



EMSEAL Safety Data Sheet
Product Package

SJS System

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EMSEAL Joint Systems, Ltd.
 25 Bridle Lane, Westborough, MA 01581 USA
www.emseal.com

Safety Data Sheet

SJS Foam

Preparation Date March 15, 2015 **Revision Date** August 6, 2018

1. Identification of the Substance / Preparation

Product identifier	SJS
Other identifier or names	Seismic Joint System, SJS System
UN ID number	None
Manufacturer Address	EMSEAL, LLC 111 Royal Group Crescent Woodbridge, ON L4H 1X9 Canada
Company Phone	(508) 836-0280 M-F 9am - 5pm
Emergency Phone	CHEMTREC (800) 424-9300 (24 Hours)
CHEMTREC International Phone	+1 703-527-3887 (24 Hours)

2. Hazardous Identification

Hazardous Classification	This product is not classified as hazardous when used as intended.
Signal Word	None
Pictograms	None
Emergency Overview:	No emergency requirements.

3. Composition / Information on Ingredients

SJS foam is composed of polyurethane foam impregnated with a proprietary solid acrylic polymer bonded to a fully cured silicone sealant. The foam is adhered to a spline and is assembled with a metal coverplate. It is classified as Non-Hazardous.

NOTE: Silicone facing is fully cured. The composition of the silicone in its liquid state is comprised of the following:

Chemical Name	CAS #	% by Weight	GHS Classification Hazard Statements
Polydimethyl Siloxane Diol	70131-67-8 3	0.0–60.0	SELF CLASSIFICATION Classification: Not Applicable
Calcium Carbonate (Limestone)	1317-65-3		SELF CLASSIFICATION
Synthetic Calcium Carbonate	371-34-1	10.0–40.0	Classification: Not Applicable
Phenyl Oximino Silane	34036-80-1	1.0–5.0	Classification: STOT RE Cat. 2, Skin Sensitization Cat. 1, Aquatic, Chronic Toxicity Cat. 3 Hazard Statement Codes: H373, H317, H412
Silicon Dioxide, Fumed	112945-52-5	1.0–5.0	SELF CLASSIFICATION Classification: Not Applicable
Mineral Spirits	8052-41-3	0.0-1.0	Classification: Carcinogenic Cat. 1B, Mutagenic Cat. 1B, Aspiration Hazard Cat. 1 Hazard Statement Codes: H350, H340, H304
Quartz	14808-60-7 14464-46-1	Trace	SELF CLASSIFICATION Classification: Carcinogenic Cat. 1B Hazard Statement Codes: H350

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).

Classification: Not Applicable



4. First Aid Measures

- 4.1 EYES:** Flush with water for at least 15 minutes, and call physician if problems persist.
- 4.2 SKIN:** Product may leave a sticky residue, and mild irritation if prolonged exposure. Scrub with soapy water until adhesive is removed.
- 4.3 INGESTION:** Do not eat – call physician if ingested.

5. Fire-fighting Measures

- 5.2 FLAMMABILITY:** Slight. Material can support an open flame or smoldering ignition. The foam can melt while burning which can contribute fire to spread.
- 5.2 FLASH POINT:** Unknown.
- 5.3 AUTO-IGNITION TEMPERATURE:** Unknown.
- 5.4 EXTINGUISHING MEDIA:** Large volumes of water, or ABC chemical may be appropriate for initial control or small volumes of impregnated foam.
- 5.5 HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon di/mon oxides will be formed as well as other noxious and toxic fumes upon combustion – do not breath combustion products.

6. Accidental Release Measures

If material is unusable pick up pieces and dispose of in accordance with local regulations; material and all components are non-toxic and normal landfill will most often be acceptable.

7. Handling and Storage

Store in original packaging below 35°C. There are no special handling instructions.

8. Exposure Controls / Personal Protection

- 8.1 RESPIRATORY PROTECTION:** Not required
- 8.2 EYE PROTECTION:** Not required
- 8.3 SKIN PROTECTION:** Gloves of any material are suitable if desired, but not required. No other protection is required.

9. Physical and Chemical Properties

- 9.1 APPEARANCE:** Dark grey / charcoal colored foam and colored silicone with product identifying packaging.
- 9.2 ODOR:** Slight characteristic odor.
- 9.3 PERCENT SOLIDS BY WEIGHT:** 100%
- 9.4 PHYSICAL STATE:** Solid
- 9.5 PERCENT VOLATILE:** <1% wt/wt
- 9.6 DENSITY:** 0.4g/cm³
- 9.7 DECOMPOSITION:** > 300°C
- 9.8 SOLUBILITY IN WATER:** None



10. Stability and Reactivity

Stable under normal conditions – avoid temperatures in excess of 300°C, strong acids and bases, and open flame.

