



EMSEAL Safety Data Sheet
Product Package

DSF System



EMSEAL Joint Systems, Ltd.

25 Bridle Lane, Westborough, MA 01581 USA

www.emseal.com

Preparation Date March 15, 2015

Revision Date March 13, 2019

Safety Data Sheet DSF Foam

1. Identification of the Substance / Preparation

Product identifier	DSF
Other identifier or names	DSF 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)

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

EMSEAL DSF is composed of polyurethane foam impregnated with a proprietary solid acrylic polymer bonded to a fully cured silicone sealant. 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
Methyltrimethoxysilane	1185-55-3	3.0 - 7.0	SELF CLASSIFICATION Classification: Not Applicable
Water and other components. Each of the other components are proprietary.			SELF CLASSIFICATION 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 white 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.

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)

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/NDL - 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)

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**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 Desmodesmus 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 Desmodesmus 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 Desmodesmus 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 - Personal Protection X
HMIS <i>Chronic Hazard Star Legend</i>	Health hazards 2* * = Chronic Health Hazard	Flammability 1	Physical hazards 0	

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

DOW CORNING(R) 748 NON-CORROSIVE SEALANT

Version	Review Date:	MSDS Number:	Date of last issue: 03/30/2015
2.1	05/01/2018	848716-00003	Date of first issue: 11/28/2014

SECTION 1. IDENTIFICATION

Product name : DOW CORNING(R) 748 NON-CORROSIVE SEALANT

Product code : 000000000002184346

Manufacturer or supplier's details

Company name of supplier : Dow Corning Corporation

Address : South Saginaw Road
Midland Michigan 48686

Telephone : (989) 496-6000

Emergency telephone : 24 Hour Emergency Telephone : (989) 496-5900
CHEMTREC : (800) 424-9300**Recommended use of the chemical and restrictions on use**

Recommended use : Adhesive, binding agents

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Skin sensitization : Category 1

GHS Label element

Hazard pictograms :



Signal Word : Warning

Hazard Statements : H317 May cause an allergic skin reaction.

Precautionary Statements : **Prevention:**
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

DOW CORNING(R) 748 NON-CORROSIVE SEALANT

Version	Review Date:	MSDS Number:	Date of last issue: 03/30/2015
2.1	05/01/2018	848716-00003	Date of first issue: 11/28/2014

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Chemical nature : Sealant

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
Calcium carbonate	471-34-1	>= 30 - < 50
Titanium dioxide	13463-67-7	>= 1 - < 5
Methyltrimethoxysilane	1185-55-3	>= 1 - < 5
Stearic acid	57-11-4	>= 1 - < 5
Methanol	67-56-1	>= 0.1 - < 1

SECTION 4. FIRST AID MEASURES

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.
- If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.
- In case of skin contact : In case of contact, immediately flush skin with soap and plenty of water.
Remove contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.
- In case of eye contact : Flush eyes with water as a precaution.
Get medical attention if irritation develops and persists.
- If swallowed : If swallowed, DO NOT induce vomiting.
Get medical attention if symptoms occur.
Rinse mouth thoroughly with water.
- Most important symptoms and effects, both acute and delayed : May cause an allergic skin reaction.
- Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.

DOW CORNING(R) 748 NON-CORROSIVE SEALANT

Version	Review Date:	MSDS Number:	Date of last issue: 03/30/2015
2.1	05/01/2018	848716-00003	Date of first issue: 11/28/2014

Notes to physician : Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical
- Unsuitable extinguishing media : None known.
- Specific hazards during fire fighting : Exposure to combustion products may be a hazard to health.
- Hazardous combustion products : Carbon oxides
Silicon oxides
Formaldehyde
Metal oxides
- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.
- Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Follow safe handling advice and personal protective equipment recommendations.
- Environmental precautions : Discharge into the environment must be avoided.
Prevent further leakage or spillage if safe to do so.
Retain and dispose of contaminated wash water.
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.
For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to deter-

