8 x 7/8	176.0	3/8 x 3/4	68.4	3/4 x 3/4	34.2
1/8 x 1	154.0	3/8 x 7/8	58.7	3/4 x 7/8	29.3
1/4 x 1/4	308.0	3/8 x 1	51.3	3/4 x 1	25.7
1/4 x 3/8	205.0	1/2 x 1/2	77.0	7/8 x 7/8	25.1
1/4 x 1/2	154.0	1/2 x 5/8	61.6	7/8 x 1	22.0
1/4 x 5/8	123.2	1/2 x 3/4	51.3	1 x 1	19.3

Joint Depth (in.) x Width (in.) x Length (in.) x 0.053 = Gallons Required

PECORA CORPORATION

Technical Bulletin # 84

Pecora AC-20 FTR Acrylic Latex Sealant
ASTM E 84
Smoke Development and Flame Spread Index
Class A NFPA 101

Pecora AC-20 FTR, when tested according to ASTM E 84, "Standard Test Method for Surface Burning Characteristics of Building Materials", meets Class A criteria set by NFPA 101.

The following results were obtained:

Flame Spread Index:	15
Smoke Development Index:	50

National Fire Protection Association Life Safety Code, NFPA 101

	Flame Spread	Smoke Development
Class A[1]	0-25	0-450
Class B[1]	26-75	0-450
Class C[1]	76-200	0-450

[1] Class A, B, and C correspond to I, II, and III, respectively, in other codes such as UBC and BOCA.

Note: Independent laboratory test results are available upon request.

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Section:	07 90 00 Joint Protection
#:	0014
Specified:	2.02.E., Single Component pre-pressurized expanding polyurethane foam sealant
Reference:	view spec
Item submitted:	Sika Boom®

Sika-Boom-Product-Data-1847579.PDF
Sika-Boom-SDS-1852743.PDF

BUILDING TRUST

PRODUCT DATA SHEET

Sika Boom®

ONE-COMPONENT, POLYURETHANE FOAM

PRODUCT DESCRIPTION

Sika Boom® is a pre-pressurized, portable, one-component, polyurethane foam system applied in a bead form. Sika Boom® expands and cures slowly to a semi-rigid, closed cell foam upon reaction with moisture, such as ambient humidity. It is designed for easy dispensing through a straw adapter that is included with each can.

USES

- On any clean surface to fill, insulate and seal around gaps, beneath base plates, muds sills, top plate penetrations, corner joints, T-joints, exterior cracks, around utility panels, pipes, duct penetrations, etc.
- For dispensing as a bead for filling cracks, crevices, and to fill smaller cavities.

CHARACTERISTICS / ADVANTAGES

- Tack-free in approximately 5 minutes or less, based on moisture/temperature conditions.
- Fully cures within 12 to 24 hours.
- Cured foam can be sanded, painted or covered
- Cured foam is resistant to heat and cold.
- Adheres to most building materials.
- Expands 2 to 3 times its original size.

PRODUCT INFORMATION

Packaging	12 oz. can, 12/carton. 20 oz. can, 12/carton	
Color	Light yellow	
Shelf Life	18 months.	
Storage Conditions	Store in a cool, dry area. Do not expose to open flame or temperatures above 120 °F (49 °C). Store at room temperature before use.	
Density	1.10 lbs/ft^3 (19.2 kg/m^3)	(ASTM D-1622)

TECHNICAL INFORMATION

Compressive Strength	8.17 psi (56.2 kPa) - parallel to rise	(ASTM 1621)
Tensile Strength	12 psi (83 kPa) - parallel to rise	(ASTM 1623)

Dimensional Stability	± 5 %	(ASTM 2126)
Resistance to Fire	Flame Spread: 25 Smoke Developed: 50	(ASTM E84)
Service Temperature	-200 °F to 240 °F (-29 °C to 93 °C)	

APPLICATION INFORMATION

Coverage	12oz can = 1/4” Bead (6 mm) = 1,996 ft. (608 m)	20oz can = 1/4” Bead (6 mm) = 3,317 ft. (1,011 m)
	12oz can = 3/8” Bead (9 mm) = 887 ft. (270 m)	20oz can = 1/4” Bead (6 mm) = 1,474 ft. (499 m)
	12oz can = 1/2” Bead (12 mm) = 499 ft. (152 m)	20oz can = 1/4” Bead (6 mm) = 829 ft. (253 m)
Ambient Air Temperature	40 °F (18 °C) and 120 °F (38 °C)	
Substrate Temperature	40 °F (18 °C) and 120 °F (38 °C)	
Cure Time	12–24 hours	
Cutting Time	1 hour (1” Bead at room conditions)	
Tack Free Time	Approx. 5 minutes	

APPLICATION INSTRUCTIONS

For the application of Sika Boom® all generally accepted rules of building and construction apply.

SUBSTRATE PREPARATION

Substrate must be clean, firm, free of loose particles and free of dust, grease, mold release agents. Protect surfaces not to be foamed. Shake can before using. For best results in cavities larger than 3 inches in diameter, dampen substrate to supplement atmospheric pressure humidity in affecting consistent cure throughout applied foam.

APPLICATION METHOD / TOOLS

After following instruction for set-up, can is ready to use. The foam sealant flow can be metered by means of tilting the one piece straw adapter with the valve pointing downwards. By activating the adapter lever carefully, the extrusion rate can be regulated. Foam application can be interrupted when needed, as outlined in the instructions. Sika Boom® is especially useful for irregular voids and on nonlinear cracks and crevices, as foam will expand up to 200 % during curing process. Filling excessively large cavities can result in a prolonged curing process. Also, insufficient air or substrate moisture during cure may cause delayed expansion.

LIMITATIONS

- Not resistant to UV rays unless painted, covered or coated.
- Will not adhere to polyethylene, Teflon, silicone, oils and greases, mold release agents and similar materials.
- Do not expose to open flame or temperatures above 120 °F (49 °C). Excessive heat can cause shorter shelf life.
- Not intended as a firestop.
- Do not use where temperatures rise above 240 °F (116 °C).

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

OTHER RESTRICTIONS

See Legal Disclaimer.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

LEGAL DISCLAIMER

- **KEEP CONTAINER TIGHTLY CLOSED**
- **KEEP OUT OF REACH OF CHILDREN**
- **NOT FOR INTERNAL CONSUMPTION**
- **FOR INDUSTRIAL USE ONLY**
- **FOR PROFESSIONAL USE ONLY**

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within the product's shelf life. User determines suitability of product for intended use and assumes all risks. User's and/or buyer's sole remedy shall be limited to the purchase price or replacement of this product exclusive of any labor costs. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

Sale of SIKA products are subject to the Terms and Conditions of Sale which are available at https://usa.sika.com/en/group/SikaCorp/termsandconditions.html or by calling 1-800-933-7452.

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Fax: +1-201-933-6225
usa.sika.com

Sika Mexicana S.A. de C.V.
Carretera Libre Celaya Km. 8.5
Fracc. Industrial Balvanera
Corregidora, Queretaro
C.P. 76920
Phone: 52 442 2385800
Fax: 52 442 2250537

1. Identification

Product name	:	Sika Boom®
Supplier	:	Sika Corporation 201 Polito Avenue Lyndhurst, NJ 07071 USA www.sikausa.com
Telephone	:	(201) 933-8800
Telefax	:	(201) 804-1076
E-mail address	:	ehs@sika-corp.com
Emergency telephone	:	CHEMTREC: 800-424-9300 INTERNATIONAL: 703-527-3887
Recommended use of the chemical and restrictions on use	:	For further information, refer to product data sheet.

2. Hazards identification

GHS Classification

Flammable aerosols, Category 1	H222: Extremely flammable aerosol.
Gases under pressure, Compressed gas	H280: Contains gas under pressure; may explode if heated.
Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2A	H319: Causes serious eye irritation.
Respiratory sensitization, Category 1	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization, Category 1	H317: May cause an allergic skin reaction.
Effects on or via lactation	H362: May cause harm to breast-fed children.
Specific target organ systemic toxicity - single exposure, Category 3, Respiratory system	H335: May cause respiratory irritation.
Specific target organ systemic toxicity - repeated exposure, Category 2 (Inhalation)	H373: May cause damage to organs through prolonged or repeated exposure if inhaled.

GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H280 Contains gas under pressure; may explode if heated.

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H362 May cause harm to breast-fed children.
H373 May cause damage to organs through prolonged or repeated exposure if inhaled.
H222 Extremely flammable aerosol.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Pressurized container: Do not pierce or burn, even after use.
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P263 Avoid contact during pregnancy/ while nursing.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/ eye protection/ face protection.
P285 In case of inadequate ventilation wear respiratory protection.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

See Section 11 for more detailed information on health effects and symptoms.
There are no hazards not otherwise classified that have been identified during the classification process.
There are no ingredients with unknown acute toxicity used in a mixture at a concentration >= 1%.

3. Composition/information on ingredients

Hazardous ingredients

Chemical name	CAS-No.	Concentration (%)
Alkane, C14-17-, chloro-	85535-85-9	>= 10 - < 30 %
4,4'-methylenediphenyl diisocyanate	101-68-8	>= 5 - < 10 %
Diphenylmethanediisocyanate, isomeres and homologues	9016-87-9	>= 5 - < 10 %

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.

4. First aid measures

If inhaled : Move to fresh air.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Clean mouth with water and drink afterwards plenty of water.
Do not induce vomiting without medical advice.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
Obtain medical attention.

Most important symptoms and effects, both acute and delayed : irritant effects
sensitizing effects

Asthmatic appearance
Cough
Respiratory disorder
Allergic reactions
Excessive lachrymation
Erythema
Dermatitis
See Section 11 for more detailed information on health effects and symptoms.

Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.

May cause harm to breast-fed children.
May cause damage to organs through prolonged or repeated exposure if inhaled.

Protection of first-aiders	:	Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance.
Notes to physician	:	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	Water
Specific extinguishing methods	:	Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Deny access to unprotected persons.
Environmental precautions	:	Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities. Local authorities should be advised if significant spillages cannot be contained.

7. Handling and storage

Advice on safe handling	:	Do not breathe vapors or spray mist. Avoid exceeding the given occupational exposure limits (see section 8). Do not get in eyes, on skin, or on clothing. For personal protection see section 8. Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharge.

Open drum carefully as content may be under pressure.
Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).
Follow standard hygiene measures when handling chemical products.

Conditions for safe storage : BEWARE: Aerosol is pressurized. Keep away from direct sun exposure and temperatures over 122 °F. Do not open by force or throw into fire even after use. Do not spray on flames or red-hot objects.
Store in original container.
Keep in a well-ventilated place.
Observe label precautions.
Store in accordance with local regulations.

Materials to avoid : No data available

8. Exposure controls/personal protection

Component	CAS-No.	Basis **	Value	Exposure limit(s)* / Form of exposure
4,4'-methylenediphenyl diisocyanate	101-68-8	ACGIH	TWA	0.005 ppm
		OSHA Z-1	C	0.02 ppm 0.2 mg/m3
		OSHA P0	C	0.02 ppm 0.2 mg/m3
Isobutane	75-28-5	ACGIH	TWA	1,000 ppm
		ACGIH	STEL	1,000 ppm
Propane	74-98-6	ACGIH	TWA	1,000 ppm
		OSHA Z-1	TWA	1,000 ppm 1,800 mg/m3
		OSHA P0	TWA	1,000 ppm 1,800 mg/m3

*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

****Basis**
ACGIH. Threshold Limit Values (TLV)
OSHA P0. Table Z-1, Limit for Air Contaminat (1989 Vacated Values)
OSHA P1. Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant
OSHA P2. Permissible Exposure Limits (PEL), Table Z-2
OSHA Z3. Table Z-3, Mineral Dust

Engineering measures : Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.
The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits.

Personal protective equipment

Respiratory protection : Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.

Hand protection
Remarks : 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.

Eye protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.

Hygiene measures : Avoid contact with skin, eyes and clothing.
Wash hands before breaks and immediately after handling the product.
Remove respiratory and skin/eye protection only after vapors have been cleared from the area.
Remove contaminated clothing and protective equipment before entering eating areas.
Wash thoroughly after handling.

9. Physical and chemical properties

Appearance	:	Aerosol containing a compressed gas
Color	:	off-white
Odor	:	slight hydrocarbon-like
Odor Threshold	:	No data available
Flash point	:	-92.0°F (-68.9°C) estimated based on liquefied petroleum gas (hydrocarbon HC)
Ignition temperature	:	No data available
Decomposition temperature	:	No data available
Lower explosion limit (Vol%)	:	No data available
Upper explosion limit (Vol%)	:	No data available
Flammability (solid, gas)	:	No data available
Oxidizing properties	:	No data available
pH	:	Note: Not applicable
Melting point/range / Freezing point	:	No data available
Boiling point/boiling range	:	No data available
Vapor pressure	:	2,588 mmHg (3,450 hpa)
Density	:	1.1 g/cm3 at 68 °F (20 °C)
Water solubility	:	Note: insoluble
Partition coefficient: n-octanol/water	:	No data available
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	> 20.5 mm2/s at 104 °F (40 °C)
Relative vapor density	:	No data available
Evaporation rate	:	No data available
Burning rate	:	No data available
Volatile organic compounds (VOC) content	:	165 g/l

10. Stability and reactivity

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	Stable under recommended storage conditions.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	No data available

11. Toxicological information

Acute toxicity

Not classified based on available information.

Ingredients:

4,4'-methylenediphenyl diisocyanate:

Acute inhalation toxicity	:	Acute toxicity estimate: 1.5 mg/l Test atmosphere: dust/mist Method: Expert judgment

Diphenylmethanediisocyanate, isomeres and homologues:

Acute oral toxicity	:	LD50 Oral (Rat): > 10,000 mg/kg
Acute inhalation toxicity	:	Acute toxicity estimate: 1.5 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Expert judgment
Acute dermal toxicity	:	LD50 Dermal (Rabbit): > 9,400 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitization

Skin sensitization: May cause an allergic skin reaction.
Respiratory sensitization: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

IARC	Not applicable
NTP	Not applicable

Reproductive toxicity

May cause harm to breast-fed children.

STOT-single exposure

May cause respiratory irritation.

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure if inhaled.
Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Aspiration toxicity

Not classified based on available information.

12. Ecological information

Other information	Do not empty into drains; dispose of this material and its container in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. May be harmful to the environment if released in large quantities.

13. Disposal considerations

Disposal methods

Waste from residues	:	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.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	1950
Description of the goods	Aerosols
Class	2.1
Labels	2.1
Emergency Response Guidebook Number	126

IATA

UN number	1950

Description of the goods	Aerosols, flammable
Class	2.1
Labels	2.1
Packing instruction (cargo aircraft)	203
Packing instruction (passenger aircraft)	203
Packing instruction (passenger aircraft)	Y203

IMDG

UN number	1950
Description of the goods	AEROSOLS
Class	2.1
Labels	2.1
EmS Number 1	F-D
EmS Number 2	S-U
Marine pollutant	no

DOT: For Limited Quantity exceptions reference 49 CFR 173.306 (i)
IMDG: For Limited Quantity special provisions reference IMDG Code Chapter 3.4
IATA: For Limited Quantity provisions reference IATA DGR Section 2.7 and other applicable sections.

