



# SAFETY DATA SHEET

## DOW CHEMICAL (NZ) LIMITED

**Product name:** DOWSIL™ 688 Glazing and Cladding Sealant  
Black

**Issue Date:** 01.04.2020

**Print Date:** 02.04.2020

DOW CHEMICAL (NZ) LIMITED 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.

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## 1. PRODUCT AND COMPANY IDENTIFICATION

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**Product name:** DOWSIL™ 688 Glazing and Cladding Sealant Black

**Recommended use of the chemical and restrictions on use**

**Identified uses:** Adhesive, binding agents

### COMPANY IDENTIFICATION

DOW CHEMICAL (NZ) LIMITED  
LEVEL 8, 7 CITY ROAD  
GRAFTON  
1010 AUCKLAND  
NEW ZEALAND

**Customer Information Number:**

0800-504-567  
Fnpcust@dow.com

### EMERGENCY TELEPHONE NUMBER

**24-Hour Emergency Contact:** 0800 369 363

**Local Emergency Contact:** 0800 369 363

**For medical advice, contact the New Zealand Poisons Information Centre:** 0800 POISON (0800 764766)

**Transport Emergency Only Dial** 111

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## 2. HAZARDS IDENTIFICATION

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### GHS Classification

NEW ZEALAND HAZARDOUS SUBSTANCES CLASSIFICATION: Classified as hazardous according to criteria in the New Zealand Hazardous Substances (Minimum Degrees of Hazard) Notice 2017, and the Hazardous Substances (Classification) Notice 2017. Refer to Section 15 for HSNO Approval Number.

6.4: Eye irritation - Category A

6.5: Skin sensitisation - Category B

6.7: Carcinogenicity - Category B

6.8: Toxic to Reproduction - Category B

6.9: Specific Target Organ Toxicity - Category B - Oral

9.4: Ecotoxic to terrestrial invertebrates - Category A

**GHS label elements****Hazard pictograms**

Signal word: **WARNING!**

**Hazard statements**

May cause an allergic skin reaction.

Causes serious eye irritation.

Suspected of causing cancer.

Suspected of damaging fertility or the unborn child.

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

Very toxic to terrestrial invertebrates.

**Precautionary statements****Prevention**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

Wash skin thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Contaminated work clothing should not be allowed out of the workplace.

Avoid release to the environment.

Wear protective gloves/ eye protection/ face protection.

**Response**

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

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF exposed or concerned: Get medical advice/ attention.

Specific treatment (see supplemental first aid instructions on this label).

If skin irritation or rash occurs: Get medical advice/ attention.

If eye irritation persists: Get medical advice and/or attention.

Wash contaminated clothing before reuse.

Collect spillage.

**Storage**

Store locked up.

**Disposal**

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

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

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This product is a mixture.

Component	CASRN	Concentration
Polydimethylsiloxane hydroxy-terminated	70131-67-8	>= 30.82 - <= 40.713 %
Siloxanes and silicones, dimethyl	63148-62-9	>= 9.4793 - <= 19.441 %
2-Butanone, O,O',O''-(methylsilyldiyl)trioxime	22984-54-9	>= 3.1687 - <= 4.2451 %
Carbon black	1333-86-4	>= 0.44 - <= 0.64 %
Vinyltri (methylethylketoxime) silane	2224-33-1	>= 0.1429 - <= 0.4965 %
Methyltri(ethylmethylketoxime)silane isomers and oligomers	Not available	>= 0.3169 - <= 0.4245 %
Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)silane	68928-76-7	>= 0.0476 - <= 0.149 %

#### 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:** Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation or rash occurs. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.

**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.

**Ingestion:** No emergency medical treatment necessary.

**Most important symptoms and effects, both acute and delayed:**

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

**Indication of any immediate medical attention and special treatment needed**

**Notes to physician:** Maintain adequate ventilation and oxygenation of the patient. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

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**5. FIREFIGHTING MEASURES**

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**Hazchem Code**

None Allocated

**Extinguishing media**

**Suitable extinguishing media:** Water spray. Alcohol-resistant foam. Carbon dioxide (CO<sub>2</sub>). Dry chemical.

**Unsuitable extinguishing media:** None known..

**Special hazards arising from the substance or mixture**

**Hazardous combustion products:** Metal oxides. Formaldehyde. Carbon oxides. Silicon oxides. Nitrogen oxides (NO<sub>x</sub>).