DOW CORNING(R) 748 NON-CORROSIVE SEALANT

Version	Review Date:	MSDS Number:	Date of last issue: 03/30/2015
2.1	05/01/2018	848716-00003	Date of first issue: 11/28/2014

mine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Local/Total ventilation : Use only with adequate ventilation.
- Advice on safe handling : Do not get on skin or clothing.
Do not swallow.
Avoid contact with eyes.
Handle in accordance with good industrial hygiene and safety practice.
Keep away from water.
Protect from moisture.
Take care to prevent spills, waste and minimize release to the environment.
- Conditions for safe storage : Keep in properly labeled containers.
Store in accordance with the particular national regulations.
- Materials to avoid : Do not store with the following product types:
Strong oxidizing agents

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Ingredients with workplace control parameters**

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Calcium carbonate	471-34-1	TWA (Respirable)	5 mg/m ³ (Calcium carbonate)	NIOSH REL
		TWA (total)	10 mg/m ³ (Calcium carbonate)	NIOSH REL
Titanium dioxide	13463-67-7	TWA (total dust)	15 mg/m ³	OSHA Z-1
		TWA	10 mg/m ³ (Titanium dioxide)	ACGIH
Methyltrimethoxysilane	1185-55-3	TWA	50 ppm	DCC OEL
Stearic acid	57-11-4	TWA	10 mg/m ³	ACGIH
Methanol	67-56-1	TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH
		TWA	200 ppm 260 mg/m ³	NIOSH REL
		ST	250 ppm	NIOSH REL

DOW CORNING(R) 748 NON-CORROSIVE SEALANT

Version 2.1 Review Date: 05/01/2018 MSDS Number: 848716-00003 Date of last issue: 03/30/2015
Date of first issue: 11/28/2014

			325 mg/m ³	
		TWA	200 ppm 260 mg/m ³	OSHA Z-1

Occupational exposure limits of decomposition products

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Methanol	67-56-1	TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH
		TWA	200 ppm 260 mg/m ³	NIOSH REL
		ST	250 ppm 325 mg/m ³	NIOSH REL
		TWA	200 ppm 260 mg/m ³	OSHA Z-1

Biological occupational exposure limits

Ingredients	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Methanol	67-56-1	Methanol	Urine	End of shift (As soon as possible after exposure ceases)	15 mg/l	ACGIH BEI

Engineering measures : Processing may form hazardous compounds (see section 10).
Ensure adequate ventilation, especially in confined areas.
Minimize workplace exposure concentrations.
Dust formation may be relevant in the processing of this product. In addition to substance-specific OELs, general limitations of concentrations of particulates in the air at workplaces have to be considered in workplace risk assessment. Relevant limits include: OSHA PEL for Particulates Not Otherwise Regulated of 15 mg/m³ - total dust, 5 mg/m³ - respirable fraction; and ACGIH TWA for Particles (insoluble or poorly soluble) Not Otherwise Specified of 3 mg/m³ - respirable particles, 10 mg/m³ - inhalable particles.

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled

DOW CORNING(R) 748 NON-CORROSIVE SEALANT

Version 2.1	Review Date: 05/01/2018	MSDS Number: 848716-00003	Date of last issue: 03/30/2015 Date of first issue: 11/28/2014
----------------	----------------------------	------------------------------	---

release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection Material	:	Impervious gloves
Remarks	:	Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.
Eye protection	:	Wear the following personal protective equipment: Safety glasses
Skin and body protection	:	Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
Hygiene measures	:	Ensure that eye flushing systems and safety showers are located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use. These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	paste
Color	:	white
Odor	:	alcohol-like
Odor Threshold	:	No data available
pH	:	Not applicable
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	Not applicable
Flash point	:	Not applicable

**DOW CORNING(R) 748 NON-CORROSIVE
SEALANT**

Version	Review Date:	MSDS Number:	Date of last issue: 03/30/2015
2.1	05/01/2018	848716-00003	Date of first issue: 11/28/2014