11. Toxicological Information

Unknown.

12. Ecological Information

Unknown

13. Disposal Considerations

No known hazard. Dispose of in accordance with local regulations; material and all components are non-toxic and disposal in normal landfill will most often be acceptable.

14. Transportation Information

Not hazardous – safe for non-hazardous shipping.

15. Regulatory Information

Unknown.

16. Other Information

No other information provided.

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NORTHERN MANUFACTURING

25 Bridle Lane
Westborough, MA 01581

Safety Data Sheet

Version 7

Issue Date 29-Jun-2015

Rev Date 11-May-2018

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product Identifier

Product name EPOXY ADHESIVE PART A

Other Means of Identification

Product Code NOMAD-PART A

Product Technology Epoxy A side

None

Epoxy A side. FOR INDUSTRIAL USE ONLY.

Restrictions on use: Do not use this product for any use other than intended

Supplier Address

Northern Manufacturing
111 Royal Group Crescent
Woodbridge, ON, Canada
L4H 1X9

Company Phone Number 508-836-0280 (8AM - 5PM EST) (M-F)

Emergency Telephone Chemtrec 1-800-424-9300 (24 Hours)

Chemtrec International Phone +1 703 527-3887

2. Hazards Identification

Classification

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS). This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1

EMERGENCY OVERVIEW

WARNING

Hazard Statements

Causes skin irritation

Causes serious eye irritation

May cause an allergic skin reaction

**Appearance** Viscous Off white**Physical State** Paste**Odor** Mild**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling
 Wear protective gloves, protective clothing, eye protection, face protection
 Avoid breathing dust, fumes, or vapors
 Contaminated work clothing should not be allowed out of the workplace

Precautionary Statements - Response

Call a POISON CENTER or doctor/physician if you feel unwell
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If eye irritation persists: Get medical advice/attention
 IF ON SKIN: Wash with plenty of soap and water
 Take off contaminated clothing and wash before reuse
 If skin irritation or rash occurs: Get medical advice/attention

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local/regional/international regulations

Hazards Not Otherwise Classified (HNOC)**Other Information**

Toxic to aquatic life with long lasting effects
 61.69% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/Information on Ingredients

Chemical Family Epoxy A Side
Chemical nature Epoxy resin mixture.

Chemical Name	CAS No	Weight-%	Trade secret
Bisphenol A diglycidyl ether resin	25068-38-6	20 - 40	*
Proprietary resin	17557-23-2	1 - 10	*

* The exact percentage (concentration) of composition may have been withheld as a trade secret.

4. First Aid Measures

FIRST AID MEASURES

General Advice Use first aid treatment according to the nature of the injury. For further assistance, contact your local Poison Control Center. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists: Get medical advice/attention.

Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Ingestion	Not an expected route of exposure. If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.
Self-Protection of the First Aider	First Aider: Pay attention to self-protection. Use personal protective equipment as required.

Most Important Symptoms and Effects, Both Acute and Delayed

Symptoms No information available.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Note to Physicians Treat symptomatically.

5. Fire-Fighting Measures

Suitable Extinguishing Media

Use CO₂, dry chemical, or foam

Unsuitable Extinguishing Media Caution: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising From the Chemical

Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water ways. Dike for water control.

Hazardous Combustion Products

Irritating or toxic substances may be emitted upon burning, combustion or decomposition. See Section 10 Hazardous Decomposition Products for additional information.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Personal Precautions Ventilate affected area. Extremely slippery when spilled.

Other Information Use personal protective equipment as required.

For Emergency Responders Use personal protective equipment as required.

Environmental Precautions

Environmental Precautions See Section 12 for additional Ecological Information. Do not allow into any sewer, on the ground or into any body of water.

Methods and Material for Containment and Cleaning Up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. Handling and Storage

Precautions for Safe Handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for Safe Storage, Including any Incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store and handle away from heat, flames and oxidizing materials.

Incompatible Materials Strong oxidizing agents. Strong acids. Strong bases.

8. Exposure Controls/Personal Protection

Control Parameters

Exposure Guidelines .

Appropriate Engineering Controls

Engineering Controls Showers
Eyewash stations
Ventilation systems

Individual Protection Measures, Such As Personal Protective Equipment

Eye/Face Protection Splash Goggles.

Skin and Body Protection Wear protective gloves and protective clothing.