**Unusual Fire and Explosion Hazards:** Exposure to combustion products may be a hazard to health..

**Advice for firefighters**

**Fire Fighting Procedures:** Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations..

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

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

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**6. ACCIDENTAL RELEASE MEASURES**

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**Personal precautions, protective equipment and emergency procedures:** Remove all sources of ignition. 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:** Wipe up or scrape up and contain for salvage or disposal. 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. Dispose of saturated absorbent or cleaning materials appropriately, since spontaneous heating may occur.  
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 swallow. Avoid contact with eyes. Protect from moisture. Take care to prevent spills, waste and minimize release to the environment. Handle in accordance with good industrial hygiene and safety practice. Use only with adequate ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

**Conditions for safe storage:** Keep in properly labelled containers. Store locked up. Store in accordance with the particular national regulations.

Do not store with the following product types: Strong oxidizing agents.

Unsuitable materials for containers: Do not store in or use iron or steel containers.

## 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
Carbon black	ACGIH	TWA Inhalable particulate matter	3 mg/m <sup>3</sup>
	Further information: bronchitis: Bronchitis; A3: Confirmed animal carcinogen with unknown relevance to humans		
Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane	ACGIH	TWA	0.1 mg/m <sup>3</sup> , Tin
	Further information: A4: Not classifiable as a human carcinogen; Skin: Danger of cutaneous absorption		
	ACGIH	STEL	0.2 mg/m <sup>3</sup> , Tin
	Further information: A4: Not classifiable as a human carcinogen; Skin: Danger of cutaneous absorption		
	NZ OEL	WES-TWA	0.1 mg/m <sup>3</sup> , Tin
	Further information: Skin: Skin absorption		
	NZ OEL	WES-STEL	0.2 mg/m <sup>3</sup> , Tin
	Further information: Skin: Skin absorption		

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

Methyl ethyl ketoxime

Although some of the components of this product may have exposure guidelines, no exposure would be expected under normal handling conditions due to the physical state of the material.

**Exposure controls**

**Engineering controls:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

**Individual protection measures**

**Eye/face protection:** Use safety glasses (with side shields).

**Skin protection**

**Hand protection:** Use chemical resistant gloves classified under standard AS/NZS 2161.10: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. Examples of acceptable glove barrier materials include: Natural rubber ("latex"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to AS/NZS 2161.10) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to AS/NZS 2161.10) is recommended. 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:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions, no respiratory protection should be needed; however, if handling at elevated temperatures without sufficient ventilation, use an approved air-purifying respirator.

The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

**Other Information:** Selection and use of personal protective equipment should be in accordance with the recommendations in one or more of the relevant Australian/New Zealand Standards, including:

AS/NZS 1336: Eye and face protection – Guidelines.

AS/NZS 1337: Personal eye protection - Eye and face protectors for occupational applications.

AS/NZS 1715: Selection, use and maintenance of respiratory protective equipment.

AS/NZS 2161: Occupational protective gloves.

AS/NZS 2210: Occupational protective footwear.

AS/NZS 4501: Occupational protective clothing Set

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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**Appearance**

Physical state	paste
Color	black
Odor	slight
Odor Threshold	No data available
pH	Not applicable
Melting point/range	No data available
Freezing point	No data available
Boiling point (760 mmHg)	Not applicable
Flash point	Not applicable
Evaporation Rate (Butyl Acetate = 1)	Not applicable
Flammability (solid, gas)	Not classified as a flammability hazard
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor Pressure	Not applicable
Relative Vapor Density (air = 1)	No data available
Relative Density (water = 1)	1.38
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Dynamic Viscosity	Not applicable
Kinematic Viscosity	Not applicable
Explosive properties	Not explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.
Molecular weight	No data available
Particle size	No data available

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

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## 10. STABILITY AND REACTIVITY

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**Reactivity:** Not classified as a reactivity hazard.

**Chemical stability:** Stable under normal conditions.

**Possibility of hazardous reactions:** Can react with strong oxidizing agents.

**Conditions to avoid:** Do not expose to temperatures above 212 °F/100 °C. Exposure to moisture

**Incompatible materials:** Oxidizing agents

**Hazardous decomposition products:**

Decomposition products can include and are not limited to: Formaldehyde. Methyl Ethyl Ketoxime.

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## 11. TOXICOLOGICAL INFORMATION

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

**Exposure routes**

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**

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

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

Based on information for component(s):  
LD50, > 5,000 mg/kg Estimated.

**Information for components:**

**Polydimethylsiloxane hydroxy-terminated**

Single dose oral LD50 has not been determined.

