SAFETY DATA SHEET
DOW SILICONES CORPORATION

Product name: DOWSIL™ Q1-6132 Adhesion Promoter **Issue Date:** 08/30/2021
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DOW SILICONES CORPORATION encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: DOWSIL™ Q1-6132 Adhesion Promoter

Recommended use of the chemical and restrictions on use
Identified uses: Adhesive, binding agents

COMPANY IDENTIFICATION
DOW SILICONES CORPORATION
2200 WEST SALZBURG ROAD
MIDLAND MI 48686-0994
UNITED STATES

Customer Information Number: 800-258-2436
SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 1 800 424 9300
Local Emergency Contact: 800-424-9300

2. HAZARDS IDENTIFICATION

Hazard classification
GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Flammable liquids - Category 2
Eye irritation - Category 2A
Skin sensitisation - Category 1
Specific target organ toxicity - single exposure - Category 3
Specific target organ toxicity - repeated exposure - Category 2 - Oral
Specific target organ toxicity - repeated exposure - Category 2 - Inhalation

Label elements
Hazard pictograms

Signal word: **DANGER!**

Hazards
Highly flammable liquid and vapour.
May cause an allergic skin reaction.
Causes serious eye irritation.
May cause drowsiness or dizziness.
May cause damage to organs (Bladder, Kidney) through prolonged or repeated exposure if swallowed.
May cause damage to organs (Respiratory Tract) through prolonged or repeated exposure if inhaled.

Precautionary statements

Prevention
Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical, ventilating or lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Do not breathe spray.
Wash skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/ eye protection/ face protection.

Response
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor 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.
Get medical advice/ attention if you feel unwell.
If skin irritation or rash occurs: Get medical advice/ attention.
If eye irritation persists: Get medical advice/ attention.
Wash contaminated clothing before reuse.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

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

Disposal
Dispose of contents and/or container to an approved waste disposal plant.

Other hazards
Static-accumulating flammable liquid.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Organic silane
This product is a mixture.

Component	CASRN	Concentration
Isopropanol	67-63-0	>= 80.0 - < 90.0 %
Trimethoxyphenylsilane	2996-92-1	>= 10.0 - < 20.0 %
N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine	1760-24-3	>= 1.0 - < 5.0 %
Methanol	67-56-1	>= 0.1 - < 1.0 %
N,N-Bis(3-(Trimethylsiloxy)propyl)-1,2-ethanediamine	74956-86-8	>= 0.1 - < 1.0 %
N,N'-bis(3-(trimethoxysilyl)propyl)-1,2-ethanediamine	68845-16-9	>= 0.1 - < 1.0 %

Note
Actual concentration is withheld as a trade secret

4. FIRST AID MEASURES

Description of first aid measures
General advice:
First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Skin contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Obtain medicalattention without delay. Wash clothing before reuse. Properly dispose of contaminated leather items, such as shoes, belts, and watchbands. Suitable emergency safety shower facility should be immediately available.

Eye contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist. Suitable emergency eye wash facility should be available in work area.

Ingestion: Do not induce vomiting. Seek medical attention immediately. If person is fully conscious give 1 cup or 8 ounces (240 ml) of water. If medical advice is delayed and if an adult has swallowed several ounces of chemical, then give 3-4 ounces (1/3-1/2 Cup) (90-120 ml) of hard liquor such as 80 proof whiskey. For children, give proportionally less liquor at a dose of 0.3 ounce (1 1/2 tsp.) (8 ml) liquor for each 10 pounds of body weight, or 2 ml per kg body weight [e.g., 1.2 ounce (2 1/3 tbsp.) for a 40 pound child or 36 ml for an 18 kg child].