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Physical State	Paste	Odor	Mild
Appearance	Viscous	Odor Threshold	No information available
Color	Off white		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No information available	
Melting Point/Freezing Point	No information available	
Boiling Point/Boiling Range	> 250 °C	
Flash Point	> 220 °C	
Evaporation Rate	No information available	
Flammability (Solid, Gas)	No information available	
Flammability Limits in Air		
Upper Flammability Limits	No information available	
Lower Flammability Limit	No information available	
Vapor Pressure	No information available	
Vapor Density	No information available	

Specific Gravity	1.68
Water Solubility	Negligible
Solubility in Other Solvents	No information available
Partition Coefficient	No information available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Kinematic Viscosity	464286 cSt
Dynamic Viscosity	780000 cps @ 25° C
Explosive Properties	Not an explosive
Oxidizing Properties	No information available

Other Information

Softening Point	No information available
Molecular Weight	No information available
VOC Content (%)	<1g/L
Density	14.0 pounds/gallon
Bulk Density	No information available

10. Stability and Reactivity

Reactivity

No data available

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

Hazardous polymerization does not occur.

hazardous polymerization None under normal processing.

Conditions to Avoid

Keep out of reach of children. Extremes of temperature and direct sunlight. Mixture with or exposure to incompatible materials.

Incompatible Materials

Strong oxidizing agents. Strong acids. Strong bases.

Hazardous Decomposition Products

Carbon monoxide. Carbon Dioxide (CO₂). Aldehydes. Aromatic hydrocarbons. May emit toxic fumes under fire conditions.

11. Toxicological Information

Information on Likely Routes of Exposure

Product Information	The product has not been tested
Inhalation	Remove to fresh air.
Eye Contact	Vapor may cause irritation. Avoid contact with eyes. Contact with eyes may cause irritation.
Skin Contact	Avoid contact with skin. May cause irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
Ingestion	Not an expected route of exposure. May be harmful if swallowed.

Chemical Name	Oral LD50 (Rat)	Dermal LD50 (Rabbit)	Inhalation LC50
Bisphenol A diglycidyl ether resin 25068-38-6	= 11400 mg/kg (Rat)	-	-
Proprietary resin	= 4500 mg/kg (Rat)	-	-

Information on toxicological effects

No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Irritating to skin.
Serious eye damage/eye irritation	Irritating to eyes.
Irritation	Irritating to eyes and skin.
Sensitization	May cause sensitization of susceptible persons.
Germ Cell Mutagenicity	No information available.
Carcinogenicity	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
Reproductive Toxicity	No information available.
STOT - Single Exposure	No information available.
STOT - Repeated Exposure	No information available.
Chronic Toxicity	Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons.
Aspiration Hazard	No information available.

Numerical Measures of Toxicity - Product Information

Unknown Acute Toxicity	61.69% of the mixture consists of ingredient(s) of unknown toxicity
The following values are calculated based on chapter 3.1 of the GHS document	
ATEmix (oral)	9679 mg/kg

12. Ecological Information

Ecotoxicity

No information available

66.27998% of the mixture consists of component(s) of unknown hazards to the aquatic environment

Persistence and Degradability

No information available

Other Adverse Effects

No information available

13. Disposal Considerations

Waste Treatment Methods

Disposal of Wastes	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated Packaging	Do not reuse container.

14. Transport Information

DOT Not regulated

ICAO (air)

IATA

UN/ID no	UN3082
Proper Shipping Name	Environmentally Hazardous substance Liquid N.O.S. (Bisphenol A epoxy resin)
Hazard Class	9
Packing group	III
Special Provisions	A197 - Not restricted provided that the net quantity in any receptacle does not exceed 5 Kg or 5 L and the packaging meets defined standards.

IMDG

UN/ID no	UN3082
Proper Shipping Name	Environmentally Hazardous Substance Liquid N.O.S. (Bisphenol A epoxy resin)
Hazard Class	9
Packing group	III
Special Provisions	A197 - Not restricted provided that the net quantity in any receptacle does not exceed 5 Kg or 5 L and the packaging meets defined standards.
Marine pollutant	This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO

15. Regulatory Information

International Inventories**TSCA**

All components of this product are either exempt or included on the TSCA Inventory in compliance with the Toxic Substances Control Act.

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

The following chemicals may be contained in this product in de minimis amounts not required for listing in section 3. However, these chemicals do appear on some state Right-to-Know (RTK) and/or other hazardous substance lists. Please check your state's listings for more information.