Evaporation rate	: Not applicable
Flammability (solid, gas)	: Not classified as a flammability hazard
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapor pressure	: Not applicable
Relative vapor density	: No data available
Relative density	: 1.34
Solubility(ies)	
Water solubility	: No data available
Partition coefficient: n-octanol/water	: No data available
Autoignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	
Viscosity, dynamic	: Not applicable
Explosive properties	: Not explosive
Oxidizing properties	: The substance or mixture is not classified as oxidizing.
Molecular weight	: No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Not classified as a reactivity hazard.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Use at elevated temperatures may form highly hazardous compounds. Can react with strong oxidizing agents. Hazardous decomposition products will be formed upon contact with water or humid air. Hazardous decomposition products will be formed at elevated temperatures.
Conditions to avoid	: Exposure to moisture.
Incompatible materials	: Oxidizing agents Water

**DOW CORNING(R) 748 NON-CORROSIVE
SEALANT**

Version	Review Date:	MSDS Number:	Date of last issue: 03/30/2015
2.1	05/01/2018	848716-00003	Date of first issue: 11/28/2014

Hazardous decomposition products

Contact with water or humid air : Methanol

Thermal decomposition : Formaldehyde

SECTION 11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

Skin contact

Ingestion

Eye contact

Acute toxicity

Not classified based on available information.

Product:Acute oral toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation methodAcute inhalation toxicity : Acute toxicity estimate: > 40 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: Calculation methodAcute dermal toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method**Ingredients:****Calcium carbonate:**Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 420
Assessment: The substance or mixture has no acute oral toxicityAcute inhalation toxicity : LC50 (Rat): > 3 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicityAcute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity**Titanium dioxide:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 6.82 mg/l

DOW CORNING(R) 748 NON-CORROSIVE SEALANT

Version 2.1	Review Date: 05/01/2018	MSDS Number: 848716-00003	Date of last issue: 03/30/2015 Date of first issue: 11/28/2014
----------------	----------------------------	------------------------------	---

Exposure time: 4 h
 Test atmosphere: dust/mist
 Assessment: The substance or mixture has no acute inhalation toxicity

Methyltrimethoxysilane:

Acute oral toxicity : LD50 (Rat): 12.3 ml/kg
 Assessment: The substance or mixture has no acute oral toxicity
 Remarks: Information taken from reference works and the literature.

Acute inhalation toxicity : LC50 (Rat): > 42.1 mg/l
 Exposure time: 6 h
 Test atmosphere: vapor
 Assessment: The substance or mixture has no acute inhalation toxicity
 Remarks: Based on test data

Acute dermal toxicity : LD50 (Rabbit): > 9,500 mg/kg
 Assessment: The substance or mixture has no acute dermal toxicity
 Remarks: Based on test data

Stearic acid:

Acute oral toxicity : LD50: > 2,000 mg/kg
 Method: OECD Test Guideline 401
 Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rat): > 0.1621 mg/l
 Exposure time: 4 h
 Test atmosphere: vapor
 Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
 Assessment: The substance or mixture has no acute dermal toxicity

Methanol:

Acute oral toxicity : Acute toxicity estimate (Humans): 300 mg/kg
 Method: Expert judgment

Acute inhalation toxicity : Acute toxicity estimate (Humans): 3 mg/l
 Test atmosphere: vapor
 Method: Expert judgment

Acute dermal toxicity : Acute toxicity estimate (Humans): 300 mg/kg
 Method: Expert judgment

Skin corrosion/irritation

Not classified based on available information.

**DOW CORNING(R) 748 NON-CORROSIVE
SEALANT**

Version	Review Date:	MSDS Number:	Date of last issue: 03/30/2015
2.1	05/01/2018	848716-00003	Date of first issue: 11/28/2014

Ingredients:**Calcium carbonate:**

Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

Titanium dioxide:

Species: Rabbit
Result: No skin irritation

Methyltrimethoxysilane:

Species: Rabbit
Result: No skin irritation
Remarks: Based on test data

Stearic acid:

Species: Rabbit
Result: No skin irritation

Methanol:

Species: Rabbit
Result: No skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Ingredients:**Calcium carbonate:**

Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405

Titanium dioxide:

Species: Rabbit
Result: No eye irritation

Methyltrimethoxysilane:

Species: Rabbit
Result: No eye irritation
Remarks: Based on test data

Stearic acid:

Species: Rabbit
Result: No eye irritation

Methanol:

Species: Rabbit
Result: No eye irritation

Respiratory or skin sensitization

Skin sensitization: May cause an allergic skin reaction.
Respiratory sensitization: Not classified based on available information.