Most important symptoms and effects, both acute and delayed:
Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed
Notes to physician: In cases where several ounces (60 - 100 ml) have been ingested, consider the use of ethanol and hemodialysis in the treatment. Consult standard literature for details of treatment. If ethanol is used, a therapeutically effective blood concentration in the range of 100 - 150 mg/dl may be achieved by a rapid loading dose followed by a continuous intravenous infusion. Consult standard literature for details of treatment. 4-Methyl pyrazole (Antizol®) is an effective blocker of alcohol dehydrogenase and should be used in the treatment of ethylene glycol (EG), di- or triethylene glycol (DEG, TEG), ethylene glycol butyl ether (EGBE), or methanol intoxication if available. Fomepizole protocol (Brent, J. et al., New England Journal of Medicine, Feb. 8, 2001, 344:6, p. 424-9): loading dose 15 mg/kg intravenously, follow by bolus dose of 10 mg/kg every 12 hours; after 48 hours, increase bolus dose to 15 mg/kg every 12 hours. Continue fomepizole until serum methanol, EG, DEG, TEG or EGBE are undetectable. The signs and symptoms of poisoning include anion gap metabolic acidosis, CNS depression, renal tubular injury, and possible late stage cranial nerve involvement. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. In severe poisoning, respiratory support with mechanical ventilation and positive end expiratory pressure may be required. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Maintain adequate ventilation and oxygenation of the patient. Hemodialysis may be of benefit if substantial amounts have been ingested and the patient is showing signs of intoxication. Consider hemodialysis for patients with persistent hypotension or coma unresponsive to standard therapy (isopropanol levels >400 - 500 mg/dl). (Goldfrank, Toxicological Emergencies 7th ed., 2002; King, JAMA, 1970, 211:1855). Because rapid absorption may occur through the lungs if aspirated and cause systemic effects, the decision of whether to induce vomiting or not should be made by a physician. If burn is present, treat as any thermal burn, after decontamination. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Skin contact may aggravate preexisting dermatitis.

5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam. Dry sand. Dry chemical.

Unsuitable extinguishing media: High volume water jet. Do not use direct water stream..

Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon oxides. Silicon oxides. Formaldehyde. Nitrogen oxides (NOx).

Unusual Fire and Explosion Hazards: Flash back possible over considerable distance.. Exposure to combustion products may be a hazard to health.. Closed containers may rupture via pressure build-up when exposed to fire or extreme heat.. Vapours may form explosive mixtures with air..

Advice for firefighters

Fire Fighting Procedures: Use water spray to cool unopened containers.. Evacuate area.. 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.. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed.. Do not use a solid water stream as it may scatter and spread fire..
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Remove undamaged containers from fire area if it is safe to do so.

Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus.. Use personal protective equipment..

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Remove all sources of ignition. Ventilate the area. Use personal protective equipment. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Ground and bond all containers and handling equipment. Vapor explosion hazard. Keep out of sewers. 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. Prevent spreading over a wide area (e.g. by containment or oil barriers). 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: Non-sparking tools should be used. Soak up with inert absorbent material. Suppress (knock down) gases/vapours/mists with a water spray jet. Clean up remaining materials from spill with suitable absorbant. 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 determine which regulations are applicable. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.
See sections: 7, 8, 11, 12 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling: Do not get on skin or clothing. Do not breathe vapours or spray mist. Do not swallow. Do not get in eyes. Keep container tightly closed. Keep away from heat and sources

of ignition. Take precautionary measures against static discharges. Take care to prevent spills, waste and minimize release to the environment. Non-sparking tools should be used. Handle in accordance with good industrial hygiene and safety practice. CONTAINERS MAY BE HAZARDOUS WHEN EMPTY. Since emptied containers retain product residue follow all (M)SDS and label warnings even after container is emptied.
Use with local exhaust ventilation. Use only in an area equipped with explosion proof exhaust ventilation. Ensure all equipment is electrically grounded before beginning transfer operations. This material can accumulate static charge due to its inherent physical properties and can therefore cause an electrical ignition source to vapors. In order to prevent a fire hazard, as bonding and grounding may be insufficient to remove static electricity, it isnecessary to provide an inert gas purge before beginning transfer operations. Restrict flow velocity in order to reduce the accumulation of static electricity. Ground and bond container and receiving equipment.

Conditions for safe storage: Keep in properly labelled containers. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.