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
Titanium dioxide - 13463-67-7	Carcinogen
Glycidyl phenyl ether - 122-60-1	Carcinogen Male Reproductive
Epichlorohydrin - 106-89-8	Carcinogen Male Reproductive
Silicon dioxide - 14808-60-7	Carcinogen

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other Information

HMIS **Health Hazards 2** **Flammability 1** **Physical Hazards 0** **Personal Protection X**

Prepared by Compliance
Issue Date 29-Jun-2015
Revision Date 07-May-2018

Revision note

No information available

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

NORTHERN MANUFACTURING

120 Carrier Drive
Toronto, ON, Canada M9W 5R1
Tel: 416-740-2090

SAFETY DATA SHEET

Issuing Date 05-Aug-2016

Revision Date 07-May-2018

Revision Number 3

1. Identification of the Substance/Preparation and of the Company/Undertaking

Product identifier

Product Name EPOXY ADHESIVE PART B

Other means of identification

Product Code(s) NOMAD-PART B

Product Technology Epoxy B side

None

Curing chemical. FOR INDUSTRIAL USE ONLY.

Restrictions on use: Do not use this product for any use other than intended

ManufacturerAddress

Northern Manufacturing
111 Royal Group Crescent
Woodbridge, ON, Canada
L4H 1X9

Company Phone Number 508-836-0280 (8AM - 5PM EST) (M-F)

Emergency Telephone Chemtrec 1-800-424-9300 (24 Hours)

Chemtrec International Phone +1 703 527-3887

2. Hazards Identification

Classification

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS). This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Germ cell mutagenicity	Category 2
Reproductive toxicity	Category 2

Emergency Overview

DANGER

Hazard statements

Harmful if swallowed

Causes skin irritation

Causes serious eye damage

May cause allergy or asthma symptoms or breathing difficulties if inhaled
 May cause an allergic skin reaction
 Suspected of causing genetic defects
 Suspected of damaging fertility or the unborn child



Appearance Viscous Black

Physical state Paste

Odor Mild amine odor

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
 Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Avoid breathing dust, fumes, or vapors
 In case of inadequate ventilation wear respiratory protection
 Contaminated work clothing should not be allowed out of the workplace
 Wear protective gloves

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Immediately call a POISON CENTER or doctor/physician
 IF ON SKIN: Wash with plenty of soap and water
 Take off contaminated clothing and wash before reuse
 If skin irritation or rash occurs: Get medical advice/attention
 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
 Rinse mouth

Precautionary Statements - Storage

Store locked up
 Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container in accordance with local/regional/international regulations

Hazards Not Otherwise Classified (HNOC)

Other Information

May be harmful in contact with skin, Very toxic to aquatic life with long lasting effects, Toxic to aquatic life
 89.596% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/Information on Ingredients

Substance

Chemical Family Epoxy B Side

Chemical name	CAS No.	Weight-%	Trade secret
N-Aminoethylpiperazine	140-31-8	1 - 3	*

Bisphenol A	80-05-7	1 - 3	*
Diethylenetriamine	111-40-0	1 - 2	*
Phenol, 4-nonyl-, branched	84852-15-3	<1.0	*
4-tert-Butylphenol	98-54-4	0.1 - 0.3	*
1,2-Ethylenediamine	107-15-3	0.1 - 0.3	*

* The exact percentage (concentration) of composition may have been withheld as a trade secret.

4. First Aid Measures

Description of first aid measures

General advice	Use first aid treatment according to the nature of the injury. For further assistance, contact your local Poison Control Center. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician if irritation persists.
Skin contact	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If symptoms persist, call a physician. Wash contaminated clothing before reuse.
Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. Administer oxygen if breathing is difficult. If symptoms persist, call a physician.
Ingestion	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a physician or Poison Control Center immediately.
Self-protection of the first aider	First Aider: Pay attention to self-protection. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed

Symptoms	May cause allergic skin reaction. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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5. Fire-Fighting Measures

Suitable Extinguishing Media

Foam, Dry Chemical, Carbon Dioxide (CO₂);

Unsuitable extinguishing media	Caution: Use of water spray when fighting fire may be inefficient.
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Specific hazards arising from the chemical

Incomplete combustion and thermolysis may produce gases of varying toxicity such as carbon monoxide, carbon dioxide, various hydrocarbons, aldehydes and soot. These may be highly dangerous if inhaled in confined spaces or at high concentration. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water ways. Dike for water control.

Hazardous combustion products

Irritating or toxic substances may be emitted upon burning, combustion or decomposition. See Section 10 Hazardous Decomposition Products for additional information.

Explosion data

Sensitivity to Mechanical Impact	None.
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Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation, especially in confined areas.

Other Information Use personal protective equipment as required.

For Emergency Responders Use personal protective equipment as required.

Environmental precautions

Environmental precautions Do not allow into any sewer, on the ground or into any body of water. See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. Handling and Storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials Acids; Bases; Strong oxidizing agents; Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide.