Special precautions for user
No data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

15. Regulatory information

TSCA list : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Sudden Release of Pressure Hazard
Fire Hazard
Acute Health Hazard
Chronic Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

4,4'-methylenediphenyl diisocyanate	101-68-8	5 - 10 %
Diphenylmethanediisocyanate, isomeres and homologues	9016-87-9	5 - 10 %

Clean Air Act

Ozone-Depletion Potential This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

4,4'-methylenediphenyl diisocyanate	101-68-8	5 - 10 %

The following chemical(s) are listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F):

Dimethyl ether	115-10-6	3 - 7 %
Isobutane	75-28-5	3 - 7 %
Propane	74-98-6	1 - 5 %

California Prop 65 This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

16. Other information

HMIS Classification

Health	*	3
Flammability		3
Physical Hazard		2
Personal Protection		X

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

Notes to Reader

The information contained in this Safety Data Sheet applies only to the actual Sika Corporation ("Sika") product identified and described herein. This information is not intended to address, nor does it address the use or application of the identified Sika product in combination with any other material, product or process. All of the information set forth herein

is based on technical data regarding the identified product that Sika believes to be reliable as of the date hereof. Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's current Product Data Sheet, product label and Safety Data Sheet for each Sika product, which are available at web site and/or telephone number listed in Section 1 of this SDS.

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All sales of Sika products are subject to its current terms and conditions of sale available at www.sikausa.com or 201-933-8800.

Revision Date 04/15/2016

Material number: 519264

Section:	07 90 00 Joint Protection
#:	0015
Specified:	2.02.F., Single Component Spray Applied Elastomeric Sealant
Reference:	view spec
Item submitted:	TREMstop® Acrylic SP

TREMstop-Acrylic-SP-Product-Data-1620571.pdf
TREMstop-Acrylic-SP-SDS-1821775.pdf
TREMstop-Acrylic-SP-Environmentally-Responsive-Documentation-1822328.pdf

TREMstop® Acrylic SP

A Sprayable Acrylic Latex Sealant

Product Description

TREMstop® Acrylic SP is a sprayable acrylic latex sealant designed for use in firestop applications, including both joints and through-penetrations.

Basic Uses

TREMstop Acrylic SP is for use on metal pipe (Canada only), static joints and dynamic joints in fire-rated concrete, wood floor/ceiling and gypsum wall assemblies and perimeter fire barrier joints. It can also be used to restore the STC of sound rated assemblies.

Features and Benefits

- TREMstop Acrylic SP is an all-purpose sealant that can accept paint once fully cured. The spray application method provides significant labor savings over a gun-grade sealant, particularly on long joint runs. It features excellent movement and superb unprimed adhesion to a wide range of substrates.
- When installed in accordance with a tested firestop system, it affords code compliance for both through-penetrations and fire-rated joints.
- It also provides a fast and easy solution for restoring the STC rating of a sound-rated assembly.

Availability

TREMstop Acrylic SP is readily available from your local Tremco Distributor or Sales Representative throughout the United States and Canada.

Coverage Rates

12.83 ft²/gal (.31 M²/L)

Packaging

5-gal (19-L) pail

Colors

Rust Red, White, Limestone. Custom colors available upon request.

Shelf Life

1 year when stored at 40 to 110 ˚F (5 to 43 ˚C).

Storage

Store TREMstop Acrylic SP in original, undamaged packaging in a clean, dry, protected location with temperatures between 40 to 110 ˚F (5 to 43 ˚C).

Applicable Standards

- UL 1479 (ASTM E814)
- UL 263 (ASTM E119)
- UL 723 (ASTM E84)
- UL 2079 (ASTM E1966)
- ASTM E1399
- ASTM E2307
- CAN/ULC S115
- CAN/ULC-S101M

Fire Rated

Available at: http://www.tremcosealants.com/technical-resources/fire-systems.aspx

Limitations

- Not recommended for use with passive fire containment systems not listed or approved by Tremco.

Joint Description

Mineral wool is recommended as joint backing to control sealant depth and insure intimate contact of sealant with cavity wall when tooling. Certain types of backing material may be required by system. For additional information on firestop system components, please visit www.tremcosealants.com/commercial/ firestop.

Sealant Dimensions

Consult Tremco passive fire protection system listed or approved by Tremco

Cure Time

At 77 °F (25 °C), 50% RH, TREMstop Acrylic SP is tack-free in 30 to 60 minutes and dries at a rate of about 1/8" (3.17 mm) per day. As the temperature decreases, the dry time of TREMstop Acrylic SP will increase, generally one additional day for every 10 °F (5.5 °C) decrease in temperature.

Clean Up

Excess sealant can be cleaned up or removed with soapy water before sealant skins. Clean sprayer in accordance with manufacturer's recommended cleaning instructions.

Warranty

Tremco warrants its Products to be free of defects in materials, but makes no warranty as to appearance or color. Since methods of application and on-site conditions are beyond our control and can affect performance, Tremco makes no other warranty, expressed or implied including warranties of MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE, with respect to Tremco Products. Tremco's sole obligation shall be, at its option, to replace, or refund the purchase price of the quantity of Tremco Products proven to be defective and Tremco shall not be liable for any loss or damage.

Please refer to our website at www.tremcosealants.com for the most up-to-date Product Data Sheets.

NOTE: All Tremco Safety Data Sheets (SDS) are in alignment with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) requirements.

TYPICAL PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	TYPICAL VALUES
Type		Sprayable Acrylic Latex sealant
Color		Rust Red, White, or Limestone.
Solids		51%
Specific Gravity		1.1
Application		Spray pump or brush applied, consult application instructions and Tremco approved passive fire containment system.
VOC Content		40 g/L
Flame Spread	ASTM E84	15
Smoke Development	ASTM E84	0
Density		1.1
Movement Capability	ASTM C719 UL2079; class I, II, III	+/- 25%
STC	ASTM E90	Restored to 59 in a U411 wall
Peel Strength	ASTM C794	10 to 20, substrate dependent
pH		7 to 9
Antifungal		Contains antifungal additive

JOINT SEALANT TREMCO CANADA TORONTO, ONTARIO LISTING # 13510-6 TREMSTOP ACRYLIC SPRAYABLE GRADE TESTED PER: PERIMETER JOINT SYSTEM USING THE INTERMEDIATE-SCALE MULTISTORY APPARATUS (ISMA) AS OUTLINES IN UNIFORM BUILDING CODE (UBC) 26-9. REFERENCE DIRECTORY OF LISTED BUILDING PRODUCTS, MATERIALS & ASSEMBLIES FOR DESIGN SPECIFICS WWW.OPL.COM

FILL, VOID OR CAVITY MATERIAL FOR USE IN THROUGH-PENETRATION FIRESTOP SYSTEMS AND/OR JOINT SYSTEMS SEE UL FIRE RESISTANCE DIRECTORY 59S2

0518/TSASPDS-ST

Tremco Commercial Sealants & Waterproofing

3735 Green Rd
Beachwood OH 44122
216.292.5000 / 800.321.7906

1451 Jacobson Ave
Ashland OH 44805
419.289.2050 / 800.321.6357

220 Wicksteed Ave
Toronto ON M4H1G7
416.421.3300 / 800.363.3213

1445 Rue de Coulomb
Boucherville QC J4B 7L8
514.521.9555

www.tremcosealants.com

SAFETY DATA SHEET

1. Identification

Material name: TREMstop® ACRYLIC SP
Material: 905874A805

Recommended use and restriction on use

Recommended use: Sealant
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information
Tremco U.S Sealants
3735 Green Road
Beachwood OH 44122
US

Contact person:	EH&S Department
Telephone:	216-292-5000
Emergency telephone number:	1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Health Hazards

Carcinogenicity	Category 2

Unknown toxicity - Health

Acute toxicity, oral	0.25 %
Acute toxicity, dermal	1.33 %
Acute toxicity, inhalation, vapor	52.97 %
Acute toxicity, inhalation, dust or mist	46.51 %

Label Elements

Hazard Symbol:

Signal Word: Warning

Hazard Statement: Suspected of causing cancer.

Precautionary

Statements

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.

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
White mineral oil	8042-47-5	5 - <10%
Amorphous silica	7631-86-9	1 - <5%
Propylene glycol	57-55-6	1 - <5%
Iron oxide	1309-37-1	0.1 - <1%
Ammonium hydroxide	1336-21-6	0.1 - <1%
Zinc oxide	1314-13-2	0.1 - <1%
Titanium dioxide	13463-67-7	0.1 - <1%
Talc	14807-96-6	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: Rinse mouth thoroughly.

Inhalation: Move to fresh air.

Skin Contact: Remove contaminated clothing and wash the skin thoroughly with soap and water after work.

Eye contact: Rinse immediately with plenty of water.

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
White mineral oil - Inhalable fraction.	TWA	5 mg/m3	US. ACGIH Threshold Limit Values (2011)
White mineral oil - Mist.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Amorphous silica	TWA	20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
	TWA	0.8 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Iron oxide - Respirable fraction.	TWA	5 mg/m3	US. ACGIH Threshold Limit Values (2011)
Iron oxide - Fume.	PEL	10 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Iron oxide - Total dust.	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Iron oxide - Respirable fraction.	TWA	5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
	TWA	15 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Iron oxide - Total dust.	TWA	15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Ammonium hydroxide	STEL	35 ppm	US. ACGIH Threshold Limit Values (2011)
	TWA	25 ppm	US. ACGIH Threshold Limit Values (2011)
	PEL	50 ppm 35 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Zinc oxide - Respirable fraction.	TWA	2 mg/m3	US. ACGIH Threshold Limit Values (2011)
	STEL	10 mg/m3	US. ACGIH Threshold Limit Values (2011)
Zinc oxide - Fume.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Zinc oxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Zinc oxide - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
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)
Titanium dioxide - Respirable fraction.	TWA	15 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Titanium dioxide - Total dust.	TWA	15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Titanium dioxide - Respirable fraction.	TWA	5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Titanium dioxide - Total dust.	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Talc - Respirable fraction.	TWA	2 mg/m3	US. ACGIH Threshold Limit Values (2011)
Talc	TWA	20 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Talc - Respirable.	TWA	2.4 millions of particles per cubic foot	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)

		of air	
	TWA	0.1 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)

Chemical name	Type	Exposure Limit Values	Source
White mineral oil - Mist.	TWA	1 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
White mineral oil - Inhalable fraction.	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
White mineral oil - Mist.	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
	STEL	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Amorphous silica - Total	TWA	4 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Amorphous silica - Respirable.	TWA	1.5 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Amorphous silica - Respirable dust.	TWA	6 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Propylene glycol - Aerosol.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Propylene glycol - Vapor and aerosol.	TWA	50 ppm 155 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
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	TWA	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) (09 2017)
Talc - 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)
Talc	TWA	2 fibers/mL	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Talc - Respirable fraction.	TWA	2 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Talc - Respirable dust.	TWA	3 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)

Chemical name	Type	Exposure Limit Values	Source
White mineral oil - Mist.	TWA	1 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
White mineral oil - Inhalable fraction.	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
White mineral oil - Mist.	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
	STEL	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Amorphous silica - Total	TWA	4 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Amorphous silica - Respirable.	TWA	1.5 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Amorphous silica - Respirable dust.	TWA	6 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Propylene glycol - Aerosol.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Propylene glycol - Vapor and aerosol.	TWA	50 ppm 155 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Iron oxide - 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)
Iron oxide - Dust. - as Fe	TWA	5 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Iron oxide - Fume. - as Fe	STEL	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Iron oxide - 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)
Iron oxide - Fume. - as Fe	TWA	5 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Iron oxide - Respirable fraction.	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Iron oxide - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Iron oxide - Dust and fume. - as Fe	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Ammonium hydroxide	STEL	35 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	25 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation

			296/97, as amended) (07 2007)
Ammonium hydroxide	TWA	25 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	STEL	35 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Zinc oxide - 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)
	STEL	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Zinc oxide - Respirable fraction.	TWA	2 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	STEL	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Zinc oxide - Fume.	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
	STEL	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Zinc oxide - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
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	TWA	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) (09 2017)
Talc - 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)
Talc	TWA	2 fibers/mL	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Talc - Respirable fraction.	TWA	2 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Talc - Respirable dust.	TWA	3 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
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.	TWA	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) (09 2017)
Methanol	STEL	250 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	200 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation

				296/97, as amended) (07 2007)
Methanol	STEL	250 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	TWA	200 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Methanol	STEL	250 ppm	328 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
	TWA	200 ppm	262 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
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 fraction.	TWA		0.10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
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) (09 2017)
Ethyl Acrylate	TWA	5 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	STEL	15 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Ethyl Acrylate	TWA	5 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	STEL	15 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Ethyl Acrylate	STEL	15 ppm	61 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
	TWA	5 ppm	20 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Formaldehyde	TWA	0.3 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	CEILING	1 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Formaldehyde	STEL	1 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	CEV	1.5 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)

Formaldehyde	CEILING	2 ppm	3 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Potassium hydroxide	CEILING		2 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Potassium hydroxide	CEV		2 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Potassium hydroxide	CEILING		2 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Petroleum Oil - 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 Oil - Inhalable fraction.	TWA		5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Propionic acid	TWA	10 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Propionic acid	TWA	10 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Propionic acid	TWA	10 ppm	30 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Acetaldehyde	CEILING	25 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Acetaldehyde	CEV	25 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Acetaldehyde	CEILING	25 ppm	45 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Cadmium - as Cd	TWA		0.01 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Cadmium - Respirable. - as Cd	TWA		0.002 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Cadmium - as Cd	TWA		0.01 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Cadmium - Respirable fraction. - as Cd	TWA		0.002 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Cadmium - as Cd	TWA		0.025 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Lead and compounds (inorganic)	TWA		0.05 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Lead and compounds (inorganic) - as Pb	TWA		0.05 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Lead and compounds (inorganic) - as Pb	TWA		0.05 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)

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 red
Odor:	Mild
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	No data available.
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:	1.049
Solubility(ies)	
Solubility in water:	Miscible with water.
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:	Strong acids. Avoid contact with oxidizing agents (e.g. nitric acid, peroxides and chromates). Strong bases.
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

Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Moderately irritating to skin with prolonged exposure.
Eye contact:	Eye contact is possible and should be avoided.
Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product:	Not classified for acute toxicity based on available data.

Specified substance(s):

White mineral oil	LD 50 (Rat): > 5,000 mg/kg
Amorphous silica	LD 50 (Rat): > 5,000 mg/kg
Propylene glycol	LD 50 (Rat): 22,000 mg/kg
Iron oxide	LD 50 (Rat): > 5,000 mg/kg
Ammonium hydroxide	LD 50 (Rat): 350 mg/kg
Zinc oxide	LD 50 (Rat): > 5,000 mg/kg
Titanium dioxide	LD 50 (Rat): > 5,000 mg/kg

Dermal

Product: Not classified for acute toxicity based on available data.

Specified substance(s):

White mineral oil	LD 50 (Rabbit): > 2,000 mg/kg
Amorphous silica	LD 50 (Rabbit): > 2,000 mg/kg
Propylene glycol	LD 50 (Rabbit): > 2,000 mg/kg
Zinc oxide	LD 50 (Rat): > 2,000 mg/kg

Inhalation

Product: Not classified for acute toxicity based on available data.