Do not store with the following product types: Strong oxidizing agents. Organic peroxides. Flammable solids. Pyrophoric liquids. Pyrophoric solids. Self-heating substances and mixtures. Substances and mixtures, which in contact with water, emit flammable gases. Explosives. Gases.
Unsuitable materials for containers**:** None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value
Isopropanol	ACGIH	TWA	200 ppm
	Further information: A4: Not classifiable as a human carcinogen		
	ACGIH	STEL	400 ppm
	Further information: A4: Not classifiable as a human carcinogen		
	OSHA Z-1	TWA	980 mg/m3 400 ppm
Trimethoxyphenylsilane	Dow IHG	TWA	5 ppm
N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine	Dow IHG		See Further information
	Further information: Skin Sensitizer		
Methanol	ACGIH	TWA	200 ppm
	Further information: Skin: Danger of cutaneous absorption		
	ACGIH	STEL	250 ppm
	Further information: Skin: Danger of cutaneous absorption		
	OSHA Z-1	TWA	260 mg/m3 200 ppm

The following substance(s), which have Occupational Exposure Limit(s) (OEL), may be formed during handling or processing:, Methanol.

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Isopropanol	67-63-0	Acetone	Urine	End of shift at end of	40 mg/l	ACGIH BEI

Methanol	67-56-1	Methanol	Urine	workweek End of shift (As soon as possible after exposure ceases)	15 mg/l	ACGIH BEI

Exposure controls
Engineering controls: Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. Local exhaust ventilation may be necessary for some operations. Lethal concentrations may exist in areas with poor ventilation.

Individual protection measures

Eye/face protection: Use chemical goggles. If exposure causes eye discomfort, use a full-face respirator.

Skin protection

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). Examples of acceptable glove barrier materials include: Chlorinated polyethylene. Avoid gloves made of: Polyvinyl alcohol ("PVA"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply. For emergency and other conditions where the exposure guideline may be exceeded, use an approved positive-pressure self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply. In confined or poorly ventilated areas, use an approved self-contained breathing apparatus or positive pressure air line with auxiliary self-contained air supply.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	liquid
Color	blue
Odor	amine-like
Odor Threshold	No data available
pH	No data available

Melting point/range	No data available
Freezing point	No data available
Boiling point (760 mmHg)	> 65 °C (> 149 °F)
Flash point	**Pensky-Martens closed cup** 12.7 °C (54.9 °F)
Evaporation Rate (Butyl Acetate = 1)	No data available
Flammability (solid, gas)	Not applicable
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor Pressure	No data available
Relative Vapor Density (air = 1)	No data available
Relative Density (water = 1)	0.82
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Kinematic Viscosity	2 cSt
Explosive properties	Not explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.
Molecular weight	No data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard.

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: Can react with strong oxidizing agents. When heated to temperatures above 180 °C (356 °F) in the presence of air, trace quantities of formaldehyde may be released. Adequate ventilation is required. Vapours may form explosive mixture with air. Highly flammable liquid and vapour.

Conditions to avoid: Heat, flames and sparks.

Incompatible materials: Oxidizing agents

Hazardous decomposition products:
Decomposition products can include and are not limited to: Methanol. Benzene.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Information on likely routes of exposure
Inhalation, Eye contact, Skin contact, Ingestion.

Acute toxicity (represents short term exposures with immediate effects - no chronic/delayed effects known unless otherwise noted)

Acute oral toxicity
Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. May cause central nervous system depression. Signs and symptoms of excessive exposure may include: Facial flushing. Low blood pressure. Irregular heartbeats. May cause nausea and vomiting. Contains a component(s) which hydrolyzes to methanol. Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart.

As product: Single dose oral LD50 has not been determined.

Based on information for component(s):
LD50, > 2,000 mg/kg Estimated.

Information for components:

Isopropanol
May cause central nervous system depression. Signs and symptoms of excessive exposure may include: Facial flushing. Low blood pressure. Irregular heartbeats. May cause nausea and vomiting.

LD50, Rat, 5,840 mg/kg OECD 401 or equivalent

Trimethoxyphenylsilane
Based on product testing: LD50, Rat, 1,049 mg/kg

This substance may hydrolyze to release Methanol. Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart.

N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine
LD50, Rat, male and female, 2,295 mg/kg OPPTS 870.1100

This substance may hydrolyze to release Methanol. Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart.

Methanol
Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart. Effects may be delayed. LD50, Rat, > 5,000 mg/kg

Lethal Dose, Humans, 340 mg/kg Estimated.

Lethal Dose, Humans, 29 - 237 ml Estimated.

N,N-Bis(3-(Trimethylsiloxy)propyl)-1,2-ethanediamine
Single dose oral LD50 has not been determined.