8. Exposure Controls/Personal Protection

Control parameters

Exposure Limits The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Diethylenetriamine 111-40-0	TWA: 1 ppm S*	(vacated) TWA: 1 ppm (vacated) TWA: 4 mg/m ³	TWA: 1 ppm TWA: 4 mg/m ³
1,2-Ethylenediamine 107-15-3	TWA: 10 ppm S*	TWA: 10 ppm TWA: 25 mg/m ³ (vacated) TWA: 10 ppm (vacated) TWA: 25 mg/m ³	IDLH: 1000 ppm TWA: 10 ppm TWA: 25 mg/m ³

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection	Splash Goggles. Avoid contact with eyes.
Skin and body protection	Wear protective gloves and protective clothing.
Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties
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Information on basic physical and chemical properties

Physical state	Paste	Odor	Mild amine odor
Appearance	Viscous	Odor threshold	N/A
Color	Black		

<u>Property</u>	<u>Values</u>	<u>Remarks</u>	<u>Method</u>
pH	N/A		
Melting point / freezing point	N/A		
Boiling point / boiling range	N/A		
Flash point	> 110 °C		
Evaporation rate	N/A		
Flammability (solid, gas)	N/A		
Flammability Limit in Air			
Upper flammability limit:	N/A		
Lower flammability limit:	N/A		
Vapor pressure	N/A		
Vapor density	N/A		
Relative density	1.96		
Water solubility	Negligible		
Solubility in other solvents	N/A		
Partition coefficient	N/A		
Autoignition temperature	N/A		
Decomposition temperature	N/A		
Kinematic viscosity	N/A cSt		
Dynamic viscosity	N/A cps @ 25° C		
Explosive properties	Not an explosive		
Oxidizing properties	N/A		

Other Information

Softening point	N/A
Molecular weight	N/A
VOC Content (%)	<1 g/L
Liquid Density	16.3 pounds/gallon
Bulk density	N/A

10. Stability and Reactivity

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Conditions to avoid

Keep out of reach of children. Avoid moisture. Incompatible materials.

Incompatible materials

Acids; Bases; Strong oxidizing agents; Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide.

Hazardous decomposition products

Carbon oxides; Nitrogen oxides (NOx). Thermal decomposition can lead to release of toxic/corrosive gases and vapors. Nitric acid. Ammonia. Flammable hydrocarbon fragments.

11. Toxicological Information**Information on likely routes of exposure**

Product Information	The product has not been tested.
Inhalation	Remove to fresh air.
Eye contact	Avoid contact with eyes. Irritating to eyes.
Skin contact	Avoid contact with skin. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
Ingestion	Not an expected route of exposure. Do NOT taste or swallow. Harmful if swallowed.
Component Information	Caution - This preparation contains a substance not yet fully tested

Chemical name	ATEmix (oral)	ATEmix (dermal)	Inhalation LC50
N-Aminoethylpiperazine 140-31-8	= 2140 µL/kg (Rat)	= 880 µL/kg (Rabbit)	-
Bisphenol A 80-05-7	= 3300 mg/kg (Rat)	= 3 mL/kg (Rabbit)	> 0.17 mg/L (Rat) 6 h
Diethylenetriamine 111-40-0	= 1080 mg/kg (Rat)	= 672 mg/kg (Rabbit)	= 70 mg/L (Rat) 4 h
Phenol, 4-nonyl-, branched 84852-15-3	= 1300 mg/kg (Rat)	= 2031 mg/kg (Rabbit)	-
4-tert-Butylphenol 98-54-4	= 3250 µL/kg (Rat)	= 2318 mg/kg (Rabbit)	-
1,2-Ethylenediamine 107-15-3	= 637 mg/kg (Rat)	= 560 mg/kg (Rabbit)	-

Information on toxicological effects

N/A.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Irritating to skin. Repeated or prolonged contact may cause skin irritation and dermatitis.
Serious eye damage/eye irritation	Irritating to eyes.
Irritation	Irritating to eyes and skin.
Sensitization	May cause sensitization by inhalation and skin contact.
Germ cell mutagenicity	Contains a known or suspected mutagen.
Carcinogenicity	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
Reproductive toxicity	Category 2: Substances which should be regarded as if they impair fertility in humans.
STOT - single exposure	N/A.
STOT - repeated exposure	N/A.
Chronic Toxicity	Repeated or prolonged skin contact may cause skin irritation and/or dermatitis and sensitization of susceptible persons. Contains a known or suspected reproductive toxin.
Target organ effects	May cause harm to the unborn child. May produce an allergic reaction.
Aspiration hazard	Eyes, Skin, Blood. N/A.