For similar material(s): LD50, Rat, > 20,720 mg/kg

**Siloxanes and silicones, dimethyl**

LD50, Rat, > 48,500 mg/kg

**2-Butanone, O,O',O''-(methylsilylidyne)trioxime**

LD50, Rat, male and female, 2,463 mg/kg OECD Test Guideline 401

**Carbon black**

LD50, Rat, > 8,000 mg/kg

**Vinyltri (methylethylketoxime) silane**

LD50, Rat, > 2,000 mg/kg

**Methyltri(ethylmethylketoxime)silane isomers and oligomers**

Single dose oral LD50 has not been determined.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

LD50, Rat, 894 mg/kg

**Acute dermal toxicity**

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.



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

**Information for components:**

**Polydimethylsiloxane hydroxy-terminated**

For similar material(s): LD50, Rabbit, > 2,000 mg/kg No deaths occurred at this concentration.

**Siloxanes and silicones, dimethyl**

LD50, Rabbit, > 2,000 mg/kg No deaths occurred at this concentration.

**2-Butanone, O,O',O''-(methylsilyldiyl)trioxime**

LD50, Rat, male and female, > 2,000 mg/kg OECD Test Guideline 402 No deaths occurred at this concentration.

**Carbon black**

LD50, Rabbit, > 3,000 mg/kg No deaths occurred at this concentration.

**Vinyltri (methylethylketoxime) silane**

LD50, Rat, > 2,000 mg/kg

**Methyltri(ethylmethylketoxime)silane isomers and oligomers**

The dermal LD50 has not been determined.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

LD50, Rat, > 2,000 mg/kg

**Acute inhalation toxicity**

Brief exposure (minutes) is not likely to cause adverse effects. Vapor from heated material may cause respiratory irritation. Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed.

As product: The LC50 has not been determined.

**Information for components:**

**Polydimethylsiloxane hydroxy-terminated**

The LC50 has not been determined.

**Siloxanes and silicones, dimethyl**

The LC50 has not been determined.

**2-Butanone, O,O',O''-(methylsilyldiyl)trioxime**

The LC50 has not been determined.

**Carbon black**

LC50, Rat, 1 Hour, dust/mist, 27 mg/l No deaths occurred at this concentration.

**Vinyltri (methylethylketoxime) silane**

The LC50 has not been determined.

**Methyltri(ethylmethylketoxime)silane isomers and oligomers**

The LC50 has not been determined.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

The LC50 has not been determined.

**Skin corrosion/irritation**

Based on information for component(s):

Brief contact is essentially nonirritating to skin.

**Information for components:**

**Polydimethylsiloxane hydroxy-terminated**

Prolonged exposure not likely to cause significant skin irritation.

**Siloxanes and silicones, dimethyl**

Brief contact is essentially nonirritating to skin.

**2-Butanone, O,O',O''-(methylsilyldi)trioxime**

Brief contact may cause slight skin irritation with local redness.

**Carbon black**

Prolonged exposure not likely to cause significant skin irritation.

**Vinyltri (methylethylketoxime) silane**

Brief contact may cause slight skin irritation with local redness.

**Methyltri(ethylmethylketoxime)silane isomers and oligomers**

Brief contact may cause slight skin irritation with local redness.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

Brief contact may cause slight skin irritation with local redness.

**Serious eye damage/eye irritation**

Based on information for component(s):

May cause slight eye irritation.

May cause mild eye discomfort.

**Information for components:**

**Polydimethylsiloxane hydroxy-terminated**

May cause slight temporary eye irritation.

Corneal injury is unlikely.

May cause mild eye discomfort.

**Siloxanes and silicones, dimethyl**

May cause slight temporary eye irritation.

Corneal injury is unlikely.

May cause mild eye discomfort.

**2-Butanone, O,O',O''-(methylsilyldi)trioxime**

May cause moderate eye irritation.

**Carbon black**

Solid or dust may cause irritation or corneal injury due to mechanical action.

**Vinyltri (methylethylketoxime) silane**

May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

**Methyltri(ethylmethylethylketoxime)silane isomers and oligomers**

May cause slight eye irritation.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

May cause slight eye irritation.

May cause slight temporary corneal injury.

**Sensitization**

For skin sensitization:

Contains component(s) which have caused allergic skin sensitization in guinea pigs.

Contains component(s) which have demonstrated the potential for contact allergy in mice.

For respiratory sensitization:

No relevant data found.

**Information for components:****Polydimethylsiloxane hydroxy-terminated**

Did not cause allergic skin reactions when tested in humans.