This substance may hydrolyze to release Methanol. Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart.

N,N'-bis(3-(trimethoxysilyl)propyl)-1,2-ethanediamine
Single dose oral LD50 has not been determined.

This substance may hydrolyze to release Methanol. Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart.

Acute dermal toxicity
Prolonged skin contact is unlikely to result in absorption of harmful amounts. Contains a component(s) which hydrolyzes to methanol. Effects of methanol are the same as observed via oral and inhalation exposure and include central nervous system (CNS) depression, visual impairment up to blindness, metabolic acidosis, with effects on organ systems such as liver, kidneys and heart, even death.

As product: The dermal LD50 has not been determined.

Based on information for component(s):
LD50, > 2,000 mg/kg Estimated.

Information for components:

Isopropanol
LD50, Rabbit, > 12,800 mg/kg

Trimethoxyphenylsilane
For similar material(s): LD50, Rabbit, male, 2,471 mg/kg OECD 402 or equivalent

This substance may hydrolyze to release Methanol. Effects of methanol are the same as observed via oral and inhalation exposure and include central nervous system (CNS) depression, visual impairment up to blindness, metabolic acidosis, with effects on organ systems such as liver, kidneys and heart, even death.

N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine
LD50, Rabbit, > 2,000 mg/kg No deaths occurred at this concentration.

This substance may hydrolyze to release Methanol. Effects of methanol are the same as observed via oral and inhalation exposure and include central nervous system (CNS) depression, visual impairment up to blindness, metabolic acidosis, with effects on organ systems such as liver, kidneys and heart, even death.

Methanol
Effects of methanol are the same as observed via oral and inhalation exposure and include central nervous system (CNS) depression, visual impairment up to blindness,

metabolic acidosis, with effects on organ systems such as liver, kidneys and heart, even death. LD50, Rabbit, 15,800 mg/kg

N,N-Bis(3-(Trimethylsiloxy)propyl)-1,2-ethanediamine
The dermal LD50 has not been determined.

This substance may hydrolyze to release Methanol. Effects of methanol are the same as observed via oral and inhalation exposure and include central nervous system (CNS) depression, visual impairment up to blindness, metabolic acidosis, with effects on organ systems such as liver, kidneys and heart, even death.

N,N'-bis(3-(trimethoxysilyl)propyl)-1,2-ethanediamine
The dermal LD50 has not been determined.

This substance may hydrolyze to release Methanol. Effects of methanol are the same as observed via oral and inhalation exposure and include central nervous system (CNS) depression, visual impairment up to blindness, metabolic acidosis, with effects on organ systems such as liver, kidneys and heart, even death.

Acute inhalation toxicity
Prolonged excessive exposure may cause adverse effects. With good ventilation, single exposure is not likely to be hazardous. In poorly ventilated areas, vapors or mists may accumulate and cause respiratory irritation. Observations in animals include middle ear lining damage upon exposure to vapors of isopropanol. However, the relevance of this to humans is unknown Excessive exposure (400 ppm) to isopropanol may cause eye, nose and throat irritation. Incoordination, confusion, hypotension, hypothermia, circulatory collapse, respiratory arrest and death may follow a longer duration or higher levels. Contains a component(s) which hydrolyzes to methanol. Inhalation of methanol may cause effects ranging from headache, narcosis and visual impairment to metabolic acidosis, blindness, and even death.

As product: The LC50 has not been determined.

Information for components:

Isopropanol
LC50, Rat, male and female, 6 Hour, vapour, > 10000 ppm

Trimethoxyphenylsilane
The LC50 has not been determined.

This substance may hydrolyze to release Methanol. Inhalation of methanol may cause effects ranging from headache, narcosis and visual impairment to metabolic acidosis, blindness, and even death.

N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine
LC50, Rat, 4 Hour, dust/mist, 1.49 - 2.44 mg/l OECD Test Guideline 403

This substance may hydrolyze to release Methanol. Inhalation of methanol may cause effects ranging from headache, narcosis and visual impairment to metabolic acidosis, blindness, and even death.

Methanol
Easily attainable vapor concentrations may cause serious adverse effects, even death. At lower concentrations: May cause respiratory irritation and central nervous

system depression. Symptoms may include headache, dizziness and drowsiness, progressing to incoordination and unconsciousness. Inhalation of methanol may cause effects ranging from headache, narcosis and visual impairment to metabolic acidosis, blindness, and even death. Effects may be delayed.