Numerical measures of toxicity - Product Information

Unknown acute toxicity 89.596% of the mixture consists of ingredient(s) of unknown toxicity
The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	1,441.00 mg/kg
ATEmix (dermal)	2,197.00 mg/kg
ATEmix (inhalation-dust/mist)	694.00 mg/l

12. Ecological Information

Ecotoxicity

Very toxic to aquatic life with long lasting effects

91.108 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical name	Algae/aquatic plants	Fish	Crustacea
N-Aminoethylpiperazine 140-31-8	495: 72 h Pseudokirchneriella subcapitata mg/L EC50	100: 96 h Oncorhynchus mykiss mg/L LC50 semi-static 1950 - 2460: 96 h Pimephales promelas mg/L LC50 flow-through 1000: 96 h Poecilia reticulata mg/L LC50 semi-static	32: 48 h Daphnia magna mg/L EC50
Bisphenol A 80-05-7	2.5: 96 h Pseudokirchneriella subcapitata mg/L EC50	9.9: 96 h Brachydanio rerio mg/L LC50 static 4.0 - 5.5: 96 h Pimephales promelas mg/L LC50 static 4: 96 h Oncorhynchus mykiss mg/L LC50 3.6 - 5.4: 96 h Pimephales promelas mg/L LC50	9.2 - 11.4: 48 h Daphnia magna mg/L EC50 Static 3.9: 48 h Daphnia magna mg/L EC50 10.2: 48 h Daphnia magna mg/L EC50
Diethylenetriamine 111-40-0	345.6: 96 h Pseudokirchneriella subcapitata mg/L EC50 592: 96 h Desmodemus subspicatus mg/L EC50 1164: 72 h Pseudokirchneriella subcapitata mg/L EC50	1014: 96 h Poecilia reticulata mg/L LC50 semi-static 430: 96 h Leuciscus idus mg/L LC50 semi-static 248: 96 h Poecilia reticulata mg/L LC50 static	37: 24 h Daphnia magna mg/L EC50 16: 48 h Daphnia magna mg/L EC50
Phenol, 4-nonyl-, branched 84852-15-3	0.16 - 0.72: 72 h Pseudokirchneriella subcapitata mg/L EC50 static 0.36 - 0.48: 96 h Pseudokirchneriella subcapitata mg/L EC50 static 1.3: 72 h Desmodemus subspicatus mg/L EC50	0.135: 96 h Pimephales promelas mg/L LC50 flow-through 0.1351: 96 h Lepomis macrochirus mg/L LC50 flow-through	0.14: 48 h Daphnia magna mg/L EC50
4-tert-Butylphenol 98-54-4	11.2: 72 h Desmodemus subspicatus mg/L EC50	6.9: 96 h Cyprinus carpio mg/L LC50 static 4.71 - 5.62: 96 h Pimephales promelas mg/L LC50 flow-through	3.4 - 4.5: 48 h Daphnia magna mg/L EC50 Static 3.9: 48 h Daphnia magna mg/L EC50
1,2-Ethylenediamine 107-15-3	151: 96 h Pseudokirchneriella subcapitata mg/L EC50 645: 72 h Pseudokirchneriella subcapitata mg/L EC50	115.7: 96 h Pimephales promelas mg/L LC50 semi-static 191 - 254: 96 h Pimephales promelas mg/L LC50 flow-through 98.6 - 131.6: 96 h Pimephales promelas mg/L LC50 static 180 - 560: 96 h Poecilia reticulata mg/L LC50 semi-static	17: 48 h Daphnia magna mg/L EC50

Persistence and degradability

N/A

Chemical name	Partition coefficient
N-Aminoethylpiperazine 140-31-8	-1.48
Bisphenol A 80-05-7	2.2
Diethylenetriamine 111-40-0	-1.3
4-tert-Butylphenol 98-54-4	2.44
1,2-Ethylenediamine 107-15-3	-1.221

Other adverse effects

N/A

Ozone depletion potential (ODP) N/A

13. Disposal Considerations

Waste treatment methods

Disposal of Wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

Chemical name	California Hazardous Waste Status
Diethylenetriamine 111-40-0	Toxic
1,2-Ethylenediamine 107-15-3	Toxic

14. Transport Information

DOT Not regulated

ICAO (air) Not regulated

IATA Not regulated

IMDG Not regulated

15. Regulatory Information

International Inventories

TSCA All components of this product are either exempt or included on the TSCA Inventory in compliance with the Toxic Substances Control Act.