Specified substance(s):

White mineral oil	LC 50 (Rat): > 5.2 mg/l
Amorphous silica	LC 50 (Rat): > 2.08 mg/l
Zinc oxide	LC 50 (Rat): > 5,700 mg/m3
Titanium dioxide	LC 50 (Rat): 3.43 mg/l

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Specified substance(s):

White mineral oil	in vivo (Rabbit): Not irritant Experimental result, Key study
Amorphous silica	in vivo (Rabbit): Not irritant Experimental result, Key study
Propylene glycol	in vivo (Rabbit): Not irritant Experimental result, Key study
Iron oxide	in vivo (Rabbit): Not irritant Experimental result, Weight of Evidence study
Zinc oxide	in vivo (Rabbit): Not irritant Experimental result, Key study
Titanium dioxide	in vivo (Rabbit): Not irritant Experimental result, Supporting study

Serious Eye Damage/Eye Irritation
Product: No data available.
Specified substance(s):

White mineral oil	Rabbit, 24 - 72 hrs: Not irritating
Amorphous silica	Rabbit, 24 hrs: Not irritating
Zinc oxide	Rabbit, 24 - 72 hrs: Not irritating
Titanium dioxide	Rabbit, 24 hrs: Not irritating

Respiratory or Skin Sensitization
Product: No data available.

Carcinogenicity
Product: Suspected of causing cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Titanium dioxide	Overall evaluation: Possibly carcinogenic to humans.
Talc	Overall evaluation: Not classifiable as to carcinogenicity to humans. Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

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):

Propylene glycol	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 29,485 - 39,339 mg/l Mortality
Zinc oxide	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 2,246 mg/l Mortality

Aquatic Invertebrates
Product: No data available.

Specified substance(s):

Propylene glycol	EC 50 (Water flea (Daphnia magna), 48 h): > 10,000 mg/l Intoxication

Titanium dioxide	EC 50 (Water flea (Daphnia magna), 48 h): > 1,000 mg/l Intoxication

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

White mineral oil	NOAEL (Oncorhynchus mykiss, 28 d): >= 1,000 mg/l QSAR QSAR, Supporting study
Propylene glycol	NOAEL (Pimephales promelas, 7 d): 11,530 mg/l Experimental result, Not specified

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):

Propylene glycol	Log Kow: -0.92

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)

Chemical Identity	OSHA hazard(s)
Crystalline Silica (Quartz)/ Silica Sand	kidney effects lung effects immune system effects Cancer
Formaldehyde	Acute toxicity Skin irritation Skin sensitization Flammability respiratory tract irritation Respiratory sensitization Cancer Eye irritation
Cadmium	Acute toxicity Lung Kidney Cancer
Lead and compounds (inorganic)	Kidney Acute toxicity Central nervous system Blood Reproductive toxicity

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
Ammonium hydroxide	1000 lbs.
Methyl benzimidazole-2-yl carbamate	10 lbs.
Methanol	5000 lbs.
Ethyl Acrylate	1000 lbs.
Formaldehyde	100 lbs.
Potassium hydroxide	1000 lbs.
Propionic acid	5000 lbs.
Acetaldehyde	1000 lbs.
Cadmium	10 lbs.
Lead and compounds (inorganic)	10 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Delayed (Chronic) Health Hazard
Carcinogenicity

SARA 302 Extremely Hazardous Substance

Chemical Identity	Reportable quantity	Threshold Planning Quantity
Formaldehyde	100 lbs.	500 lbs.

SARA 304 Emergency Release Notification

Chemical Identity	Reportable quantity
Ammonium hydroxide	1000 lbs.
Zinc oxide	
Methyl benzimidazole-2-yl carbamate	10 lbs.
Copper phthalocyanine	
Methanol	5000 lbs.
Ethyl Acrylate	1000 lbs.
Formaldehyde	100 lbs.
Potassium hydroxide	1000 lbs.
Propionic acid	5000 lbs.
Acetaldehyde	1000 lbs.
Cadmium	10 lbs.
Lead and compounds (inorganic)	10 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
Formaldehyde	500lbs
White mineral oil	10000 lbs
Amorphous silica	10000 lbs
Propylene glycol	10000 lbs
Iron oxide	10000 lbs
Ammonium hydroxide	10000 lbs
Zinc oxide	10000 lbs
Titanium dioxide	10000 lbs
Talc	10000 lbs

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Chemical Identity	Reportable quantity
Formaldehyde	lbs
Acetaldehyde	lbs

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

WARNING
Cancer and Reproductive Harm - www.P65Warnings.ca.gov

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
White mineral oil
Amorphous silica
Propylene glycol
Talc

US. Massachusetts RTK - Substance List

Chemical Identity
White mineral oil
Amorphous silica
Crystalline Silica (Quartz)/ Silica Sand
Ethyl Acrylate
Formaldehyde

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
White mineral oil
Amorphous silica
Propylene glycol

US. Rhode Island RTK

Chemical Identity
White mineral oil
Propylene glycol

International regulations

Montreal protocol

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol

Not applicable

VOC:

Regulatory VOC (less water and exempt solvent)	:	14 g/l
VOC Method 310	:	0.68 %

Inventory Status:

Australia AICS:	One or more components in this product are not 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:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	One or more components in this product are not 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:	One or more components in this product are not 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:	One or more components in this product are not 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.
Mexico INSQ:	One or more components in this product are not listed on or exempt from the Inventory.
Ontario Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Taiwan Chemical Substance Inventory:	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:	11/27/2018
Version #:	1.1
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.

Tremco Incorporated
3735 Green Road Beachwood, OH 44122 216.292.5000 www.tremcosealants.com

TREMCO®
Commercial Sealants & Waterproofing

January 22, 2019

To Whom It May Concern:

RE: TREMstop Acrylic Spray—Green Building Product Information (LEED v4 Information)

Tremco Incorporated is an organization that is committed to quality, our employees, and our environment. We are responsive to both internal and external customers, and we pledge to treat everyone with good stewardship and respect.

Tremco Incorporated certifies the following for TREMstop Acrylic Spray:

Building Product Disclosure and Optimization:

TREMstop Acrylic Spray is manufactured in Toronto, Ontario, Canada.

No single extracted material is used to produce the majority of this product.

Recycled content for TREMstop Acrylic Spray is not available, and for the purposes of LEED reporting should be assumed to be zero.

Low Emitting Materials - VOC Content Information:

TREMstop Acrylic Spray is a fire sealant with a VOC content of 40g/L equaling 1% as applied/mixed. As such, VOC levels are lower than the limits set by SCAQMD rule 1168.

This product is Greenguard certified, meaning it has met some of the world's most difficult and complete standards for low emissions of VOC's into indoor air. This product also adheres to the California Department of Public Health (CDPH) Standard Method V1.1-2010, a standard vital to demonstrate compliance with LEED.

Green Chemistry:

Tremco Incorporated is dedicated to the environment and prides itself on making its products as sustainable as possible.

Additional Information:

Should you have any questions or require additional information, please do not hesitate to contact Technical Services or your local Tremco Field Representative.

Sincerely,

Amy Woodard
Manager
Compliance and Regulatory

Section:	07 90 00 Joint Protection
#:	0016
Specified:	2.03.A., Low VOC Primer -
Reference:	view spec
Item submitted:	Sikaflex® Primer-429

Sikaflex-Primer-429-Product-Data-1847322.PDF
Sikaflex-Primer-429-SDS-1852950.PDF
P-53-VOC-Data-Sheet-4-16.pdf
P150 All Purpose Primer.pdf
P-120 Non-Porous Primer.pdf
TREMprime-Silicone-Porous-Primer-Product-Data-1822039.pdf
TREMprime-Silicone-Porous-Primer-SDS-1821787.pdf
TREMprime-Silicone-Porous-Primer-Environmentally-Responsive-Documentation-1822149.pdf
Vulkem-Primer-171-Product-Data-1822503.pdf
Vulkem-Primer-171-SDS-1821563.pdf
Vulkem-Primer-171-Environmentally-Responsive-Documentation-1822358.pdf

BUILDING TRUST

PRODUCT DATA SHEET

Sikaflex® Primer-429

SIKAFLEX PRIMERS ARE SPECIAL MATERIALS FORMULATED TO IMPROVE THE BOND OF SIKAFLEX URETHANE SEALANTS WHEN APPLIED TO SPECIFIC SUBSTRATES.

PRODUCT DESCRIPTION

Sikaflex® Primer-429 promotes adhesion to clean, sound, and dry concrete, masonry, Exterior Insulation Finish Systems (EIFS), and wood — including teak and mahogany.

USES

Most substrates require a primer only if testing shows need for it or where the sealant will be underwater after cure. Certain substrates do require a primer under all conditions.

CHARACTERISTICS / ADVANTAGES

- Single-component, ready to use.
- Easily applied by brush, dauber, or spray.

PRODUCT INFORMATION

Packaging	Sikaflex 429 primer is available in pints (6/carton); and gallons (2/carton).
Color	Clear
Shelf Life	6 months in original, unopened containers.
Storage Conditions	Sikaflex® Primer-429 shall be stored in dry conditions, where it is protected from direct sunlight and at temperatures between +40°F and +95°F (+4°C and +35°C).

APPLICATION INFORMATION

Coverage	Following are average coverages, depending on porosity of substrate: **Sikaflex Primer 429 Coverage per pint (Liner ft. 1/2” x 1/2” joint): 300 Linear ft.**

APPLICATION INSTRUCTIONS

Substrate	Primer Required	Recommended Primer
Concrete Block	No	429
Placed Concrete	No	429
Precast Concrete	No	429
Mortar	No	429
Grout	No	429
SikaTops	No	429
Granite	No	429
Unfinished Woods	No	429
EIFS - Dryvit, Sto, Synergy**	Yes	429

**Note: Product will bond without primer, however primer is recommended by EIFS manufacturers to properly seal substrate. Follow EIFS manufacturer's primer recommendations.

SUBSTRATE PREPARATION

The key to good bonding with Sikaflex sealants/primers is surface preparation. Specifically, all surfaces must be dry and free of dirt, grease, mold release agents, loose mortar, laitance, and any foreign matter. If the joint contains old sealant, it and all extraneous material must be removed and the substrate cleaned by mechanical means. Apply primers at substrate temperatures of 40°F and rising. Surface must be frost free.

APPLICATION METHOD / TOOLS

Shake or stir primer well before using. Apply to dry, clean, oil free surface with a brush, dauber or spray.

Dry time before installing sealant:
> 1 hr. <8 hrs.*

CLEANING OF TOOLS

In case of spill or leaks, wear suitable protective equipment, contain spill, collect with absorbent material, and transfer to suitable container. Ventilate area. Avoid contact. Dispose of in accordance with current, applicable, local, state and federal regulations.

LIMITATIONS

- Primer should not be used if it starts to gel in container.
- Protect Sikaflex primers from moisture. Once container has been opened, use contents immediately.
- Do not attempt to use partial containers.
- Do not reseal or reuse. Resealing may cause moisture contamination and gelling.

Caution:
Flammable; Irritant; Sensitizer - Contains aromatic polyisocyanate, xylene, PGMEA, TDI. May cause skin/eye/respiratory irritation. May cause skin and/or respiratory sensitization after prolonged or repeated contact. Avoid contact. May cause headaches, dizziness or other CNS effects. TDI is a suspect carcinogen (IARC, NTP). Use only with adequate ventilation. Use of safety goggles and chemical resistant gloves is recommended. In case of exceedance of PELs, use an appropriate, properly fitted NIOSH approved respirator. Remove contaminated clothing. Keep away from heat, sparks, and open flames.

First-Aid:
In case of skin contact, wash immediately and thoroughly with soap and water. If symptoms persist, consult physician. For eye contact, flush immediately with plenty of water for at least 15 minutes; contact a physician. For respiratory problems, remove person to fresh air; if symptoms
persist, consult physician. In case of ingestion, consult a physician immediately - methanol is a poison. Remove contaminated clothing.

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

OTHER RESTRICTIONS

See Legal Disclaimer.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

LEGAL DISCLAIMER

- **KEEP CONTAINER TIGHTLY CLOSED**
- **KEEP OUT OF REACH OF CHILDREN**
- **NOT FOR INTERNAL CONSUMPTION**
- **FOR INDUSTRIAL USE ONLY**
- **FOR PROFESSIONAL USE ONLY**

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within the product's shelf life. User determines suitability of product for intended use and assumes all risks. User's and/or buyer's sole remedy shall be limited to the purchase price or replacement of this product exclusive of any labor costs. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

Sale of SIKA products are subject to the Terms and Conditions of Sale which are available at https://usa.sika.com/en/group/SikaCorp/termsandconditions.html or by calling 1-800-933-7452.

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Carretera Libre Celaya Km. 8.5
Fracc. Industrial Balvanera
Corregidora, Queretaro
C.P. 76920
Phone: 52 442 2385800
Fax: 52 442 2250537

1. Identification

Product name	:	Sikaflex® Primer-429
Supplier	:	Sika Corporation 201 Polito Avenue Lyndhurst, NJ 07071 USA www.sikausa.com
Telephone	:	(201) 933-8800
Telefax	:	(201) 804-1076
E-mail address	:	ehs@sika-corp.com
Emergency telephone	:	CHEMTREC: 800-424-9300 INTERNATIONAL: 703-527-3887
Recommended use of the chemical and restrictions on use	:	For further information, refer to product data sheet.

2. Hazards identification

GHS Classification

Flammable liquids, Category 3	H226: Flammable liquid and vapor.
Acute toxicity, Category 4 (Inhalation)	H332: Harmful if inhaled.
Skin irritation, Category 2	H315: Causes skin irritation.
Eye irritation, Category 2A	H319: Causes serious eye irritation.
Respiratory sensitization, Category 1	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization, Category 1	H317: May cause an allergic skin reaction.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.
Specific target organ systemic toxicity - single exposure, Category 3, Respiratory system	H335: May cause respiratory irritation.
Specific target organ systemic toxicity - repeated exposure, Category 2, hearing organs (Inhalation)	H373: May cause damage to organs through prolonged or repeated exposure if inhaled.

GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements : H226 Flammable liquid and vapor.
H315 Causes skin irritation.

H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H373 May cause damage to organs (hearing organs) through prolonged or repeated exposure if inhaled.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/ eye protection/ face protection.
P281 Use personal protective equipment as required.
P285 In case of inadequate ventilation wear respiratory protection.
Response:
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Warning : Reports have associated repeated and prolonged exposure to some of the chemicals in this product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.

See Section 11 for more detailed information on health effects and symptoms.
There are no hazards not otherwise classified that have been identified during the classification process.
There are no ingredients with unknown acute toxicity used in a mixture at a concentration >= 1%.

3. Composition/information on ingredients

Hazardous ingredients

Chemical name	CAS-No.	Concentration (%)
Aromatic Polyisocyanate-Prepolymer	68958-67-8	>= 50 - < 100 %
xylene	1330-20-7	>= 20 - < 25 %
2-methoxy-1-methylethyl acetate	108-65-6	>= 10 - < 20 %
ethylbenzene	100-41-4	>= 5 - < 10 %
4-methyl-m-phenylene diisocyanate	584-84-9	>= 0.1 - < 1 %

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.

4. First aid measures

If inhaled : Move to fresh air.
Consult a physician after significant exposure.

In case of skin contact : Take off contaminated clothing and shoes immediately.
Wash off with soap and plenty of water.
If symptoms persist, call a physician.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Clean mouth with water and drink afterwards plenty of water.
Do not induce vomiting without medical advice.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
Obtain medical attention.