**DOW CORNING(R) 748 NON-CORROSIVE
SEALANT**

Version	Review Date:	MSDS Number:	Date of last issue: 03/30/2015
2.1	05/01/2018	848716-00003	Date of first issue: 11/28/2014

Ingredients:**Calcium carbonate:**

Test Type: Local lymph node assay (LLNA)

Routes of exposure: Skin contact

Species: Mouse

Method: OECD Test Guideline 429

Result: negative

Titanium dioxide:

Test Type: Local lymph node assay (LLNA)

Routes of exposure: Skin contact

Species: Mouse

Result: negative

Methyltrimethoxysilane:

Assessment: Probability or evidence of low to moderate skin sensitization rate in humans

Test Type: Buehler Test

Species: Guinea pig

Remarks: Based on test data

Stearic acid:

Test Type: Buehler Test

Routes of exposure: Skin contact

Species: Guinea pig

Result: negative

Methanol:

Test Type: Maximization Test (GPMT)

Routes of exposure: Skin contact

Species: Guinea pig

Result: negative

Germ cell mutagenicity

Not classified based on available information.

Ingredients:**Calcium carbonate:**

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Result: negative

Titanium dioxide:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Mouse
Result: negative

Methyltrimethoxysilane:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on test data

**DOW CORNING(R) 748 NON-CORROSIVE
SEALANT**

Version	Review Date:	MSDS Number:	Date of last issue: 03/30/2015
2.1	05/01/2018	848716-00003	Date of first issue: 11/28/2014

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Result: negative
Remarks: Based on test data

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

Stearic acid:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: negative
Remarks: Based on data from similar materials

Methanol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

: Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative

Carcinogenicity

Not classified based on available information.

Ingredients:**Titanium dioxide:**

Species: Rat
Application Route: inhalation (dust/mist/fume)
Exposure time: 24 Months
Method: OECD Test Guideline 453
Result: positive
Remarks: The mechanism or mode of action may not be relevant in humans.
The substance is inextricably bound in the product and therefore does not contribute to a dust inhalation hazard.

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in inhalation studies with animals.

Methanol:

Species: Mouse
Application Route: inhalation (vapor)
Exposure time: 18 Months

**DOW CORNING(R) 748 NON-CORROSIVE
SEALANT**

Version	Review Date:	MSDS Number:	Date of last issue: 03/30/2015
2.1	05/01/2018	848716-00003	Date of first issue: 11/28/2014

Method: OECD Test Guideline 453
Result: negative

IARC Group 2B: Possibly carcinogenic to humans
Titanium dioxide 13463-67-7

OSHA No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

Ingredients:**Calcium carbonate:**

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative

Effects on fetal development : Test Type: Reproduction/Developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative

Methyltrimethoxysilane:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat, male and female
Application Route: Ingestion
Symptoms: No effects on fertility.
Remarks: Based on test data

Effects on fetal development : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat, male and female
Application Route: Ingestion
Symptoms: No effects on fetal development.
Remarks: Based on test data

Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

Stearic acid:

**DOW CORNING(R) 748 NON-CORROSIVE
SEALANT**

Version	Review Date:	MSDS Number:	Date of last issue: 03/30/2015
2.1	05/01/2018	848716-00003	Date of first issue: 11/28/2014

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative

Effects on fetal development : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat
Application Route: Ingestion
Method: OECD Test Guideline 422
Result: negative

Methanol:
Effects on fertility : Test Type: Fertility/early embryonic development
Species: Mouse
Application Route: Ingestion
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: positive
Remarks: The effects were seen only at maternally toxic doses.

STOT-single exposure

Not classified based on available information.

Ingredients:**Methanol:**

Target Organs: Eyes, Central nervous system
Assessment: Causes damage to organs.

STOT-repeated exposure

Not classified based on available information.