LC50, Rat, 4 Hour, vapour, 3 mg/l

N,N-Bis(3-(Trimethylsiloxy)propyl)-1,2-ethanediamine
The LC50 has not been determined.

This substance may hydrolyze to release Methanol. Inhalation of methanol may cause effects ranging from headache, narcosis and visual impairment to metabolic acidosis, blindness, and even death.

N,N'-bis(3-(trimethoxysilyl)propyl)-1,2-ethanediamine
The LC50 has not been determined.

This substance may hydrolyze to release Methanol. Inhalation of methanol may cause effects ranging from headache, narcosis and visual impairment to metabolic acidosis, blindness, and even death.

Skin corrosion/irritation
Based on information for component(s):
Brief contact may cause moderate skin irritation with local redness.
May cause drying and flaking of the skin.

Information for components:

Isopropanol
Prolonged exposure not likely to cause significant skin irritation.
May cause drying and flaking of the skin.

Trimethoxyphenylsilane
Brief contact is essentially nonirritating to skin.

N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine
Brief contact may cause moderate skin irritation with local redness.

Methanol
Prolonged contact may cause slight skin irritation with local redness.

N,N-Bis(3-(Trimethylsiloxy)propyl)-1,2-ethanediamine
Brief contact may cause skin irritation with local redness.

N,N'-bis(3-(trimethoxysilyl)propyl)-1,2-ethanediamine
Brief contact may cause skin irritation with local redness.

Serious eye damage/eye irritation
Based on information for component(s):
May cause moderate eye irritation.
May cause moderate corneal injury.
May cause pain disproportionate to the level of irritation to eye tissues.
Vapor may cause eye irritation experienced as mild discomfort and redness.
Vapor may cause lacrimation (tears).

Information for components:

Isopropanol
May cause pain disproportionate to the level of irritation to eye tissues.
May cause moderate eye irritation.
May cause moderate corneal injury.
Vapor may cause eye irritation experienced as mild discomfort and redness.
Vapor may cause lacrimation (tears).

Trimethoxyphenylsilane
Essentially nonirritating to eyes.
Corneal injury is unlikely.

N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Methanol
May cause eye irritation.

N,N-Bis(3-(Trimethylsiloxy)propyl)-1,2-ethanediamine
May cause severe eye irritation.
May cause slight corneal injury.
May cause permanent impairment of vision.

N,N'-bis(3-(trimethoxysilyl)propyl)-1,2-ethanediamine
May cause severe eye irritation.
May cause slight corneal injury.
May cause permanent impairment of vision.

Sensitization
For skin sensitization:
A component in this mixture has been shown to be a skin sensitizer.

For respiratory sensitization:
No relevant data found.

Information for components:

Isopropanol
Did not demonstrate the potential for contact allergy in mice.
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Trimethoxyphenylsilane
For similar material(s):
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine
Has caused allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Methanol
For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

N,N-Bis(3-(Trimethylsiloxy)propyl)-1,2-ethanediamine
Skin contact may cause an allergic skin reaction.

For respiratory sensitization:
No relevant data found.

N,N'-bis(3-(trimethoxysilyl)propyl)-1,2-ethanediamine
Skin contact may cause an allergic skin reaction.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
Contains component(s) which are classified as specific target organ toxicant, single exposure, category 3.

Information for components:

Isopropanol
May cause drowsiness or dizziness.
Route of Exposure: Ingestion
Target Organs: Central nervous system

Trimethoxyphenylsilane
Available data are inadequate to determine single exposure specific target organ toxicity.

N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine
Available data are inadequate to determine single exposure specific target organ toxicity.

Methanol
Causes damage to organs.
Route of Exposure: Oral
Target Organs: Eyes, Central nervous system

N,N-Bis(3-(Trimethylsiloxy)propyl)-1,2-ethanediamine
May cause respiratory irritation.
Route of Exposure: Inhalation
Target Organs: Respiratory system

N,N'-bis(3-(trimethoxysilyl)propyl)-1,2-ethanediamine
May cause respiratory irritation.