Most important symptoms and effects, both acute and delayed : irritant effects
sensitizing effects

Asthmatic appearance
Cough

Respiratory disorder
Allergic reactions
Excessive lachrymation
Erythema
Headache
Dermatitis
See Section 11 for more detailed information on health effects and symptoms.

Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Harmful if inhaled.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure if inhaled.

Protection of first-aiders	:	Move out of dangerous area. Consult a physician. Show this material safety data sheet to the doctor in attendance.
Notes to physician	:	Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media	:	Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	Water High volume water jet
Specific hazards during fire fighting	:	Do not use a solid water stream as it may scatter and spread fire.
Specific extinguishing methods	:	Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Remove all sources of ignition. Deny access to unprotected persons.

Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Environmental precautions : Prevent product from entering drains.
If the product contaminates rivers and lakes or drains inform respective authorities.
Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up : Contain spillage, and then collect 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 : Avoid formation of aerosol.
Do not breathe vapors or spray mist.
Avoid exceeding the given occupational exposure limits (see section 8).
Do not get in eyes, on skin, or on clothing.
For personal protection see section 8.
Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Smoking, eating and drinking should be prohibited in the application area.
Take precautionary measures against static discharge.
Provide sufficient air exchange and/or exhaust in work rooms.
Open drum carefully as content may be under pressure.
Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).
Follow standard hygiene measures when handling chemical products.

Conditions for safe storage : Store in original container.
Keep in a well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Store in accordance with local regulations.

Materials to avoid : No data available

8. Exposure controls/personal protection

Component	CAS-No.	Basis **	Value	Exposure limit(s)* / Form of exposure
xylene	1330-20-7	OSHA Z-1	TWA	100 ppm 435 mg/m3
		OSHA P0	STEL	150 ppm 655 mg/m3

		OSHA P0	TWA	100 ppm 435 mg/m3
		ACGIH	TWA	100 ppm
		ACGIH	STEL	150 ppm
ethylbenzene	100-41-4	ACGIH	TWA	20 ppm
		ACGIH	STEL	125 ppm
		OSHA Z-1	TWA	100 ppm 435 mg/m3
		OSHA P0	TWA	100 ppm 435 mg/m3
		OSHA P0	STEL	125 ppm 545 mg/m3
4-methyl-m-phenylene diisocyanate	584-84-9	ACGIH	TWA	0.005 ppm
		ACGIH	STEL	0.02 ppm
		OSHA Z-1	C	0.02 ppm 0.14 mg/m3
		OSHA P0	TWA	0.005 ppm 0.04 mg/m3
		OSHA P0	STEL	0.02 ppm 0.15 mg/m3
		ACGIH	TWA	0.001 ppm Inhalable fraction and vapor
		ACGIH	STEL	0.005 ppm Inhalable fraction and vapor

*The above mentioned values are in accordance with the legislation in effect at the date of the release of this safety data sheet.

****Basis**
ACGIH. Threshold Limit Values (TLV)
OSHA P0. Table Z-1, Limit for Air Contaminat (1989 Vacated Values)
OSHA P1. Permissible Exposure Limits (PEL), Table Z-1, Limit for Air Contaminant
OSHA P2. Permissible Exposure Limits (PEL), Table Z-2
OSHA Z3. Table Z-3, Mineral Dust

Engineering measures	:	Use of adequate ventilation should be sufficient to control worker exposure to airborne contaminants. If the use of this product generates dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits.

Personal protective equipment

Respiratory protection	:	Use a properly fitted NIOSH approved air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. The filter class for the respirator must be suitable for the maximum expected contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If this concentration is exceeded, self-contained breathing apparatus must be used.
Hand protection Remarks	:	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.
Eye protection	:	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary.
Skin and body protection	:	Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Hygiene measures	:	Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Remove respiratory and skin/eye protection only after vapors have been cleared from the area. Remove contaminated clothing and protective equipment before entering eating areas. Wash thoroughly after handling.

9. Physical and chemical properties

Appearance	:	liquid
Color	:	yellow
Odor	:	No data available
Odor Threshold	:	No data available
Flash point	:	86 °F (30 °C)
Ignition temperature	:	631 °F (333 °C)
Decomposition temperature	:	No data available
Lower explosion limit (Vol%)	:	1 %(V)
Upper explosion limit (Vol%)	:	7 %(V)
Flammability (solid, gas)	:	No data available
Oxidizing properties	:	No data available
pH	:	No data available
Melting point/range	:	-22 °F (-30 °C)
Boiling point/boiling range	:	300 °F (149 °C)
Vapor pressure	:	6.000 mmHg (7.9993 hpa)
Density	:	1.07 g/cm3 at 68 °F (20 °C)
Water solubility	:	Note: insoluble
Partition coefficient: n-octanol/water	:	No data available
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	> 20.5 mm2/s at 104 °F (40 °C)
Relative vapor density	:	No data available
Evaporation rate	:	No data available
Burning rate	:	No data available
Volatile organic compounds (VOC) content	:	491.5 g/l

10. Stability and reactivity

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	The product is chemically stable.
Possibility of hazardous reactions	:	Stable under recommended storage conditions. Vapors may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	No data available

11. Toxicological information

Acute toxicity

Harmful if inhaled.

Ingredients:

2-methoxy-1-methylethyl acetate:

Acute oral toxicity	:	LD50 Oral (Rat): > 5,000 mg/kg
Acute dermal toxicity	:	LD50 Dermal (Rabbit): > 5,000 mg/kg

4-methyl-m-phenylene diisocyanate:

Acute oral toxicity	:	LD50 Oral (Rat): > 5,000 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): 0.107 mg/l Exposure time: 4 h Test atmosphere: vapor
Acute dermal toxicity	:	LD50 Dermal (Rat): > 9,400 mg/kg

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitization

Skin sensitization: May cause an allergic skin reaction.
Respiratory sensitization: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ cell mutagenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

STOT-single exposure

May cause respiratory irritation.

STOT-repeated exposure

May cause damage to organs (hearing organs) through prolonged or repeated exposure if inhaled.
Reports have associated repeated and prolonged exposure to some of the chemicals in this

product with permanent brain,liver, kidney and nervous system damage. Intentional misuse by deliberate concentration and inhalation of vapors may be harmful or fatal.
Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Aspiration toxicity

Not classified based on available information.

Carcinogenicity

Suspected of causing cancer.

IARC	Group 2B: Possibly carcinogenic to humans	
	ethylbenzene	100-41-4
	4-methyl-m-phenylene diisocyanate	584-84-9
NTP	Reasonably anticipated to be a human carcinogen	
	4-methyl-m-phenylene diisocyanate	584-84-9

12. Ecological information

Other information: Do not empty into drains; dispose of this material and its container in a safe way.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Component:

Aromatic Polyisocyanate-Prepolymer	68958-67-8	Toxicity to bacteria: EC50 Species: Natural microorganism Dose: > 10,000 mg/l Information taken from reference works and the literature.

13. Disposal considerations

Disposal methods

Waste from residues : 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.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT
UN number 1866

Description of the goods	Resin solution
Class	3
Packing group	III
Labels	3
Emergency Response Guidebook Number	127

IATA

UN number	1866
Description of the goods	Resin solution
Class	3
Packing group	III
Labels	3
Packing instruction (cargo aircraft)	366
Packing instruction (passenger aircraft)	355
Packing instruction (passenger aircraft)	Y344

IMDG

UN number	1866
Description of the goods	RESIN SOLUTION
Class	3
Packing group	III
Labels	3
EmS Number 1	F-E
EmS Number 2	S-E
Marine pollutant	no

DOT: For Limited Quantity exceptions reference 49 CFR 173.150 (b)
IMDG: For Limited Quantity special provisions reference IMDG Code Chapter 3.4

Special precautions for user
No data available

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

15. Regulatory information

TSCA list : All chemical substances in this product are either listed on the TSCA Inventory or are in compliance with a TSCA Inventory exemption.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA304 Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard
Chronic Health Hazard

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

xylene	1330-20-7	22.51 %
ethylbenzene	100-41-4	5.62 %

Clean Air Act

Ozone-Depletion Potential This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

xylene	1330-20-7	22.51 %
ethylbenzene	100-41-4	5.62 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

California Prop 65 ⚠**WARNING:** Cancer – www.P65Warnings.ca.gov

16. Other information

HMIS Classification

Health	*	3
Flammability		3
Physical Hazard		0
Personal Protection		X

Caution: HMIS® rating is based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® rating is not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® rating is to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). Please note HMIS® attempts to convey full health warning information to all employees.

Notes to Reader

The information contained in this Safety Data Sheet applies only to the actual Sika Corporation ("Sika") product identified and described herein. This information is not intended to address, nor does it address the use or application of the identified Sika product in

combination with any other material, product or process. All of the information set forth herein is based on technical data regarding the identified product that Sika believes to be reliable as of the date hereof. Prior to each use of any Sika product, the user must always read and follow the warnings and instructions on the product's current Product Data Sheet, product label and Safety Data Sheet for each Sika product, which are available at web site and/or telephone number listed in Section 1 of this SDS.

SIKA MAKES NO WARRANTIES EXPRESS OR IMPLIED AND ASSUMES NO LIABILITY ARISING FROM THIS INFORMATION OR ITS USE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES AND SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.

All sales of Sika products are subject to its current terms and conditions of sale available at www.sikausa.com or 201-933-8800.

Revision Date 03/29/2017

Material number: 451484

Pecora P-53-VOC

Two-Part Epoxy Primer

Specification Data Sheet

PECORA CORPORATION
Architectural Weatherproofing Products
U.S.A. • since 1862

1. BASIC USES

- To help prevent deterioration of porous masonry surfaces
- To enhance the adhesion of Pecora Synthacalk® GC-2+ sealant to most porous and non-porous surfaces.

2. MANUFACTURER

Pecora Corporation
165 Wambold Road
Harleysville, PA 19438
Phone: 215-723-6051
800-523-6688
Fax: 215-721-0286
Website: www.pecora.com

3. PRODUCT DESCRIPTION

P-53-VOC is a two-component epoxy primer, with a low viscosity formulation that penetrates and seals concrete pores.

Limitations:

- P-53-VOC should not be thinned with solvents unless advised to do so by Pecora.
- For industrial / commercial use. Installation by trained personnel only

PACKAGING

- 30 ounce (0.8872L), 2 part kit (15 oz. Part A Resin and 15 oz. Part B Activator)

4. TECHNICAL DATA

(See Chart to the right)

5. INSTALLATION

Surface Preparation - Concrete: New concrete should be cured a minimum of 28 days. For existing concrete, remove any laitance or weak surface layers. Apply only to clean, dry and sound concrete substrates that are free of all coatings, sealers, curing compounds, oils, greases or other contaminants.

Surface Preparation - Steel: For immersion service, "White Metal" abrasive blast with an anchor profile of 2-4 mils in accordance with Steel Structures Painting Council Specification SP-5-63 or NACE No. 1 is required. For splash and spillage exposure, "Near White" SP-10-63 or NACE No. 2 is required.

Mixing Instructions: Parts A (Resin) and B (Activator) must be mixed at a 1:1 ratio.

- Part A Resin should be premixed prior to use due to possible additive separation.
- Pour Part B Activator into the Part A Resin pail and mix by hand for a minimum of two minutes. Scrape the side of the pail to ensure the entire product has been properly mixed; any unmixed material left on the side of the pail will not cure.

Application: Pecora P-53-VOC should be applied at the rate of 700-800 linear ft./unit (concrete); 1100-1300 linear ft./unit (steel). It can be applied using a brush or phenolic core roller. Confirm product performance in specific chemical environment prior to use. Allow primer to cure within recommended recoat time before proceeding with the application of Pecora Synthacalk® GC 2+. Refer to the Typical Physical Properties Table below for minimum dry /recoat times.

Clean-Up: Equipment should be cleaned immediately after use with a solvent such as mineral spirits or xylene, as permitted under local regulations. Always wear gloves when using this product.

Storage Life: Pecora P-53-VOC has a shelf life of 12 months from the date of manufacture when stored in a dry area between 65-80˚F in original, unopened containers.

Precautions: Flammable. Keep away from heat, sparks, and flame. Use only in well-ventilated areas.

MAY FORM FLAMMABLE OR EXPLOSIVE VAPOR – AIR MIXTURE DURING USE. MAY CAUSE EYE, SKIN, OR RESPIRATORY TRACT IRRITATION, OR ALLERGIC REACTION. Do not breathe fumes, dust, vapors, or mist. Keep container closed when not in use. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. Inhalation causes headache, drowsiness, or other effects to the central nervous system. Kidney or liver damage can occur. Use only with adequate ventilation or wear an appropriate NIOSH-approved respirator. Do not get into eyes, on skin, or on clothing. Wear suitable chemical resistant gloves. Wash thoroughly after handling. DANGER: HARMFUL OR FATAL IF SWALLOWED. REPEATED CONTACT MAY, WITHOUT SYMPTOMS, INCREASE SUSCEPTABILITY OF THESE EFFECTS.

FOR PROFESSIONAL USE ONLY. KEEP OUT OF THE REACH OF CHILDREN.

TYPICAL PHYSICAL PROPERTIES

Physical Property	Typical Value
Coverage Rate (concrete) Coverage Rate (steel)	700-800 lin. ft./unit 1100-1300 lin. ft./unit
Minimum dry/recoat time (concrete @ 77°F)	min. 2 hrs./max. 36 hrs.
Minimum dry/recoat time(steel @ 77°F)	min. 4 hrs./max. 36 hrs.
Specific Gravity Part A Part B	0.9894 1.23
Solids Contents (Mixed)	65%
VOC Content (g/L)	50

6. AVAILABILITY AND COST

Pecora products are available from stocking distributors nationwide. For the name and telephone number of your nearest representative, call the number below or visit our website at www.pecora.com.

7. WARRANTY

Pecora Corporation warrants its products to be free of defects. Under this warranty, we will provide, at no charge, replacement materials for, or refund the purchase price of, any product proven to be defective when used in strict accordance with our published recommendations and in applications considered by us as suitable for this product. The determination of eligibility for this warranty, or the choice of remedy available under this warranty, shall be made in our sole discretion and any decisions made by Pecora Corporation shall be final. This warranty is in lieu of any and all other warranties, expressed or implied, including but not limited to a warranty of merchantability or fitness for a particular purpose and in no case will Pecora be liable for damages other than those expressly stated in this warranty, including but not limited to incidental or consequential damages.

8. TECHNICAL SERVICES

Pecora representatives are available to assist you in selecting an appropriate product and to provide on-site application instructions or to conduct jobsite inspections. For further assistance call our Technical Service Department at 800-523-6688 or 215-723-6051

9. FILING SYSTEMS

- http://4specs. com
- 07 10 00 Waterproofing
- 07 92 00 Sealants

PEC-290
4/16
165 Wambold Road, Harleysville, PA 19438
Phone: 800-523-6688 • 215-723-6051 • FAX: 215-721-0286

Pecora P-150

Universal Primer

Specification Data Sheet

PECORA CORPORATION
Architectural Weatherproofing Products
U.S.A. • since 1862

1. BASIC USE

• Pecora P-150 Primer is a one-component, non-yellowing polyisocyanate to enhance the adhesion of various Pecora Polyurethane and silicone sealants to porous and non-porous substrates.