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	CAS No.	Weight-%	SARA 313 - Threshold Values %
Bisphenol A - 80-05-7	80-05-7	1 - 3	1.0
Phenol, 4-nonyl-, branched - 84852-15-3	84852-15-3	<1.0	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
1,2-Ethylenediamine 107-15-3	5000 lb			X

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
1,2-Ethylenediamine 107-15-3	5000 lb	5000 lb	RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations

The following chemicals may be contained in this product in de minimis amounts not required for listing in section 3. However, these chemicals do appear on some state Right-to-Know (RTK) and/or other hazardous substance lists. Please check your state's listings for more information.

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
Bisphenol A - 80-05-7	Female Reproductive
ethanol - 64-17-5	Carcinogen Developmental

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
N-Aminoethylpiperazine 140-31-8	X	X	X
Bisphenol A 80-05-7	X	X	X
Diethylenetriamine 111-40-0	X	X	X
1,2-Ethylenediamine 107-15-3	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other Information

NFPA	Health hazards 0	Flammability N/A	Instability N/A	Physical and chemical properties -
HMIS	Health hazards 2*	Flammability 1	Physical hazards 0	Personal Protection X
<i>Chronic Hazard Star Legend</i>	* = Chronic Health Hazard			

Prepared By Key Polymer Corp Compliance\
 Issuing Date 05-Aug-2016
 Revision Date 07-May-2018

Revision Note

N/A

Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief

at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



1. Identification

Product name	:	Sikasil® WS-295
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 4	H227: Combustible liquid.
Eye irritation, Category 2A	H319: Causes serious eye irritation.
Skin sensitization, Category 1	H317: May cause an allergic skin reaction.
Reproductive toxicity, Category 2	H361f: Suspected of damaging fertility.
Specific target organ systemic toxicity - repeated exposure, Category 2 (Oral)	H373: May cause damage to organs through prolonged or repeated exposure if swallowed.

GHS label elements

Hazard pictograms	:	
Signal Word	:	Warning
Hazard Statements	:	H227 Combustible liquid. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H361f Suspected of damaging fertility. H373 May cause damage to organs through prolonged or repeated exposure if swallowed.
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.

P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.

P264 Wash skin thoroughly after handling.

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.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

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.

P363 Wash contaminated clothing before reuse.

P370 + P378 In case of fire: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment for extinction.

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.

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 $\geq 1\%$.

3. Composition/information on ingredients

Hazardous ingredients

Chemical name	CAS-No.	Concentration (%)
2-butanone-O,O',O''-(phenylsilylidyne)trioxime	34036-80-1	$\geq 2 - < 5\%$
butan-2-one-O,O',O''-(methylsilylidyne)trioxime	22984-54-9	$\geq 1 - < 2\%$
N-(2-aminoethyl)-N'-[3-(trimethoxysilyl)propyl]ethylenediamine	35141-30-1	$\geq 1 - < 2\%$
octamethylcyclotetrasiloxane	556-67-2	$< 1\%$

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 Allergic reactions Excessive lachrymation See Section 11 for more detailed information on health effects and symptoms. May cause an allergic skin reaction. Causes serious eye irritation. Suspected of damaging fertility. May cause damage to organs through prolonged or repeated exposure if swallowed.
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	: Carbon dioxide (CO ₂)
Unsuitable extinguishing media	: Water
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.
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 : 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.
Follow standard hygiene measures when handling chemical products.
- Conditions for safe storage : 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
calcium carbonate	471-34-1	CAL PEL	PEL	10 mg/m ³ Total dust
		CAL PEL	PEL	5 mg/m ³ 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.
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	: paste
Color	: various
Odor	: mild musty
Odor Threshold	: No data available
Flash point	: 185 °F (85 °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	: Note: Not applicable
Melting point/range / Freezing point	: No data available
Boiling point/boiling range	: No data available
Vapor pressure	: 0.01 mmHg (0.01 hpa)
Density	: ca.1.12 g/cm ³ at 73 °F (23 °C)
Water solubility	: Note: insoluble
Partition coefficient: n- octanol/water	: No data available
Viscosity, dynamic	: No data available
Viscosity, kinematic	: > 20.5 mm ² /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	: 37 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	: Extremes of temperature and direct sunlight.
Incompatible materials	: No data available

11. Toxicological information**Acute toxicity**

Not classified based on available information.

Ingredients:**N-(2-aminoethyl)-N'-[3-(trimethoxysilyl)propyl]ethylenediamine:**

Acute oral toxicity : LD50 Oral (Rat): 7,758 mg/kg

Acute dermal toxicity : LD50 Dermal (Rat): 16,640 mg/kg

octamethylcyclotetrasiloxane:

Acute inhalation toxicity : LC50 (Rat): 36 mg/l
Exposure time: 4 h
Test atmosphere: vapor

Skin corrosion/irritation

Not classified based on available information.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitization

Skin sensitization: May cause an allergic skin reaction.