Route of Exposure: Inhalation
Target Organs: Respiratory system

Aspiration Hazard
Aspiration into the lungs may occur during ingestion or vomiting, resulting in rapid absorption and injury to other body systems.

Information for components:

Isopropanol
Aspiration into the lungs may occur during ingestion or vomiting, resulting in rapid absorption and injury to other body systems.

Trimethoxyphenylsilane
Based on available information, aspiration hazard could not be determined.

N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine
Based on available information, aspiration hazard could not be determined.

Methanol
May be harmful if swallowed and enters airways.

N,N-Bis(3-(Trimethylsiloxy)propyl)-1,2-ethanediamine
Based on physical properties, not likely to be an aspiration hazard.

N,N'-bis(3-(trimethoxysilyl)propyl)-1,2-ethanediamine
Based on physical properties, not likely to be an aspiration hazard.

Chronic toxicity (represents longer term exposures with repeated dose resulting in chronic/delayed effects - no immediate effects known unless otherwise noted)

Specific Target Organ Systemic Toxicity (Repeated Exposure)
Contains component(s) which have been reported to cause effects on the following organs in animals:
Kidney.
Liver.
Respiratory tract.
Bladder.
Observations in animals include:
Lethargy.

Information for components:

Isopropanol
In animals, effects have been reported on the following organs:
Kidney.
Liver.
Kidney effects have been observed in male rats. These effects are believed to be species specific and unlikely to occur in humans.
Observations in animals include:
Lethargy.

Trimethoxyphenylsilane
In animals, effects have been reported on the following organs:
Bladder.

Kidney.

N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine
In animals, effects have been reported on the following organs:
Respiratory tract.

Methanol
Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart.

N,N-Bis(3-(Trimethylsiloxy)propyl)-1,2-ethanediamine
No relevant data found.

N,N'-bis(3-(trimethoxysilyl)propyl)-1,2-ethanediamine
No relevant data found.

Carcinogenicity
Contains component(s) which did not cause cancer in laboratory animals.

Information for components:

Isopropanol
Did not cause cancer in laboratory animals.

Trimethoxyphenylsilane
No relevant data found.

N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine
No relevant data found.

Methanol
Did not cause cancer in laboratory animals.

N,N-Bis(3-(Trimethylsiloxy)propyl)-1,2-ethanediamine
No relevant data found.

N,N'-bis(3-(trimethoxysilyl)propyl)-1,2-ethanediamine
No relevant data found.

Teratogenicity
Isopropanol has been toxic to the fetus in laboratory animals at doses toxic to the mother.

Information for components:

Isopropanol
Isopropanol has been toxic to the fetus in laboratory animals at doses toxic to the mother.

Trimethoxyphenylsilane
Did not cause birth defects or any other fetal effects in laboratory animals.

N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine
Did not cause birth defects in laboratory animals.

Methanol
Methanol has caused birth defects in mice at doses nontoxic to the mother as well as slight behavioral effects in offspring of rats.

N,N-Bis(3-(Trimethylsiloxy)propyl)-1,2-ethanediamine
No relevant data found.

N,N'-bis(3-(trimethoxysilyl)propyl)-1,2-ethanediamine
No relevant data found.

Reproductive toxicity
Contains component(s) which did not interfere with reproduction in animal studies. Contains component(s) which did not interfere with fertility in animal studies.

Information for components:

Isopropanol
In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

Trimethoxyphenylsilane
In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine
In animal studies, did not interfere with reproduction.

Methanol
In animal studies, did not interfere with reproduction.

N,N-Bis(3-(Trimethylsiloxy)propyl)-1,2-ethanediamine
No relevant data found.

N,N'-bis(3-(trimethoxysilyl)propyl)-1,2-ethanediamine
No relevant data found.

Mutagenicity
In vitro genetic toxicity studies were negative for component(s) tested. Genetic toxicity studies in animals were negative for component(s) tested.

Information for components:

Isopropanol
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Trimethoxyphenylsilane
In vitro genetic toxicity studies were negative.

N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Methanol
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative in some cases and positive in other cases.

N,N-Bis(3-(Trimethylsiloxy)propyl)-1,2-ethanediamine
No relevant data found.

N,N'-bis(3-(trimethoxysilyl)propyl)-1,2-ethanediamine
No relevant data found.