2. MANUFACTURER

Pecora Corporation
165 Wambold Road
Harleysville, PA 19438
Phone: 215-723-6051
800-523-6688
Fax: 215-721-0286
Website: www.pecora.com

3. PRODUCT DESCRIPTION

Pecora P-150 Primer will help prevent deterioration of porous masonry surfaces which are weak and friable by sealing, leveling and binding the surface to allow better adhesion of the sealant.

PACKAGING

• 30 fl. oz. (887 ml) metal can

4. INSTALLATION

Preparation: Pecora P-150 can be applied by brush or roller as received. P-150 Primer should be applied within the confines of the joint. Do not allow primer to splash out of the joint as a slight discoloration of the surrounding surface may result. It is recommended that the exposed surfaces be masked before applying primer. If area outside of joint is contaminated with P-150, it should be removed immediately with mineral spirits.

Application: It is essential that surfaces be clean, dry and free of all contaminating substances prior to application.

When resealing surfaces formally sealed with oil base or other mastics, all traces of old material should be removed. If oil has been absorbed by masonry, sandblasting or cutting back of joints may be necessary.

Brushes, rags and solvents used for cleaning should be free of oil and grease.

Drying Time: Approximately 1 hour at 75°F. Pecora P-150 Primer should be allowed to dry completely before application of sealant. If allowed to dry over 8 hours, repriming is necessary. P-150 Primer is a moisture activated material. Allow longer drying times when humidity levels are below 50%.

Precautions: Flammable and toxic. Contains diisocyanates. Keep away from heat, sparks, and flame. Use only in well-ventilated areas. MAY FORM FLAMMABLE OR EXPLOSIVE VAPOR – AIR MIXTURE DURING USE. MAY CAUSE EYE, SKIN, OR RESPIRATORY TRACT IRRITATION, OR ALLEGRIC REACTION. Do not breathe fumes, dust, vapors, or mist. Keep container closed when not in use. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. Inhalation causes headache, drowsiness, or other effects to the central nervous system. Kidney or liver damage can occur. CONTAINS MATERIAL THAT MAY ADVERSELY AFFECT THE DEVELOPING FETUS. Use only with adequate ventilation or wear an appropriate NIOSH-approved respirator. Do not get in eyes, on skin, or on clothing. Wear suitable chemical resistant gloves. Wash thoroughly after handling. HARMFUL OR FATAL IF SWALLOWED. REPEATED CONTACT MAY, WITHOUT SYMPTOMS, INCREASE SUSPECTIBILITY OF THESE EFFECTS.

THIS MATERIAL IS FLAMMABLE, KEEP AWAY FROM SPARKS AND FLAME! KEEP OUT OF THE REACH OF CHILDREN.

COVERAGE RATES:

Joint Size	Lineal Feet per Gallon
1/4" x 1/4"	2400
3/8" x 3/8"	1800
1/2" x 1/2"	1200

Shipping Limitations:

• DOT Classification: Flammable

5. AVAILABILITY AND COST

Pecora products are available from stocking distributors nationwide. For the name and telephone number of your nearest representative, call the number below or visit our website at www.pecora.com.

6. WARRANTY

Pecora Corporation warrants its products to be free of defects. Under this warranty, we will provide, at no charge, replacement materials for, or refund the purchase price of, any product proven to be defective when used in strict accordance with our published recommendations and in applications considered by us as suitable for this product. The determination of eligibility for this warranty, or the choice of remedy available under this warranty, shall be made in our sole discretion and any decisions made by Pecora Corporation shall be final. This warranty is in lieu of any and all other warranties, expressed or implied, including but not limited to a warranty of merchantability or fitness for a particular purpose and in no case will Pecora be liable for damages other than those expressly stated in this warranty, including but not limited to incidental or consequential damages.

TYPICAL PHYSICAL PROPERTIES

Test Property	Value	Test Procedures
Viscosity (centipoises)	3	ASTM D2196
Color	Light amber; almost colorless in thin films	
Solids (%)	30	ASTM D4209
Lbs./Gal.	7.95	
Flash Point (°F, T.C.C.)	76	ASTM D56
Package Stability	6 months at 80°F. in tightly closed containers	
Cleaning	Mineral Spirits	
VOC	660[1]	ASTM D3960

[1]Not for use on non-porous surfaces in areas requiring VOC levels less than those listed. Always consult local VOC regulations before use.

7. TECHNICAL SERVICES

Local Pecora representatives are available to assist you in selecting an appropriate product and to provide on-site application instructions or to conduct job-site inspections. For further information and assistance, please call our Technical Service department at 1-800-523-6688.

8. FILING SYSTEMS

- Sweet's Catalog File: www. sweets. com
- General Building
  - 07100 Waterproofing
  - 07920 Sealants
- Civil Engineering
  - 07100 Waterproofing

PEC 144
3/14
165 Wambold Road, Harleysville, PA 19438
Phone: 800-523-6688 • 215-723-6051 • FAX: 215-721-0286

Pecora P-120

Primer

Specification Data Sheet

PECORA CORPORATION®
Architectural Weatherproofing Products
U.S.A. • since 1862

1. BASIC USE

To enhance the adhesion of Pecora polyurethane and silicone sealants to nonporous substrates.

2. MANUFACTURER

Pecora Corporation
165 Wambold Road
Harleysville, PA 19438
Phone: 215-723-6051
800-523-6688
Fax: 215-721-0286
Website: www.pecora.com

3. PRODUCT DESCRIPTION

Pecora P-120 Primer is a one-component, clear primer especially formulated to enhance the adhesion of Pecora Dynatrol I and Dynatrol II polyurethane sealants, as well as Pecora silicone sealants to nonporous substrates.

PACKAGING

- 30 fl. oz. (887 ml) metal can

4. INSTALLATION

Preparation: Pecora P-120 can be applied by brush or roller as received. P-120 Primer should be applied within the confines of the joint. Do not allow primer to splash out of the joint as a slight discoloration of the surrounding surface may result. It is recommended that the exposed surfaces be masked before applying primer. If area outside of joint is contaminated with P-120, or if cracks appear in the primer film, too heavy a coat was applied, it should be removed immediately with mineral spirits and reapplied.

Application: It is essential that surfaces be clean, dry and free of all contaminating substances prior to application. Fresh concrete or mortar should be thoroughly cured and dry before application of Pecora P-120.

When resealing surfaces formally sealed with oil base or other mastics, all traces of old material should be removed. If oil has been absorbed by masonry, sandblasting or cutting back of joints may be necessary.

Clean surfaces with mineral spirits. Brushes, rags and solvents used for cleaning should be free of oil and grease.

Drying Time: Primer must be dry before application of sealant. At normal temperature and humidity, the primer should be allowed to air dry for 60 to 90 minutes. Low humidity requires a longer drying time. The drying time necessary for specific application is best determined by experimentation.

Precautions: Flammable. Keep away from heat, sparks, and flame. Use only in well-ventilated areas. MAY FORM FLAMMABLE OR EXPLOSIVE VAPOR – AIR MIXTURE DURING USE. MAY CAUSE EYE, SKIN, OR RESPIRATORY TRACT IRRITATION, OR ALLERGIC REACTION. Do not breathe fumes, dust, vapors, or mist. Keep container closed when not in use. HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. Inhalation causes headache, drowsiness, or other effects to the central nervous system. Kidney or liver damage can occur. CONTAINS MATERIAL THAT MAY ADVERSELY AFFECT THE DEVELOPING FETUS. Use only with adequate ventilation or wear an appropriate NIOSH-approved respirator. Do not get in eyes, on skin, or on clothing. Wear suitable chemical resistant gloves. Wash thoroughly after handling. DANGER: HARMFUL OR FATAL IF SWALLOWED. REPEATED CONTACT MAY, WITHOUT SYMPTOMS, INCREASE SUSCEPTIBILITY OF THESE EFFECTS.

THIS MATERIAL IS FLAMMABLE, KEEP AWAY FROM SPARKS AND FLAME! KEEP OUT OF THE REACH OF CHILDREN.

COVERAGE RATES:

Joint Size	Lineal Feet per Gallon
1/4" x 1/4"	2400
3/8" x 3/8"	1800
1/2" x 1/2"	1200

Shipping Limitations:

- DOT Classification: Flammable

5. AVAILABILITY AND COST

Pecora products are available from stocking distributors nationwide. For the name and telephone number of your nearest representative, call the number below or visit our website at www.pecora.com.

6. WARRANTY

Pecora Corporation warrants its products to be free of defects. Under this warranty, we will provide, at no charge, replacement materials for, or refund the purchase price of, any product proven to be defective when used in strict accordance with our published recommendations and in applications considered by us as suitable for this product. The determination of eligibility for this warranty, or the choice of remedy available under this warranty, shall be made in our sole discretion and any decisions made by Pecora Corporation shall be final. This warranty is in lieu of any and all other warranties, expressed or implied, including but not limited to a warranty of merchantability or fitness for a particular purpose and in no case will

TYPICAL PHYSICAL PROPERTIES

Test Property	Value	Test Procedure
Viscosity	1 cps @ 75°F	ASTM D2196
Color	Clear	Pecora
Solids	4%	ASTM D4209
Specific Gravity	0.76	
Lbs./Gal.	6.31	
Flash Point (°F, T.C.C.)	50	ASTM D4209
Package Stability	12 months in unopened containers	
Cleaning	Mineral Spirits	
VOC g/L	748[1]	ASTM D3960

[1]Not for use on non-porous surfaces in areas requiring VOC levels less than those listed. Always consult local VOC regulations before use.

Pecora be liable for damages other than those expressly stated in this warranty, including but not limited to incidental or consequential damages.

7. TECHNICAL SERVICES

Local Pecora representatives are available to assist you in selecting an appropriate product and to provide on-site application instructions or to conduct job-site inspections. For further information and assistance, please call our Technical Services department at 215-723-6051 or 800-523-6688.

8. FILING SYSTEMS

http://www.4specs.com

07 10 00 Waterproofing
07 92 00 Sealants

PEC 143
4/16
165 Wambold Road, Harleysville, PA 19438
Phone: 800-523-6688 • 215-723-6051 • FAX: 215-721-0286

Primer Selection & Usage Guide

Primer Selection by Application

Product Description

Porous Surface Primers

Vulkem® Primer #171 – Urethane sealants, deck coatings, and TREMproof® membranes (Not for use in Canada)

Vulkem 191 Primer- Urethane sealants, deck coatings and TREMproof membranes

TREMprime® Silicone Porous Primer – Silicone sealants

TREMprime Multi-Surface Urethane Primer – Urethane coatings

TREMprime VB Primer – Vulkem coatings, urethane and PUMA technology

Non-Porous Surface Primers

TREMprime Silicone Metal Primer – Silicone sealants

TREMprime Non-Porous Primer – Urethane sealants, coatings and TREMproof membranes

Urethane Tie-Ins

Vulkem 191 Primer – Urethane sealants, coatings and TREMproof membranes

TREMprime Multi-Surface Urethane Primer – Urethane coatings

Tremco Epoxy Primer – Below-grade waterproofing and urethane deck coatings to air barrier systems

Hot Applied Membrane Specific Primers

TREMprime WB

TREMprime QD Low-Odor Primer

TREMprime LV Primer

Self-Adhered Air Barrier Membrane Primer

ExoAir Primer

General Application Guidelines

Detailed instructions specific to each primer are listed below.

Tremco Silicone Metal Primer

Usage: Non-porous surfaces, silicone sealants. A one-component primer used to enhance adhesion of silicone sealants on non-porous surfaces such as metals and plastics. Tremco Silicone Metal Primer is also approved for Structural Glazing applications. Apply with a clean cloth. Remove all excess primer from cloth to ensure a very thin layer is applied. Dry time is 15 min at 70 °F (21 ˚C). Primer must be completely dry before applying sealant. Silicone sealants can be applied up to 6 hr after primer has been applied. After 6 hr, the surface must be cleaned with IPA and reprimed with Tremco Silicone Metal Primer.

Coverage Rate: 1400 to 1800 ft²/gal

Packaging: 1-pt (473-mL) can

TREMprime WB

Usage: Porous and non-porous surfaces, TREMproof 6100, 6100BM and 6145. High-solids, water-based primer for use in preparing porous and non-porous surfaces for application of TREMproof 6100, 6100BM and 6145. Apply with roller or airless spray equipment.

Coverage Rate: Concrete: 150 to 300 ft²/gal; Metal: 300 to 350 ft²/gal

Packaging: 5-gal (18.9- L) pails

TREMprime Silicone Porous Primer

Usage: Porous surfaces, silicone sealants. One-component primer used to enhance adhesion of silicone sealant to porous surfaces such as concrete and limestone. Apply generously with a clean cloth. Dry time is 30 to 45 min at 70 °F (21˚C). Primer must be completely dry before applying sealant. Silicone sealants can be applied up to 8 hr after primer has been applied. After 8 hr, the surface must be cleaned with IPA and reprimed with TREMprime Silicone Porous Primer.

Coverage Rate: 500 to 600 ft²/gal.; 9600 ft/gal (1/2" wide band)

Packaging: 1-pt (473-mL) can

TREMprime Non-Porous Primer

Usage: Non-porous surfaces and urethane sealants. A low-VOC, water-based, quick-drying, one-part primer. TREMprime Non-Porous Primer is not a film-forming primer. It is used as an adhesion promoter for urethane sealants and coatings on non-porous surfaces such as metals and plastics. Apply with a clean cloth. Remove all excess primer from cloth to ensure a very thin layer is applied. Dry time is 15 min at 70 °F (21˚C). Primer must be completely dry before applying sealant or coating. Urethane sealants and coatings can be applied up to 8 hr after primer has been applied. After 8 hr, the surface must be cleaned with a Tremco approved solvent and reprimed with TREMprime Non-Porous Primer.

Coverage Rate: 1400 to 1800 ft²/gal

Packaging: 1-qt (946-mL) can

1-gal (3.8-L) pails

Vulkem Primer #171 (Not for use in Canada and OTC states)

Usage: Porous surfaces, urethane sealants, Vulkem Coating Systems and TREMproof membranes. Quick-drying, one-part, moisture-curing primer. It is used as an adhesion promoter for Vulkem brand urethane sealants and coatings and TREMproof membranes on porous surfaces such as concrete and wood. Apply generously with a clean brush or roller. Do not apply in excess where it will puddle or pond. At 70 °F (21˚C), allow 30 to 45 min for primer to become tacky before applying sealant, coating or membrane. Do not allow primer to dry completely. Do not apply sealant or coating if primer becomes hard or glossy. If it does, clean with a Tremco approved solvent and coat with Vulkem 191 Primer.

Coverage Rate: 100 to 600 ft²/gal

Packaging: 1-qt (946-mL) can

1-gal (3.8-L) pails

5-gal (18.9-L) pails

TREMprime Multi-Surface Urethane Primer

Usage: Porous surfaces, interlaminary, urethane coatings. Low-VOC (<60 g/L), two-part epoxy primer used to condition and prep porous surfaces and existing coatings for application of a new coating layer. Apply with a short nap roller or brush evenly to the surface. Primer must dry completely before coating application as indicated by turning from milky-white to completely clear.