Ingredients:**Methyltrimethoxysilane:**

Routes of exposure: inhalation (vapor)

Assessment: No significant health effects observed in animals at concentrations of 1 mg/l/6h/d or less.

Routes of exposure: Ingestion

Assessment: No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

Repeated dose toxicity**Ingredients:**

**DOW CORNING(R) 748 NON-CORROSIVE
SEALANT**

Version	Review Date:	MSDS Number:	Date of last issue: 03/30/2015
2.1	05/01/2018	848716-00003	Date of first issue: 11/28/2014

Calcium carbonate:

Species: Rat
NOAEL: 1,000 mg/kg
Application Route: Ingestion
Exposure time: 6 w
Method: OECD Test Guideline 422

Titanium dioxide:

Species: Rat
NOAEL: 24,000 mg/kg
Application Route: Ingestion
Exposure time: 28 d

Species: Rat

NOAEL: 10 mg/m³
Application Route: inhalation (dust/mist/fume)
Exposure time: 2 y

Remarks: The substance is inextricably bound in the product and therefore does not contribute to a dust inhalation hazard.

Methyltrimethoxysilane:

Species: Rat
Application Route: inhalation (vapor)
Remarks: Based on test data

Species: Rat

Application Route: Ingestion
Remarks: Based on test data

Stearic acid:

Species: Rat
NOAEL: 1,000 mg/kg
Application Route: Ingestion
Exposure time: 42 d
Method: OECD Test Guideline 422

Methanol:

Species: Rat
NOAEL: 1.06 mg/l
Application Route: inhalation (vapor)
Exposure time: 90 d

Aspiration toxicity

Not classified based on available information.

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Ingredients:****Calcium carbonate:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l

DOW CORNING(R) 748 NON-CORROSIVE SEALANT

Version 2.1	Review Date: 05/01/2018	MSDS Number: 848716-00003	Date of last issue: 03/30/2015 Date of first issue: 11/28/2014
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Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae : ErC50 (Desmodesmus subspicatus (green algae)): > 14 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Titanium dioxide:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h

Toxicity to algae : EC50 (Skeletonema costatum (marine diatom)): > 10,000 mg/l
Exposure time: 72 h

Toxicity to bacteria : EC50: > 1,000 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Methyltrimethoxysilane:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia sp.): > 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to bacteria : EC50: > 100 mg/l
Method: OECD Test Guideline 209

Stearic acid:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): > 10,000 mg/l
Exposure time: 48 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 4.8 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: No toxicity at the limit of solubility.

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): > 0.9 mg/l

DOW CORNING(R) 748 NON-CORROSIVE SEALANT

Version 2.1	Review Date: 05/01/2018	MSDS Number: 848716-00003	Date of last issue: 03/30/2015 Date of first issue: 11/28/2014
----------------	----------------------------	------------------------------	---

Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: No toxicity at the limit of solubility.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): > 0.22 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211
Remarks: No toxicity at the limit of solubility.

Toxicity to bacteria : EC10 (Pseudomonas putida): 883 mg/l
Exposure time: 16 h

Methanol:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 15,400 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l
Exposure time: 48 h

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 22,000 mg/l
Exposure time: 96 h
Method: OPPTS 850.5400

Toxicity to fish (Chronic toxicity) : NOEC (Oryzias latipes (Orange-red killifish)): 15,800 mg/l
Exposure time: 200 h

Toxicity to bacteria : EC50: 20,000 mg/l
Exposure time: 15 h

Persistence and degradability**Ingredients:****Methyltrimethoxysilane:**

Stability in water : Degradation half life: 2.2 h pH: 7

Stearic acid:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 93 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

Methanol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 95 %
Exposure time: 20 d

Bioaccumulative potential**Ingredients:****Methyltrimethoxysilane:**

Partition coefficient: n-octanol/water : log Pow: -2.36

**DOW CORNING(R) 748 NON-CORROSIVE
SEALANT**

Version	Review Date:	MSDS Number:	Date of last issue: 03/30/2015
2.1	05/01/2018	848716-00003	Date of first issue: 11/28/2014

Stearic acid:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 238 - 288
Remarks: Based on data from similar materials

Partition coefficient: n-
octanol/water : log Pow: > 5

Methanol:

Bioaccumulation : Species: Leuciscus idus (Golden orfe)
Bioconcentration factor (BCF): < 10

Partition coefficient: n-
octanol/water : log Pow: -0.77

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Resource Conservation and
Recovery Act (RCRA) : This product has been evaluated for RCRA characteristics
and does not meet the criteria of hazardous waste if discarded
in its purchased form.