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

Isopropanol

Acute toxicity to fish
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Pimephales promelas (fathead minnow), flow-through test, 96 Hour, 9,640 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
LC50, Daphnia magna (Water flea), static test, 24 Hour, > 10,000 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
NOEC, alga Scenedesmus sp., static test, 7 d, Growth inhibition (cell density reduction), 1,800 mg/l
ErC50, alga Scenedesmus sp., static test, 72 Hour, Growth rate inhibition, > 1,000 mg/l

Toxicity to bacteria
EC50, activated sludge, > 1,000 mg/l

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), semi-static test, 21 d, 30 mg/l

Trimethoxyphenylsilane

Acute toxicity to fish
Based on data from similar materials
No toxicity at the limit of solubility
LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 100 mg/l, OECD Test Guideline 203
On basis of test data.
No toxicity at the limit of solubility
LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 0.20 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates
On basis of test data.
No toxicity at the limit of solubility
EC50, Daphnia magna (Water flea), 48 Hour, > 0.0029 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants
On basis of test data.
No toxicity at the limit of solubility

ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 0.17 mg/l, OECD Test Guideline 201

Toxicity to bacteria
Based on data from similar materials
EC50, 3 Hour, > 1,000 mg/l, OECD Test Guideline 209

N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine

Acute toxicity to fish
Material is toxic to aquatic organisms (LC50/EC50/IC50 between 1 and 10 mg/L in the most sensitive species).
For the hydrolysis product(s)
LC50, zebra fish (Brachydanio rerio), 96 Hour, 597 mg/l

Acute toxicity to aquatic invertebrates
For the hydrolysis product(s)
EC50, Daphnia magna (Water flea), 48 Hour, 81 mg/l

Acute toxicity to algae/aquatic plants
For the hydrolysis product(s)
ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate inhibition, 8.8 mg/l
For the hydrolysis product(s)
NOEC, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate inhibition, 3.1 mg/l

Toxicity to bacteria
For the hydrolysis product(s)
EC50, Pseudomonas putida, 16 Hour, Growth inhibition, 67 mg/l

Chronic toxicity to aquatic invertebrates
For the hydrolysis product(s)
NOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, > 1 mg/l

Toxicity to Above Ground Organisms
Material is moderately toxic to birds on an acute basis (LD50 between 51 and 500 mg/kg).

Toxicity to soil-dwelling organisms
NOEC, Eisenia fetida (earthworms), 14 d, >= 1,000 mg/kg

Methanol

Acute toxicity to fish
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Bluegill sunfish (Lepomis macrochirus), flow-through test, 96 Hour, 15,400 mg/l

Acute toxicity to aquatic invertebrates
LC50, Daphnia magna (Water flea), 48 Hour, > 10,000 mg/l

Acute toxicity to algae/aquatic plants
ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate, 22,000 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria

IC50, activated sludge, 3 Hour, Respiration rates., > 1,000 mg/l, OECD Test Guideline 209

Chronic toxicity to fish
NOEC, Oryzias latipes (Orange-red killifish), 200 Hour, 15,800 mg/l

N,N-Bis(3-(Trimethylsiloxy)propyl)-1,2-ethanediamine

Acute toxicity to fish
No relevant data found.

N,N'-bis(3-(trimethoxysilyl)propyl)-1,2-ethanediamine

Acute toxicity to fish
No relevant data found.

Persistence and degradability

Isopropanol

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Pass
Biodegradation: 95 %
Exposure time: 21 d
Method: OECD Test Guideline 301E or Equivalent
10-day Window: Not applicable
Biodegradation: 53 %
Exposure time: 5 d
Method: Other guidelines

Theoretical Oxygen Demand: 2.40 mg/mg Estimated.

Chemical Oxygen Demand: 2.09 mg/mg Estimated.

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	20 - 72 %
20 d	78 - 86 %

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitization: OH radicals
Atmospheric half-life: 1.472 d
Method: Estimated.

Trimethoxyphenylsilane

Biodegradability:
Based on data from similar materials
Biodegradation: 1 %
Exposure time: 28 d
Method: OECD Test Guideline 310

N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine

Biodegradability: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.
10-day Window: Fail
Biodegradation: 39 %
Exposure time: 28 d
Method: OECD Test Guideline 301A or Equivalent

Theoretical Oxygen Demand: 2.39 mg/mg Estimated.