Coverage Rate: 200 to 300 ft²/gal

Packaging: 3-gal (11.4- L) kits:

Part A: 2-gal (7.6 L) can

Part B: 1-gal (3.8 L) can

Vulkem 191 Primer

Usage: Porous surfaces, interlaminary, urethane sealants, coatings and TREMproof membranes. It is used to prepare surfaces of cured urethane sealants, coatings and TREMproof membranes that will be sealed with a fresh coat. Apply with a clean brush or roller. Do not apply in excess or allow to puddle. Use a short nap roller only. Dry time is 25 to 45 min at 70 °F (21˚C). Apply coating or sealant within 1 to 2 hr after application when primer is still tacky but does not come off substrate. Primer will yellow with time if left exposed. Do not apply in excess to other substrates not intended to be coated. Do not apply sealant or coating if primer becomes hard or glossy. If it does, clean with a Tremco approved solvent and reprime with Vulkem 191 Primer.

Coverage Rate: 400 to 450 ft²/gal for interlaminary applications. VOC-compliant.

Packaging: 1-qt (946-mL) can

1-gal (3.8-L) pails

5-gal (18.9-L) pails

TREMprime VB

Usage: Two-component, epoxy-based, solvent-free vapor barrier primer for mitigating vapor drive caused by moisture in concrete for use with our Vulkem coatings, including Vulkem EWS.

Coverage Rate: For concrete RH of 88% or above, two coats of TREMprime VB are required.

When applied in one coat, 1 gal / 100 sq. ft. (16 mils).

When applied in two coats, 1 gal / 100 sq. ft. (16 mils) each, 20-40 mesh silica sand broadcast into second coat until refusal.

Packaging: 3.6-gal (13.6-L) kits:
Part A - 2.4-gal (9.08 L) pail
Part B - 1.2-gal (4.54 L) pail

TREMprime QD Low-Odor Primer

Usage: Porous and non-porous surfaces, TREMproof 6100, and 6145. High-solids, solvent-based modified bituminous roofing primer for use in preparing porous and non-porous surfaces for application of TREMproof 6100 and 6145.

Coverage Rate: Concrete: 150 to 300 ft²/gal; Metal: 300 to 350 ft²/gal

Packaging: 5-gal (18.9- L) pails

TREMprime LV Primer

Usage: Porous and non-porous surfaces for application of Tremco hot-applied asphaltic fluids. Solvent-based modified bituminous roofing primer promotes adhesion of Tremco asphaltic hot-applied fluids such as TREMproof 6100. Can be used on a variety of surfaces, such as concrete, masonry and metal. Apply using brush, short-nap roller or airless spray system.

Coverage Rate: 200 to 400 ft²/gal

Packaging: 5-gal (18.9- L) pails

ExoAir Primer

Usage: ExoAir Primer is specifically formulated for use with the ExoAir membranes. It can be used on porous and non-porous substrates. Surfaces to be primed should be dry, clean, smooth, firm, free of dust, mud, loose mortar, or any other substance that may prevent placement and bonding of the ExoAir membrane. Allow the ExoAir Primer to develop a tack, non-transferrable film (typically 15 to 30 min) prior to installing any membrane. Prime only those surfaces that will be completed that day.

Coverage Rate: Approximately 250 ft²/gal (6 m²/L), depending on porosity and texture of substrate.

Packaging: 5-gal (18.9- L) pails

Color: Green

TREMprime HR Primer

Usage: Porous and non-porous surfaces for application of Tremco hot-applied asphaltic fluids. Solvent-based modified bituminous primer promotes adhesion of Tremco asphaltic hot-applied fluids such as TREMproof 6100 and TREMproof 6100BM.It is a multi-purpose primer and can be used on a variety of surfaces, such as concrete, masonry, metal, gypsum, and new or weathered bituminous surfaces. Apply using a brush, short nap roller or airless spray system.

Coverage Rate: 200 to 400 ft²/gal

Packaging: 5-gal (18.9- L) pails

Availability

Immediately available from your local Tremco Sales Representative, Tremco Distributor or Tremco Warehouse.

Coverage Rates

All coverage rates listed are approximate and may differ depending upon texture of the substrate finish.

Colors

Colors of the primers will vary depending on primer.

Fire Rated Systems

- None presently listed. For firestop engineering judgement requests please visit www.tremcosealants.com or contact Tremco Technical Services at 866-209-2404.

Limitations

- All surfaces must be sound, clean, dry and free from contamination. A thorough wire brushing, grinding, sandblasting or solvent cleaning may be required to expose clean, sound, virgin surfaces.
- Any questions regarding drying times, coverage rates and unique application techniques regarding the individual primers should be directed to Tremco Technical Services or your local Tremco Sales Representative.
- Do not apply over contaminated or damp surfaces.
- Do not thin.

Warranty

Tremco warrants its Products to be free of defects in materials but makes no warranty as to appearance or color. Since methods of application and on-site conditions are beyond our control and can affect performance, Tremco makes no other warranty, expressed or implied, including warranties of MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE with respect to Tremco Products. Tremco's sole obligation shall be, at its option, to replace or to refund the purchase price of the quantity of Tremco Products proven to be defective, and Tremco shall not be liable for any loss or damage.

Please refer to our website at www.tremcosealants.com for the most up-to-date Product Data Sheets.

NOTE: All Tremco Safety Data Sheets (SDS) are in alignment with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) requirements.

Tremco Commercial Sealants & Waterproofing

3735 Green Rd
Beachwood OH 44122
216.292.5000 / 800.321.7906

1451 Jacobson Ave
Ashland OH 44805
419.289.2050 / 800.321.6357

220 Wicksteed Ave
Toronto ON M4H1G7
416.421.3300 / 800.363.3213

1445 Rue de Coulomb
Boucherville QC J4B 7L8
514.521.9555

www.tremcosealants.com

SAFETY DATA SHEET

1. Identification

Material name: TREMprime Silicone Porous Primer
Material: 943303 506

Recommended use and restriction on use

Recommended use: Coatings
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information
Tremco U.S Sealants
3735 Green Road
Beachwood OH 44122
US

Contact person:	EH&S Department
Telephone:	216-292-5000
Emergency telephone number:	1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids	Category 2

Health Hazards

Skin Corrosion/Irritation	Category 2
Carcinogenicity	Category 1A
Toxic to reproduction	Category 2

Unknown toxicity - Health

Acute toxicity, oral	26.3 %
Acute toxicity, dermal	27.8 %
Acute toxicity, inhalation, vapor	88.7 %
Acute toxicity, inhalation, dust or mist	98.5 %

Label Elements

Hazard Symbol:

Signal Word:	Danger
Hazard Statement:	Highly flammable liquid and vapor. Causes skin irritation. May cause cancer. Suspected of damaging fertility or the unborn child.
Precautionary Statements	
Prevention:	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof [electrical/ventilating/lighting/…] equipment. Use non-sparking tools. Take action to prevent static discharges. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. 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 ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. If skin irritation occurs: Get medical advice/attention. IF exposed or concerned: Get medical advice/attention. Specific treatment (see on this label). Take off contaminated clothing. In case of fire: Use… to extinguish.
Storage:	Store in a well-ventilated place. Keep cool. 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.
Hazard(s) not otherwise classified (HNOC):	Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Acetone	67-64-1	40 - 70%
Toluene	108-88-3	10 - 30%
Tetraethoxysilane	78-10-4	1 - 5%
Ethyl alcohol	64-17-5	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:	Take off immediately all contaminated clothing. Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. Get medical attention.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

Most important symptoms/effects, acute and delayed

Symptoms:	Respiratory tract irritation. Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping.

Indication of immediate medical attention and special treatment needed

Treatment:	Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards:	Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media:	Avoid water in straight hose stream; will scatter and spread fire.
Specific hazards arising from the chemical:	Vapors may travel considerable distance to a source of ignition and flash back. Vapors may cause a flash fire or ignite explosively. Prevent buildup of vapors or gases to explosive concentrations.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	No data available.
Special protective equipment for fire-fighters:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind. See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.

Methods and material for containment and cleaning up:	Dam and absorb spillages with sand, earth or other non-combustible material. 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:	Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling:	Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground and bond container and receiving equipment. Take precautionary measures against static discharges. Avoid contact with skin. Wash hands thoroughly after handling.
Conditions for safe storage, including any incompatibilities:	Store locked up. Store in a well-ventilated place. Store in a cool place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Acetone	TWA	250 ppm	US. ACGIH Threshold Limit Values (03 2015)
	STEL	500 ppm	US. ACGIH Threshold Limit Values (03 2015)
	PEL	1,000 ppm 2,400 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Toluene	TWA	20 ppm	US. ACGIH Threshold Limit Values (2011)
	TWA	200 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	Ceiling	300 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	MAX. CONC	500 ppm	US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
Tetraethoxysilane	TWA	10 ppm	US. ACGIH Threshold Limit Values (2011)
	PEL	100 ppm 850 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Ethyl alcohol	STEL	1,000 ppm	US. ACGIH Threshold Limit Values (2011)
	PEL	1,000 ppm 1,900 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

Chemical name	Type	Exposure Limit Values	Source
Acetone	STEL	500 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	250 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation

			296/97, as amended) (07 2007)
Acetone	TWA	500 ppm 1,190 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
	STEL	1,000 ppm 2,380 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Acetone	TWA	250 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (08 2017)
	STEL	500 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (08 2017)
Toluene	TWA	20 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Toluene	TWA	20 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Toluene	TWA	50 ppm 188 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Tetraethoxysilane	TWA	10 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Tetraethoxysilane	TWA	10 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Tetraethoxysilane	TWA	10 ppm 85 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Ethyl alcohol	STEL	1,000 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Ethyl alcohol	STEL	1,000 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Ethyl alcohol	TWA	1,000 ppm 1,880 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
Acetone (acetone: Sampling time: End of shift.)	25 mg/l (Urine)	ACGIH BEI (03 2015)
Toluene (o-Cresol, with hydrolysis: Sampling time: End of shift.)	0.3 mg/g (Creatinine in urine)	ACGIH BEI (03 2013)
Toluene (toluene: Sampling time: Prior to last shift of work week.)	0.02 mg/l (Blood)	ACGIH BEI (03 2013)
Toluene (toluene: Sampling time: End of shift.)	0.03 mg/l (Urine)	ACGIH BEI (03 2013)

Appropriate Engineering Controls

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

General information:	Use explosion-proof ventilation equipment. 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 easy access to water supply and eye wash facilities.
Eye/face protection:	Wear safety glasses with side shields (or goggles).
Skin Protection	
Hand Protection:	Use suitable protective gloves if risk of skin contact.
Other:	Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.
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. When using do not smoke. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash contaminated clothing before reuse. Avoid contact with skin.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Colorless
Odor:	Mild petroleum/solvent
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	56 °C 133 °F
Flash Point:	-18 °C 0 °F(Pensky-Martens Closed Cup)
Evaporation rate:	Slower than Ether
Flammability (solid, gas):	No
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	13 %(V)
Flammability limit - lower (%):	2.3 %(V)
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:	0.9
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:	Heat, sparks, flames.
Incompatible Materials:	Strong acids. Avoid contact with oxidizing agents (e.g. nitric acid, peroxides and chromates). Strong bases.
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

Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Causes skin irritation.
Eye contact:	Eye contact is possible and should be avoided.
Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 122,833.5 mg/kg

Dermal
Product: ATEmix: 144,400 mg/kg

Inhalation
Product: Not classified for acute toxicity based on available data.

Specified substance(s):

Acetone	LC 50 (Rat): 50.1 mg/l
Toluene	LC 50 (Rat): 25.7 mg/l
Ethyl alcohol	LC 50 (Rat): 116.9 mg/l

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Specified substance(s):

Acetone	in vivo (Rabbit): Not irritant Experimental result, Supporting study
Toluene	in vivo (Rabbit): Irritating Experimental result, Key study
Ethyl alcohol	in vivo (Rabbit): Not irritant Experimental result, Key study

Serious Eye Damage/Eye Irritation
Product: No data available.

Specified substance(s):

Acetone	Irritating
Toluene	Rabbit, 24 - 72 hrs: Not irritating
Tetraethoxysilane	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:

Ethyl alcohol	Overall evaluation: Carcinogenic to humans. Overall evaluation: Carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:
Ethyl alcohol 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: Suspected of damaging fertility or the unborn child.

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):

Acetone	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 5,490 - 7,030 mg/l Mortality
Toluene	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 20.5 - 23.8 mg/l Mortality
Ethyl alcohol	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 13,480 mg/l Mortality

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Acetone	EC 50 (Water flea (Daphnia magna), 48 h): 10,294 - 17,704 mg/l Intoxication
Toluene	LC 50 (Water flea (Daphnia magna), 24 h): 240 - 420 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Toluene	LOAEL (Oncorhynchus kisutch, 40 d): 2.77 mg/l Experimental result, Key study NOAEL (Pimephales promelas, 32 d): 4 mg/l Experimental result, Supporting study LOAEL (Pimephales promelas, 32 d): 6 mg/l Experimental result, Supporting study NOAEL (Oncorhynchus kisutch, 40 d): 1.39 mg/l Experimental result, Key study

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.

Specified substance(s):

Toluene	Green algae (Selenastrum capricornutum), Bioconcentration Factor (BCF): 3,016 (Static)

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Specified substance(s):

Acetone	Log Kow: -0.24
Toluene	Log Kow: 2.73
Ethyl alcohol	Log Kow: -0.31

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:

UN1139, COATING SOLUTION, 3, PG II

CFR / DOT:

UN1139, Coating solution, 3, PG II

IMDG:

UN1139, COATING SOLUTION, 3, PG II

Further Information:

The above shipping description may not be accurate for all container sizes and all modes of transportation. Please refer to Bill of Lading.

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)

Chemical Identity	OSHA hazard(s)
Benzene	Blood respiratory tract irritation Central nervous system Flammability Cancer Skin Aspiration Eye

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
Acetone	5000 lbs.
Toluene	1000 lbs.
Ethyl alcohol	100 lbs.
Benzene	10 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Fire Hazard
Immediate (Acute) Health Hazards
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
Acetone	5000 lbs.
Toluene	1000 lbs.
Ethyl alcohol	100 lbs.
Benzene	10 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
Acetone	10000 lbs
Toluene	10000 lbs
Tetraethoxysilane	10000 lbs
Ethyl alcohol	10000 lbs

SARA 313 (TRI Reporting)

Chemical Identity
Toluene

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

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.

US State Regulations

US. California Proposition 65

WARNING
Cancer and Reproductive Harm - www.P65Warnings.ca.gov

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
Acetone
Toluene
Tetraethoxysilane
Ethyl alcohol

US. Massachusetts RTK - Substance List

Chemical Identity
Acetone
Toluene
Tetraethoxysilane
Benzene

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
Acetone
Toluene
Tetraethoxysilane

US. Rhode Island RTK

Chemical Identity
Acetone
Toluene
Tetraethoxysilane

International regulations

Montreal protocol
Not applicable

Stockholm convention
Not applicable

Rotterdam convention
Not applicable

Kyoto protocol
Not applicable

VOC:

Regulatory VOC (less water and exempt solvent)	:	252 g/l
VOC Method 310	:	11.30 %

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:	11/30/2018
Version #:	1.2
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.

Tremco Incorporated
3735 Green Road Beachwood, OH 44122 216.292.5000 www.tremcosealants.com

TREMCO®
Commercial Sealants & Waterproofing

January 22, 2019

To Whom It May Concern:

RE: TREMprime Silicone Porous Primer—Green Building Product Information (LEED v4 Information)

Tremco Incorporated is an organization that is committed to quality, our employees, and our environment. We are responsive to both internal and external customers, and we pledge to treat everyone with good stewardship and respect.