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : Dispose of as unused product.
Empty containers should be taken to an approved waste han-
dling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION**International Regulation****UNRTDG**

Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

DOW CORNING(R) 748 NON-CORROSIVE SEALANT

Version	Review Date:	MSDS Number:	Date of last issue: 03/30/2015
2.1	05/01/2018	848716-00003	Date of first issue: 11/28/2014

49 CFR

Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION**EPCRA - Emergency Planning and Community Right-to-Know****CERCLA Reportable Quantity**

Ingredients	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Methanol	67-56-1	5000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

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

SARA 311/312 Hazards : Acute 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.**US State Regulations****Pennsylvania Right To Know**

Dimethyl siloxane, trimethoxysilyl-terminated	Not Assigned	30 - 50 %
Calcium carbonate	471-34-1	30 - 50 %
Dimethyl Siloxane, Dimethylvinylsiloxo-terminated	68083-19-2	5 - 10 %
Titanium dioxide	13463-67-7	1 - 5 %
Methanol	67-56-1	0.1 - 1 %

New Jersey Right To Know

Dimethyl siloxane, trimethoxysilyl-terminated	Not Assigned	30 - 50 %
Calcium carbonate	471-34-1	30 - 50 %
Dimethyl Siloxane, Dimethylvinylsiloxo-terminated	68083-19-2	5 - 10 %
Titanium dioxide	13463-67-7	1 - 5 %
Stearic acid	57-11-4	1 - 5 %
Methyltrimethoxysilane	1185-55-3	1 - 5 %
Methanol	67-56-1	0.1 - 1 %

California Prop 65

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

Methanol 67-56-1

DOW CORNING(R) 748 NON-CORROSIVE SEALANT

Version 2.1	Review Date: 05/01/2018	MSDS Number: 848716-00003	Date of last issue: 03/30/2015 Date of first issue: 11/28/2014
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The ingredients of this product are reported in the following inventories:

REACH : All ingredients (pre-)registered or exempt.

TSCA : All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

AICS : All ingredients listed or exempt.

IECSC : All ingredients listed or exempt.

ENCS/ISHL : All components are listed on ENCS/ISHL or exempted from inventory listing.

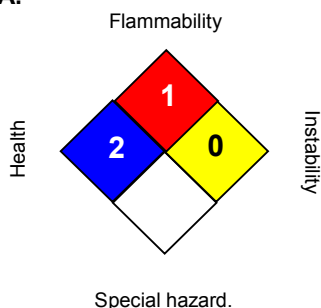
KECI : All ingredients listed, exempt or notified.

PICCS : All ingredients listed or exempt.

DSL : All chemical substances in this product comply with the CEPA 1999 and NSNR and are on or exempt from listing on the Canadian Domestic Substances List (DSL).

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

SECTION 16. OTHER INFORMATION**Further information****NFPA:****HMIS III:**

HEALTH	2
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)
DCC OEL : Dow Corning Guide

**DOW CORNING(R) 748 NON-CORROSIVE
SEALANT**

Version	Review Date:	MSDS Number:	Date of last issue: 03/30/2015
2.1	05/01/2018	848716-00003	Date of first issue: 11/28/2014

NIOSH REL	: USA. NIOSH Recommended Exposure Limits
OSHA Z-1	: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA	: 8-hour, time-weighted average
ACGIH / STEL	: Short-term exposure limit
DCC OEL / TWA	: Time weighted average
NIOSH REL / TWA	: Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST	: STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA Z-1 / TWA	: 8-hour time weighted average
Sources of key data used to compile the Material Safety Data Sheet	: Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/
Revision Date	: 05/01/2018'

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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