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

**Siloxanes and silicones, dimethyl**

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

**2-Butanone, O,O',O''-(methylsilyldiyl)trioxime**

Has demonstrated the potential for contact allergy in mice.

For respiratory sensitization:

No relevant data found.

**Carbon black**

Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

**Vinyltri (methylethylketoxime) silane**

Has caused allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

**Methyltri(ethylmethylethylketoxime)silane isomers and oligomers**

Has caused allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:  
No relevant data found.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

For skin sensitization:  
No relevant data found.

For respiratory sensitization:  
No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Information for components:**

**Polydimethylsiloxane hydroxy-terminated**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Siloxanes and silicones, dimethyl**

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

**2-Butanone, O,O',O''-(methylsilyldiyl)trioxime**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Carbon black**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Vinyltri (methylethylketoxime) silane**

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

**Methyltri(ethylmethylketoxime)silane isomers and oligomers**

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

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

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

**Aspiration Hazard**

Based on physical properties, not likely to be an aspiration hazard.

**Information for components:**

**Polydimethylsiloxane hydroxy-terminated**

Based on physical properties, not likely to be an aspiration hazard.

**Siloxanes and silicones, dimethyl**

Based on physical properties, not likely to be an aspiration hazard.

**2-Butanone, O,O',O''-(methylsilyldiyl)trioxime**

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

**Carbon black**

Based on physical properties, not likely to be an aspiration hazard.

**Vinyltri (methylethylketoxime) silane**

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

**Methyltri(ethylmethylketoxime)silane isomers and oligomers**

Based on physical properties, not likely to be an aspiration hazard.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

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:  
Blood.

**Information for components:****Polydimethylsiloxane hydroxy-terminated**

For similar material(s):

Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

**Siloxanes and silicones, dimethyl**

Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

**2-Butanone, O,O',O''-(methylsilylidyne)trioxime**

For similar material(s):

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

Blood

**Carbon black**

Dust may cause irritation of the upper respiratory tract (nose and throat) and lungs.

Repeated exposures to very fine dusts may cause lung injury.

Due to the physical state of the material, this component is not expected to be bioavailable under normal handling and processing conditions.

**Vinyltri (methylethylketoxime) silane**

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

Blood.

**Methyltri(ethylmethylketoxime)silane isomers and oligomers**

For similar material(s):

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

Blood

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

For similar material(s):

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

Central nervous system.

Thymus.

**Carcinogenicity**

Based on information for component(s): Has caused cancer in laboratory animals. During use of the material, small amounts of methylethylketoxime (MEKO) will be released. Rodents exposed to chronic MEKO inhalation throughout their lifetimes showed significant increases in liver tumour rates. Did not cause cancer in long-term animal studies which used routes of exposure considered relevant to industrial handling. Positive results have been reported in other studies using routes of exposure not relevant to industrial handling. Contains an additional component(s) that is not expected to be bioavailable due to the physical state of the material under normal handling and processing conditions.

**Information for components:****Polydimethylsiloxane hydroxy-terminated**

For similar material(s): Did not cause cancer in long-term animal studies which used routes of exposure considered relevant to industrial handling.

**Siloxanes and silicones, dimethyl**

Did not cause cancer in long-term animal studies which used routes of exposure considered relevant to industrial handling.

**2-Butanone, O,O',O''-(methylsilyldi)trioxime**

No relevant data found.

**Carbon black**

Lung fibrosis and tumors have been observed in rats exposed to high concentrations of very fine carbon black particles for their lifetime. Effects are believed to be due to overloading of the normal respiratory clearance mechanisms caused by the extreme study conditions. Rats may be particularly susceptible to particle clearance overload, resulting in lung injury and tumors. No increases in tumors were observed in male or female mice exposed under the same conditions. Due to the physical state of the material, this component is not expected to be bioavailable under normal handling and processing conditions.

**Vinyltri (methylethylketoxime) silane**

No relevant data found.

**Methyltri(ethylmethylketoxime)silane isomers and oligomers**

No relevant data found.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

No relevant data found.

**Teratogenicity**

Contains component(s) which caused birth defects in laboratory animals only at doses toxic to the mother.

No relevant data found.

**Information for components:****Polydimethylsiloxane hydroxy-terminated**

For similar material(s): Did not cause birth defects or any other fetal effects in laboratory animals.

**Siloxanes and silicones, dimethyl**

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

**2-Butanone, O,O',O''-(methylsilyldiylidene)trioxime**

Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

**Carbon black**

No relevant data found.