Tremco Incorporated certifies the following for TREMprime Silicone Porous Primer:

Building Product Disclosure and Optimization:

TREMprime Silicone Porous Primer is manufactured in Munich, Germany.

No single extracted material is used to produce the majority of this product.

Recycled content for TREMprime Silicone Porous Primer is not available, and for the purposes of LEED reporting should be assumed to be zero.

Low Emitting Materials - VOC Content Information:

TREMprime Silicone Porous Primer is a silicone sealant primer with a VOC content of 252g/L equaling 11% as applied/mixed. As such, VOC levels are lower than the limits set by SCAQMD rule 1168.

Green Chemistry:

Tremco Incorporated is dedicated to the environment and prides itself on making its products as sustainable as possible.

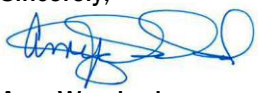
Manufacture Inventory:

Material description or Role	CAS number	Value	GHS Hazard
Acetone	67-64-1		
Adhesion Promoter		20-60%	Non-Hazardous
Toluene	108-88-3		
Adhesion Promoter		<15%	Non-Hazardous
Tetraethoxysilane	78-10-4		
Adhesion Promoter		<5%	Non-Hazardous
Ethyl alcohol	64-17-5		

Additional Information:

Should you have any questions or require additional information, please do not hesitate to contact Technical Services or your local Tremco Field Representative.

Sincerely,



Amy Woodard
Manager
Compliance and Regulatory

Vulkem® Primer #171

Porous Surface Primer (Not for use in Canada and OTC states)

Product Description

Vulkem® Primer #171 is a quick-drying, one-part, moisture-curing primer that enhances adhesion to concrete, plywood and other porous substrates where Vulkem® urethane sealants, membranes or coatings will be applied. NOT for use in Canada and OTC states.

Basic Uses

It is used as an adhesion promoter for Vulkem brand urethane sealants and coatings and TREMproof membranes on porous surfaces such as concrete and wood.

Coverage Rate

100 to 600 ft²/gal

Packaging

1-qt (946-mL) can
1-gal (3.8-L) pails
5-gal (18.9-L) pails

Availability

Immediately available from your local Tremco Sales Representative, Tremco Distributor or Tremco Warehouse.

Storage

Store indoors, protected from moisture, at temperatures between 50°F and 90°F (10°C and 32°C) and out of direct sunlight.

Limitations

- All surfaces must be sound, clean, dry and free from contamination. A thorough wire brushing, grinding, sandblasting or solvent cleaning may be required to expose clean, sound, virgin surfaces.
- Any questions regarding drying times, coverage rates and unique application techniques regarding the individual primers should be directed to Tremco Technical Services or your local Tremco Sales Representative.
- Do not apply over contaminated or damp surfaces.
- Do not thin.

Application

Apply generously with a clean brush or roller. Do not apply in excess where it will puddle or pond. At 70 °F (21˚C), allow 30 to 45 min for primer to become tacky before applying sealant, coating or membrane. Do not allow primer to dry completely. Do not apply sealant or coating if primer becomes hard or glossy. If it does, clean with a Tremco approved solvent and coat with Vulkem 191 Primer.

Warranty

Tremco warrants its Products to be free of defects in materials, but makes no warranty as to appearance or color. Since methods of application and on-site conditions are beyond our control and can affect performance, Tremco makes no other warranty, expressed or implied, including warranties of MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE, with respect to Tremco Products. Tremco's sole obligation shall be, at its option, to replace or to refund the purchase price of the quantity of Tremco Product proven to be defective, and Tremco shall not be liable for any loss or damage.

Please refer to our website at www.tremcosealants.com for the most up-to-date Product Data Sheets.

NOTE: All Tremco Safety Data Sheets (SDS) are in alignment with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) requirements.

TYPICAL PHYSICAL PROPERTIES

PROPERTY @ 75°F, 50% RH	TYPICAL VALUE
Solids	42% by weight
Viscosity	200 to 300 cP
Storage Temperature Range	50 °F (10 °C) minimum to 90 °F (32 °C) maximum

0419/V171DS-DC

Tremco Commercial Sealants & Waterproofing

3735 Green Rd
Beachwood OH 44122
216.292.5000 / 800.321.7906

1451 Jacobson Ave
Ashland OH 44805
419.289.2050 / 800.321.6357

220 Wicksteed Ave
Toronto ON M4H1G7
416.421.3300 / 800.363.3213

1445 Rue de Coulomb
Boucherville QC J4B 7L8
514.521.9555

www.tremcosealants.com

SAFETY DATA SHEET

1. Identification

Material name: Vulkem® 171 PRIMER
Material: 271171 817

Recommended use and restriction on use

Recommended use: Coatings
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information

Tremco U.S Sealants
3735 Green Road
Beachwood OH 44122
US

Contact person:	EH&S Department
Telephone:	216-292-5000
Emergency telephone number:	1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids	Category 3

Health Hazards

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2B
Respiratory sensitizer	Category 1
Skin sensitizer	Category 1
Germ Cell Mutagenicity	Category 1B
Carcinogenicity	Category 1B
Toxic to reproduction	Category 2

Unknown toxicity - Health

Acute toxicity, oral	0.23 %
Acute toxicity, dermal	3.91 %
Acute toxicity, inhalation, vapor	99.88 %
Acute toxicity, inhalation, dust or mist	100 %

Environmental Hazards

Acute hazards to the aquatic environment	Category 3

Unknown toxicity - Environment

Acute hazards to the aquatic environment	65.71 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:

Signal Word: Danger

Hazard Statement: Flammable liquid and vapor.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause genetic defects.
May cause cancer.
Suspected of damaging fertility or the unborn child.
Harmful to aquatic life.
Causes skin and eye irritation.

Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof [electrical/ventilating/lighting/…] equipment. Use non-sparking tools. Take action to prevent static discharges. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Avoid breathing dust/fume/gas/mist/vapors/spray. [In case of inadequate ventilation] wear respiratory protection. Contaminated work clothing should not be allowed out of the workplace. 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 inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. 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 advice/attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. If skin irritation or rash occurs: Get medical advice/attention. IF exposed or concerned: Get medical advice/attention. Specific treatment (see on this label). Wash contaminated clothing before reuse. In case of fire: Use… to extinguish.

Storage: Store in a well-ventilated place. Keep cool. 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.

Hazard(s) not otherwise classified (HNOC): Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Aromatic petroleum distillates	64742-95-6	15 - 40%
1,2,4-Trimethylbenzene	95-63-6	15 - 40%
Xylene	1330-20-7	7 - 13%
1,3,5-Trimethylbenzene	108-67-8	3 - 7%
Ethylbenzene	100-41-4	1 - 5%
Cumene	98-82-8	0.5 - 1.5%
2,4-Toluene diisocyanate	584-84-9	0.1 - 1%
Toluene	108-88-3	0.1 - 1%
4,4'-Methylene bis(phenylisocyanate)	101-68-8	0.1 - 1%
Polymethylene polyphenyl isocyanate	9016-87-9	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: Call a physician or poison control center immediately. If breathing stops, provide artificial respiration. Move to fresh air. If breathing is difficult, give oxygen.

Skin Contact: Take off immediately all contaminated clothing. Get medical attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention.

Most important symptoms/effects, acute and delayed

Symptoms: Respiratory tract irritation. Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: Use water spray to keep fire-exposed containers cool. Water may be ineffective in fighting the fire. Fight fire from a protected location. Move containers from fire area if you can do so without risk.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Avoid water in straight hose stream; will scatter and spread fire.

Specific hazards arising from the chemical: Vapors may travel considerable distance to a source of ignition and flash back. Vapors may cause a flash fire or ignite explosively. Prevent buildup of vapors or gases to explosive concentrations.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: No data available.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind. Evacuate area. See Section 8 of the SDS for Personal Protective Equipment. Keep unauthorized personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and material for containment and cleaning up: Dam and absorb spillages with sand, earth or other non-combustible material. 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.

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. Avoid contact with eyes. Wash hands thoroughly after handling. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground and bond container and receiving equipment. Take precautionary measures against static discharges. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin. Avoid contact with eyes, skin, and clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Store locked up. Store in a well-ventilated place. Store in a cool place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values		Source
1,2,4-Trimethylbenzene	REL	25 ppm	125 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	TWA	25 ppm	125 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	25 ppm	125 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	AN ESL		25 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)
	ST ESL		140 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	ST ESL		700 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (02 2013)
	AN ESL		125 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)
	TWA PEL	25 ppm	125 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010)
	TWA	25 ppm		US. ACGIH Threshold Limit Values (2011)
Xylene	STEL	150 ppm	655 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	REL	100 ppm	435 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	STEL	150 ppm	655 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	REL	100 ppm	435 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	STEL	150 ppm	655 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	REL	100 ppm	435 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	STEL	150 ppm	655 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	100 ppm	435 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)

	TWA	100 ppm	435 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	STEL	150 ppm	655 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
	ST ESL		350 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)
	ST ESL		80 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)
	AN ESL		42 ppb	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)
	AN ESL		180 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)
	STEL	150 ppm	655 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010)
	Ceiling	300 ppm		US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010)
	TWA PEL	100 ppm	435 mg/m3	US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010)
	TWA	100 ppm		US. ACGIH Threshold Limit Values (2011)
	STEL	150 ppm		US. ACGIH Threshold Limit Values (2011)
	PEL	100 ppm	435 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
1,3,5-Trimethylbenzene	TWA	25 ppm		US. ACGIH Threshold Limit Values (2011)
Ethylbenzene	TWA	20 ppm		US. ACGIH Threshold Limit Values (2011)
	PEL	100 ppm	435 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Cumene	TWA	50 ppm		US. ACGIH Threshold Limit Values (2011)
	PEL	50 ppm	245 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
2,4-Toluene diisocyanate - Inhalable fraction and vapor.	STEL	0.005 ppm		US. ACGIH Threshold Limit Values (03 2016)
	TWA	0.001 ppm		US. ACGIH Threshold Limit Values (03 2016)
2,4-Toluene diisocyanate	Ceiling	0.02 ppm	0.14 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Toluene	TWA	20 ppm		US. ACGIH Threshold Limit Values (2011)
	TWA	200 ppm		US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	Ceiling	300 ppm		US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
	MAX. CONC	500 ppm		US. OSHA Table Z-2 (29 CFR 1910.1000) (02 2006)
4,4'-Methylene bis(phenylisocyanate)	TWA	0.005 ppm		US. ACGIH Threshold Limit Values (2011)
	Ceiling	0.02 ppm	0.2 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

Chemical name	Type	Exposure Limit Values		Source
1,2,4-Trimethylbenzene	TWA	25 ppm	123 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
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	TWA	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) (09 2017)
Xylene	TWA	100 ppm	434 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
	STEL	150 ppm	651 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
Xylene	TWA	100 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	STEL	150 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Xylene	TWA	100 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	STEL	150 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Xylene	STEL	150 ppm	651 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
	TWA	100 ppm	434 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
1,3,5-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)
1,3,5-Trimethylbenzene	TWA	25 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
1,3,5-Trimethylbenzene	TWA	25 ppm	123 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Ethylbenzene	TWA	20 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (09 2011)
Ethylbenzene	TWA	20 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Ethylbenzene	STEL	125 ppm	543 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
	TWA	100 ppm	434 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Cumene	STEL	75 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	25 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)

Cumene	TWA	50 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Cumene	TWA	50 ppm 246 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
2,4-Toluene diisocyanate	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
2,4-Toluene diisocyanate	TWA	0.005 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
2,4-Toluene diisocyanate	TWA	0.005 ppm 0.036 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
	STEL	0.02 ppm 0.14 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Toluene	TWA	20 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Toluene	TWA	20 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Toluene	TWA	50 ppm 188 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
4,4'-Methylene bis(phenylisocyanate)	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
4,4'-Methylene bis(phenylisocyanate)	TWA	0.005 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
	CEV	0.02 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
4,4'-Methylene bis(phenylisocyanate)	TWA	0.005 ppm 0.051 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (09 2017)
Polymethylene polyphenyl isocyanate	TWA	0.005 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	CEILING	0.01 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)

Biological Limit Values

Chemical Identity	Exposure Limit Values	Source
Xylene (Methylhippuric acids: Sampling time: End of shift.)	1.5 g/g (Creatinine in urine)	ACGIH BEI (03 2013)
Ethylbenzene (Sum of mandelic acid and phenylglyoxylic acid: Sampling time: End of shift.)	0.15 g/g (Creatinine in urine)	ACGIH BEI (02 2014)
2,4-Toluene diisocyanate (Toluene diamine (sum of 2,4- and 2,6-isomers), with hydrolysis: Sampling time: End of shift.)	5 µg/g (Creatinine in urine)	ACGIH BEI (03 2018)
Toluene (o-Cresol, with hydrolysis: Sampling time: End of shift.)	0.3 mg/g (Creatinine in urine)	ACGIH BEI (03 2013)
Toluene (toluene: Sampling time: Prior to last shift of work week.)	0.02 mg/l (Blood)	ACGIH BEI (03 2013)
Toluene (toluene: Sampling time: End of shift.)	0.03 mg/l (Urine)	ACGIH BEI (03 2013)

Appropriate Engineering Controls Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

General information: Use explosion-proof ventilation equipment. 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 easy access to water supply and eye wash facilities.

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin Protection

Hand Protection: Use suitable protective gloves if risk of skin contact.

Other: Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

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. Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Hygiene measures:	Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. When using do not smoke. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash contaminated clothing before reuse. Avoid contact with skin. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Colorless
Odor:	Mild petroleum/solvent
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	> 121 °C > 250 °F
Flash Point:	34 °C 94 °F(Setaflash Closed Cup)
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:	0.96
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:	Heat, sparks, flames.
Incompatible Materials:	Alcohols. Amines. Strong acids. Strong bases. Water, moisture.
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

Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Causes skin irritation. May cause an allergic skin reaction.
Eye contact:	Causes eye irritation.
Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 13,004.3 mg/kg

Dermal
Product: ATEmix: 8,805.65 mg/kg

Inhalation
Product: Not classified for acute toxicity based on available data.

Specified substance(s):

1,2,4-Trimethylbenzene	LC 50 (Rat): 10,200 mg/m3
1,3,5-Trimethylbenzene	LC 50 (Rat): 10,200 mg/m3
2,4-Toluene diisocyanate	LC 50 (Rat): 14 mg/l
Toluene	LC 50 (Rat): 25.7 mg/l

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: No data available.

Specified substance(s):

Aromatic petroleum distillates	in vivo (Rabbit): Irritating Experimental result, Key study
1,2,4-Trimethylbenzene	in vivo (Rabbit): Irritating Read-across from supporting substance (structural analogue or surrogate), Key study
Xylene	in vivo (Rabbit): Moderate irritant Experimental result, Weight of Evidence study
1,3,5-Trimethylbenzene	in vivo (Rabbit): Irritating Experimental result, Key study
Cumene	in vivo (Rabbit): Not irritant Experimental result, Key study
2,4-Toluene diisocyanate	in vivo (Rabbit): Moderately irritating Experimental result, Supporting study
Toluene	in vivo (Rabbit): Irritating Experimental result, Key study
4,4'-Methylene bis(phenylisocyanate)	in vivo (Rabbit): Irritating Read-across based on grouping of substances (category approach), Key study

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

Aromatic petroleum distillates	Rabbit, 24 - 72 hrs: Not irritating

1,2,4-Trimethylbenzene	Rabbit, 30 min: Not irritating
Xylene	Rabbit, 24 hrs: Moderately irritating
1,3,5-Trimethylbenzene	Rabbit, 30 min: Not irritating
Ethylbenzene	Rabbit, 7 d: Slightly irritating
Cumene	Rabbit, 24 hrs: Not irritating
2,4-Toluene diisocyanate	Rabbit, 24 - 72 hrs: Category 2
Toluene	Rabbit, 24 - 72 hrs: Not irritating

Respiratory or Skin Sensitization

Product: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause sensitization by inhalation.