Chemical Oxygen Demand: 1.76 mg/mg Estimated.

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	23 %
10 d	30 %
20 d	29 %

Stability in Water (1/2-life)
Hydrolysis, half-life, 0.025 Hour, pH 7

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitization: OH radicals
Atmospheric half-life: 0.088 d
Method: Estimated.

Methanol

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Theoretical Oxygen Demand: 1.50 mg/mg

Chemical Oxygen Demand: 1.49 mg/mg Dichromate

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	72 %
20 d	79 %

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitization: OH radicals
Atmospheric half-life: 8 - 18 d
Method: Estimated.

N,N-Bis(3-(Trimethylsiloxy)propyl)-1,2-ethanediamine

Biodegradability: No relevant data found.

N,N'-bis(3-(trimethoxysilyl)propyl)-1,2-ethanediamine

Biodegradability: No relevant data found.

Bioaccumulative potential

Isopropanol

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0.05 Measured

Trimethoxyphenylsilane

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0.55 Estimated.
Bioconcentration factor (BCF): 3 Fish Estimated.

N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): < 3 estimated

Methanol

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): -0.77 Measured
Bioconcentration factor (BCF): < 10 Leuciscus idus (Golden orfe) Measured

N,N-Bis(3-(Trimethylsiloxy)propyl)-1,2-ethanediamine

Bioaccumulation: No relevant data found.

N,N'-bis(3-(trimethoxysilyl)propyl)-1,2-ethanediamine

Bioaccumulation: No relevant data found.

Mobility in soil

Isopropanol

Partition coefficient (Koc): 1.1 Estimated.

Trimethoxyphenylsilane

Partition coefficient (Koc): 7500 Estimated.

N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Partition coefficient (Koc): > 5000 Estimated.

Methanol

Partition coefficient (Koc): 0.44 Estimated.

N,N-Bis(3-(Trimethylsiloxy)propyl)-1,2-ethanediamine

No relevant data found.

N,N'-bis(3-(trimethoxysilyl)propyl)-1,2-ethanediamine

No relevant data found.

13. DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device. For additional information, refer to: Handling & Storage Information, MSDS Section 7 Stability & Reactivity Information, MSDS Section10 Regulatory Information, MSDS Section 15

Treatment and disposal methods of used packaging: Empty containers should be recycled or otherwise disposed of by an approved waste management facility. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. Do not re-use containers for any purpose.

14. TRANSPORT INFORMATION

DOT

Proper shipping name	Flammable liquids, n.o.s.(Propan-2-ol, Alkoxysilane)
UN number	UN 1993
Class	3
Packing group	II

Classification for SEA transport (IMO-IMDG):

Proper shipping name	FLAMMABLE LIQUID, N.O.S.(Propan-2-ol, Alkoxysilane)
UN number	UN 1993
Class	3
Packing group	II
Marine pollutant	No
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Proper shipping name	Flammable liquid, n.o.s.(Propan-2-ol, Alkoxysilane)
UN number	UN 1993
Class	3
Packing group	II

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service

representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
Flammable (gases, aerosols, liquids, or solids)
Hazard not otherwise classified (physical hazards)
Serious eye damage or eye irritation
Respiratory or skin sensitisation
Specific target organ toxicity (single or repeated exposure)

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
The following components are subject to reporting levels established by SARA Title III, Section 313:

Components	**CASRN**
Isopropanol	67-63-0

Pennsylvania Right To Know
The following chemicals are listed because of the additional requirements of Pennsylvania law:

Components	**CASRN**
Isopropanol	67-63-0
Trimethoxyphenylsilane	2996-92-1

California Prop. 65
WARNING: This product can expose you to chemicals including Methanol, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

United States TSCA Inventory (TSCA)
All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

Hazard Rating System
NFPA

Health	Flammability	Instability
2	3	0

HMIS

Health	Flammability	Physical Hazard
2*	3	0

* = Chronic Effects (See Hazards Identification)

Revision

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Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	ACGIH - Biological Exposure Indices (BEI)
Dow IHG	Dow Industrial Hygiene Guideline
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
STEL	Short-term exposure limit
TWA	Time weighted average

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DOW SILICONES CORPORATION urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.
US