Respiratory sensitization: Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Reproductive toxicity

Suspected of damaging fertility.

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure if swallowed.

Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Aspiration toxicity

Not classified based on available information.

**Carcinogenicity**

Not classified based on available information.

IARC	Group 2B: Possibly carcinogenic to humans	
	titanium dioxide	13463-67-7
	Carbon black	1333-86-4
NTP	Not applicable	

Carbon black (1333-86-4)

Animal Toxicity:

Rat, oral, duration 2 year
Effect: no tumors

Mouse, oral, duration 2 years
Effect: no tumors

Mouse, dermal, duration 18 months
Effect: no skin tumors

Rat, inhalation, duration 2 years
Target organ: lungs
Effect: inflammation, fibrosis, tumors

Note: Tumors in the rat lung are considered to be related to the "particle overload phenomenon" rather than to a specific chemical effect of carbon black itself in the lung. These effects in rats have been reported in many studies on other poorly soluble inorganic particles and appear to be rat specific. Tumors have not been observed in other species (i.e., mouse and hamster) for carbon black or other poorly soluble particles under similar circumstances and study conditions.

Mortality studies (human data): A study on carbon black production workers in the UK (Sorahan, 2001) found an increased risk of lung cancer in two of the five plants studied; however, the increase was not related to the dose of carbon black. Thus, the authors did not consider the increased risk in lung cancer to be due to carbon black exposure. A German study of carbon black workers at one plant (Morfeld, 2006; Buechte, 2006) found a similar increase in lung cancer risk but, like the Sorahan, 2001 (UK study) found no association with carbon black exposure. A large US study of 18 plants showed a reduction in lung cancer risk in carbon black production workers (DEll, 2006). Based upon these studies, the February 2006 Working Group at the International Agency for Research on Cancer (IARC) concluded that the human evidence for carcinogenicity was inadequate (IARC, 2010).

Since the IARC evaluation of carbon black, Sorahan and Harrington (2007) have re-analyzed the UK study data using an alternative exposure hypothesis and found a positive association with carbon black exposure in two of the five plants. The same exposure hypothesis was applied by Morfeld and McCunney (2009) to the German cohort; in contrast, they found no association between carbon black exposure and lung cancer risk and, thus, no support for the alternative exposure hypothesis used by Sorahan and Harrington.

Overall, as a result of these detailed investigations, no causative link between carbon black exposure and cancer risk in humans has been demonstrated.

IARC CANCER CLASSIFICATION: In 2006 IARC re-affirmed its 1995 finding that there is "inadequate evidence" from human health studies to assess whether carbon black causes cancer in humans. IARC concluded that there is "sufficient evidence" in experimental animal studies for the carcinogenicity of carbon black. IARC's overall evaluation is that carbon black is "possibly carcinogenic to humans" (Group 2B)". This conclusion was based on IARC's



guidelines, which generally require such a classification if one species exhibits carcinogenicity in two or more animal studies (IARC, 2010).

Solvent extracts of carbon black were used in one study of rats in which skin tumors were found after dermal application and several studies of mice in which sarcomas were found following subcutaneous injection. IARC concluded that there was "sufficient evidence" that carbon black extracts can cause cancer in animals (Group 2B).

ICGIH CANCER CLASSIFICATION: Confirmed Animal Carcinogen with Unknown Relevance to Humans (Category A3 Carcinogen).

ASSESSMENT: Applying the guidelines of self-classification under the Globally Harmonized System of Classification and Labeling of Chemicals, carbon black is not classified as a carcinogen. Lung tumors are induced in rats as a result of repeated exposure to inert, poorly soluble particles like carbon black and other poorly soluble particles. Rats tumors are a result of a secondary non-genotoxic mechanism that has questionable relevance for classification in humans. In support of this opinion, the CLP Guidance for Specific Target Organ Toxicity - Repeated Exposure (STOT-RE), cites lung overload under mechanisms not relevant to humans. Human health studies show that exposure to carbon black does not increase the risk to carcinogenicity.

Titanium dioxide (13463-67-7)

In lifetime inhalation studies of rats, airborne respirable-size titanium dioxide particles have been 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 animals 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 not 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.
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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
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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 : 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 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

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).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

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! This product contains a chemical known in the State of California to cause cancer.

WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

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

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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Safety Data Sheet

Sikasil® WS-295



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Material number: 481215