Carcinogenicity

Product: May cause cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Ethylbenzene	Overall evaluation: Possibly carcinogenic to humans.
Cumene	Overall evaluation: Possibly carcinogenic to humans.
2,4-Toluene diisocyanate	Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

Cumene	Reasonably Anticipated to be a Human Carcinogen.
2,4-Toluene diisocyanate	Reasonably Anticipated to be a 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: Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specified substance(s):

Cumene	Inhalation - vapor: Category 3 with respiratory tract irritation.

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):

1,2,4-Trimethylbenzene	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 7.19 - 8.28 mg/l Mortality
Xylene	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 13.41 mg/l Mortality
Ethylbenzene	LC 50 (Rainbow trout,donaldson trout (Oncorhynchus mykiss), 96 h): 4.2 mg/l Mortality
Cumene	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 6.04 - 6.61 mg/l Mortality
2,4-Toluene diisocyanate	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 108.8 - 240.4 mg/l Mortality
Toluene	LC 50 (Fathead minnow (Pimephales promelas), 96 h): 20.5 - 23.8 mg/l Mortality

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Ethylbenzene	EC 50 (Water flea (Daphnia magna), 48 h): 1.37 - 4.4 mg/l Intoxication
Cumene	LC 50 (Water flea (Daphnia magna), 48 h): 7.9 - 45.1 mg/l Mortality
Toluene	LC 50 (Water flea (Daphnia magna), 24 h): 240 - 420 mg/l Mortality

Chronic hazards to the aquatic environment:

Fish

Product:	No data available.
Specified substance(s):	
Toluene	LOAEL (Oncorhynchus kisutch, 40 d): 2.77 mg/l Experimental result, Key study NOAEL (Pimephales promelas, 32 d): 4 mg/l Experimental result, Supporting study LOAEL (Pimephales promelas, 32 d): 6 mg/l Experimental result, Supporting study NOAEL (Oncorhynchus kisutch, 40 d): 1.39 mg/l Experimental result, Key study

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.
Specified substance(s):	
Toluene	Green algae (Selenastrum capricornutum), Bioconcentration Factor (BCF): 3,016 (Static)

Partition Coefficient n-octanol / water (log Kow)

Product:	No data available.
Specified substance(s):	
Xylene	Log Kow: 3.12 - 3.20
Ethylbenzene	Log Kow: 3.15
Cumene	Log Kow: 3.66
Toluene	Log Kow: 2.73

Mobility in soil: No data available.

Other adverse effects: Harmful to aquatic organisms.

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:

UN1133, ADHESIVES, 3, PG III

CFR / DOT:

UN1133, Adhesives, 3, PG III

IMDG:

UN1133, ADHESIVES, 3, PG III

Further Information:

The above shipping description may not be accurate for all container sizes and all modes of transportation. Please refer to Bill of Lading.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Chemical Identity	Reportable quantity
2,4-Toluene diisocyanate	De minimis concentration: TSCA 5(a)(2)% One-Time Export Notification only.

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
Xylene	100 lbs.
Ethylbenzene	1000 lbs.
Cumene	5000 lbs.
2,4-Toluene diisocyanate	100 lbs.
Toluene	1000 lbs.
4,4'-Methylene bis(phenylisocyanate)	5000 lbs.
Toluene-2,6-Diisocyanate	100 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Fire Hazard
Immediate (Acute) Health Hazards
Delayed (Chronic) Health Hazard

SARA 302 Extremely Hazardous Substance

Chemical Identity	Reportable quantity	Threshold Planning Quantity
2,4-Toluene diisocyanate	100 lbs.	500 lbs.
Toluene-2,6-Diisocyanate	100 lbs.	100 lbs.

SARA 304 Emergency Release Notification

Chemical Identity	Reportable quantity
Xylene	100 lbs.
Ethylbenzene	1000 lbs.
Cumene	5000 lbs.
2,4-Toluene diisocyanate	100 lbs.
Toluene	1000 lbs.
Polymethylene polyphenyl isocyanate	
4,4'-Methylene bis(phenylisocyanate)	5000 lbs.
Toluene-2,6-Diisocyanate	100 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
2,4-Toluene diisocyanate	500lbs
Toluene-2,6-Diisocyanate	100lbs
Aromatic petroleum distillates	10000 lbs
1,2,4-Trimethylbenzene	10000 lbs
Xylene	10000 lbs
1,3,5-Trimethylbenzene	10000 lbs
Ethylbenzene	10000 lbs
Cumene	10000 lbs
Toluene	10000 lbs
4,4'-Methylene bis(phenylisocyanate)	10000 lbs
Polymethylene polyphenyl isocyanate	10000 lbs

SARA 313 (TRI Reporting)

Chemical Identity
1,2,4-Trimethylbenzene
Xylene
Ethylbenzene
2,4-Toluene diisocyanate

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Chemical Identity	Reportable quantity
2,4-Toluene diisocyanate	lbs
Toluene-2,6-Diisocyanate	lbs

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

WARNING
Cancer and Reproductive Harm - www.P65Warnings.ca.gov

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
1,2,4-Trimethylbenzene
Xylene
1,3,5-Trimethylbenzene
Ethylbenzene
Diethylbenzene, Mixed Isomers
2,4-Toluene diisocyanate

US. Massachusetts RTK - Substance List

Chemical Identity
1,2,4-Trimethylbenzene
Xylene
1,3,5-Trimethylbenzene
Ethylbenzene
2,4-Toluene diisocyanate
Toluene-2,6-Diisocyanate

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
1,2,4-Trimethylbenzene
Xylene
1,3,5-Trimethylbenzene
Ethylbenzene
2,4-Toluene diisocyanate

US. Rhode Island RTK

Chemical Identity
1,2,4-Trimethylbenzene
Xylene
1,3,5-Trimethylbenzene
Ethylbenzene

International regulations

Montreal protocol

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol
Not applicable

VOC:

Regulatory VOC (less water and exempt solvent)	:	559 g/l
VOC Method 310	:	58.25 %

Inventory Status:

Australia AICS:	One or more components in this product are not listed on or exempt from the Inventory.
Canada DSL Inventory List:	One or more components in this product are not 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:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	One or more components in this product are not 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:	One or more components in this product are not 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:	One or more components in this product are not 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:	02/05/2019
Version #:	1.1
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.

Tremco Incorporated
3735 Green Road Beachwood, OH 44122 216.292.5000 www.tremcosealants.com

TREMCO®
Commercial Sealants & Waterproofing

January 22, 2019

To Whom It May Concern:

RE: Vulkem 171 Primer—Green Building Product Information (LEED v4 Information)

Tremco Incorporated is an organization that is committed to quality, our employees, and our environment. We are responsive to both internal and external customers, and we pledge to treat everyone with good stewardship and respect.

Tremco Incorporated certifies the following for Vulkem 171 Primer:

Building Product Disclosure and Optimization:

Vulkem 171 Primer is manufactured in Cleveland, Ohio.

No single extracted material is used to produce the majority of this product.

Recycled content for Vulkem 171 Primer is not available, and for the purposes of LEED reporting should be assumed to be zero.

Low Emitting Materials - VOC Content Information:

Vulkem 171 Primer is a urethane primer with a VOC content of 559g/L equaling 58.25% as applied/mixed. Because this product exceeds VOC level limits, project teams can use VOC budgeting to ensure their projects are still LEED compliant.

Green Chemistry:

Tremco Incorporated is dedicated to the environment and prides itself on making its products as sustainable as possible. We are pleased to report that this product is produced without any Red List chemicals. As such, it can be used to assist in finishing projects aimed towards achieving a Living Building Challenge certification

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TREMCO®
Commercial Sealants & Waterproofing

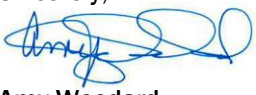
Manufacture Inventory:

Chemical Name or Role	CAS Number	Amount	GHS Hazard
Solvent		40-80%	Non-Hazardous
Aromatic petroleum distillates	64742-95-6		
1,2,4-Trimethylbenzene	9-63-6		
Xylene	1330-20-7		
1,3,5-Trimethylbenzene	108-67-8		
Ethylbenzene	100-41-4		
Isomer		<5%	Non-Hazardous
Cumene	98-82-8		
2,4-Toulene Diisocyanate	584-84-9		
Toulene	108-88-3		
4,4'-Methlene bis(phenylisocyanate)	101-68-8		
Polymethylene polyphenyl isocyanate	9016-87-9		

Additional Information:

Should you have any questions or require additional information, please do not hesitate to contact Technical Services or your local Tremco Field Representative.

Sincerely,



Amy Woodard
Manager
Compliance and Regulatory

Section:	07 90 00 Joint Protection
#:	0017
Specified:	2.03.C., Soft Backer Rod
Reference:	view spec
Item submitted:	

SOF Rod.pdf

SPECIFICATIONS

Bi-Cellular Backer Rod

(US Patent #5,387,050)

Product Name:
SOF® Rod

Patented, round, flexible, polyolefin foam rod made of a non-absorbing outer skin and a resilient interior network of both open and closed cells that does not out-gas when ruptured.

Features

- Easy to apply
- Non-gassing
- Non-exuding
- Chemically inert
- Virtually dust-free
- Non-absorbing
- Meets all of the requirements of the 1990 Clean Air Act
- Is a "Domestic End Product" as defined in the Buy American Act, Title 41 USC 10

Physical Property Requirements		
Property	**Value**	**ASTM Test Methods**
Density lb/ft^3 (kg/m^3), avg.	1.8-2.5 (28-40)	D 1622
Outgassing (No. of Bubbles)	< 1	C 1253
Compression Recovery, %, min	> 90	D 5249
Compression Deflection[1] psi (kg/cm^2)	5 (.35)	D 5249
Tensile Strength psi (kgf/cm^2), min	38 (2.67)	D 1623
Water Absorption (g/cc)	< .03	C 1016 - Procedure B

[1] *Using 25% compression.*

Description

Type: B - Per ASTM C 1330. Cylindrical, flexible sealant backings composed of bi-cellular material. Also Reference ASTM C 717 for use as gasket or sealing material..
FORM: Round Foam Rod.
TEMPERATURE LIMITS: -45˚F to +160˚F.

Benefits

Backer rod limits the depth of the sealant and prevents excessive sealant use. It also helps sealant assume optimum shape factor to prolong sealant service life and acts as a barrier to the flow of sealant through the joint.

Applications

Common applications include, but are not limited to, expansion and contraction joints, window glazing, curtain wall construction partitions, parking decks, bridge construction, modular home gasketing, and log home chinking.

Construction Foam Products • 501 NMC Drive, Zebulon, North Carolina 27597
Phone: 1.800.345.7279 • Fax: 919.269.7936 • www.cfoamproducts.com

June 2009

Bi-Cellular Backer Rod

Product Name: SOF® Rod (US Patent #5,387,050)

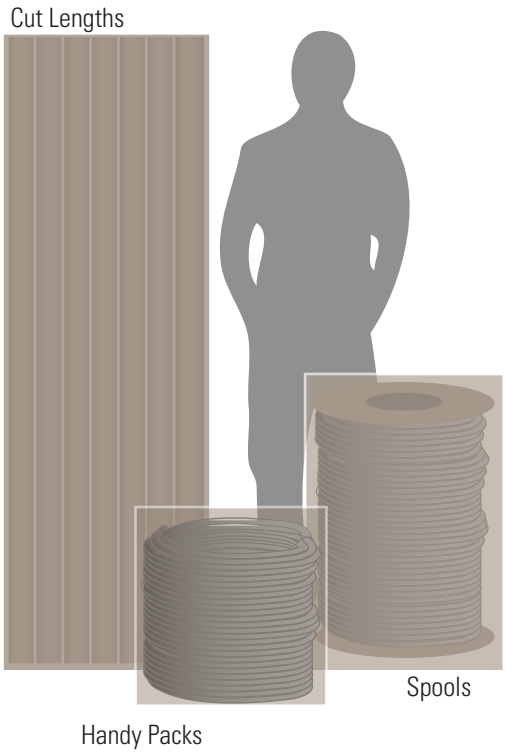
Packaging Specs							
Dimension		**Unit**	**Length / Unit**		**Unit Weight**		**Unit Dimension**
3/8"	10 mm	Spool	3600'	1097 m	12 lbs.	5.4 kg.	18" x 18" x 31"
		Handy Pack	1400'	427 m	7 lbs.	3 kg.	15" x 15" x 18"
5/8"	16 mm	Spool	1550'	472 m	12 lbs.	5.4 kg.	18" x 18" x 31"
		Handy Pack	550'	168 m	7 lbs.	3 kg.	15" x 15" x 18"
7/8"	22 mm	Spool	850'	259 m	12 lbs.	5.4 kg.	18" x 18" x 31"
		Handy Pack	330'	101 m	7 lbs.	3 kg.	15" x 15" x 18"
1-1/8"	29 mm	Spool	500'	152 m	12 lbs.	5.4 kg.	18" x 18" x 31"
		Handy Pack	120'	38 m	7 lbs.	3 kg.	15" x 15" x 18"
1-1/2"	38 mm	Cut Length	550'	168 m	18 lbs.	8 kg.	23" x 13" x 75"
2"	51 mm	Cut Length	360'	110 m	18 lbs.	8 kg.	23" x 13" x 75"
2-1/2"	63 mm	Cut Length	240'	73 m	18 lbs.	8 kg.	23" x 13" x 75"
3"	76 mm	Cut Length	144'	44 m	18 lbs.	8 kg.	23" x 13" x 75"
4"	102 mm	Cut Length	90'	27 m	18 lbs.	8 kg.	23" x 13" x 75"

Joint Preparation and Installation
Just prior to placing the backer rod, clean all joints per the sealant manufacturer's recommendations. Thoroughly remove any concrete form-release agents, curing compound residue, laitance, or any foreign materials. To ensure a good sealant bond, joints must be clean and dry when the new sealant is installed. Air compressors used for this purpose must be equipped with traps for removal of oil and moisture. Install the backer rod at the depth recommended by the sealant manufacturer with a blunt tool.

Size Selection - Proper size selection is important as it controls the depth of the sealant bead. It must be oversized (25-50%) to fit tightly into the joint and function as a bond-breaker to prevent back-side adhesion of the sealant.

Compatibility - Bi-cellular polyolefin foam is basically an inert material; and therefore, it is compatible, both physically and chemically, with virtually all known cold applied sealants, including self-leveling types.

Precautions - Do not puncture, over compress or stretch backer rod during insertion. Do not use with hot applied sealants. Tests for outgassing of cold applied sealants shall be made in accordance with ASTM Test Method C 1253. Sealant compatibility should be confirmed by the sealant manufacturer. Compatibility characteristics of sealants in contact with sealant backings can be determined by ASTM Test Method C 1087.



Examples shown are for illustrative purposes only. Actual product may differ, slightly.