**Vinyltri (methylethylketoxime) silane**

No relevant data found.

**Methyltri(ethylmethylketoxime)silane isomers and oligomers**

No relevant data found.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

For similar material(s): Has caused birth defects in laboratory animals only at doses toxic to the mother.

**Reproductive toxicity**

Contains component(s) which have been shown to interfere with reproduction in animal studies.

**Information for components:****Polydimethylsiloxane hydroxy-terminated**

For similar material(s): In animal studies, did not interfere with reproduction.

**Siloxanes and silicones, dimethyl**

In animal studies, did not interfere with reproduction.

**2-Butanone, O,O',O''-(methylsilyldiylidene)trioxime**

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

**Carbon black**

No relevant data found.

**Vinyltri (methylethylketoxime) silane**

No relevant data found.

**Methyltri(ethylmethylketoxime)silane isomers and oligomers**

No relevant data found.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

For this family of materials: In animal studies, has been shown to interfere with reproduction.

**Mutagenicity**

Contains a component(s) which were negative in in vitro genetic toxicity studies. Contains component(s) which were negative in animal genetic toxicity studies.

**Information for components:****Polydimethylsiloxane hydroxy-terminated**

In vitro genetic toxicity studies were negative. For similar material(s): Animal genetic toxicity studies were negative.

**Siloxanes and silicones, dimethyl**

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

**2-Butanone, O,O',O''-(methylsilyldiyl)trioxime**

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

**Carbon black**

Animal genetic toxicity studies were negative in some cases and positive in other cases. Positive findings were observed only at doses which produced significant inflammation. Due to the physical state of the material, this component is not expected to be bioavailable under normal handling and processing conditions.

**Vinyltri (methylethylketoxime) silane**

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

**Methyltri(ethylmethylketoxime)silane isomers and oligomers**

No relevant data found.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

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

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## 12. ECOLOGICAL INFORMATION

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

**Ecotoxicity****Polydimethylsiloxane hydroxy-terminated****Acute toxicity to aquatic invertebrates**

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).  
EC50, Daphnia magna (Water flea), 48 Hour, 493 mg/l, OECD Test Guideline 202

**Chronic toxicity to aquatic invertebrates**

NOEC, Daphnia magna (Water flea), 21 d, 2,320 mg/l

**Toxicity to Above Ground Organisms**

Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).

**Siloxanes and silicones, dimethyl****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, Fish, 96 Hour, > 100 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l

**Acute toxicity to algae/aquatic plants**

EC50, algae, 14 d, > 2,000 mg/l



**Chronic toxicity to fish**

NOEC, Cyprinodon variegatus (sheepshead minnow), 33 d, 91 mg/l

**Toxicity to Above Ground Organisms**

Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).  
oral LD50, Colinus virginianus (Bobwhite quail), > 5,000 mg/kg

**2-Butanone, O,O',O''-(methylsilyldiylidene)trioxime****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).  
For the hydrolysis product(s)  
LC50, Oncorhynchus mykiss (rainbow trout), Static, 96 Hour, > 120 mg/l, OECD Test  
Guideline 203

**Acute toxicity to aquatic invertebrates**

For the hydrolysis product(s)  
EC50, Daphnia magna (Water flea), static test, 48 Hour, > 120 mg/l, OECD Test Guideline  
202

**Acute toxicity to algae/aquatic plants**

For the hydrolysis product(s)  
EC50, Selenastrum capricornutum (green algae), Static, 72 Hour, Growth rate, 94 mg/l, OECD  
Test Guideline 201  
For the hydrolysis product(s)  
NOEC, Selenastrum capricornutum (green algae), Static, 72 Hour, Growth rate, 30 mg/l,  
OECD Test Guideline 201

**Chronic toxicity to fish**

NOEC, Oryzias latipes (Orange-red killifish), flow-through test, 14 d, 50 mg/l

**Chronic toxicity to aquatic invertebrates**

NOEC, Daphnia magna, semi-static test, 21 d, > 100 mg/l

**Carbon black****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, Leuciscus idus (Golden orfe), static test, 96 Hour, > 1,000 mg/l, OECD Test Guideline  
203 or Equivalent

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna (Water flea), 24 Hour, > 5,600 mg/l, OECD Test Guideline 202 or  
Equivalent

**Acute toxicity to algae/aquatic plants**

NOEC, Desmodesmus subspicatus (green algae), 72 Hour, 10,000 mg/l, OECD Test  
Guideline 201

**Vinyltri (methylethylketoxime) silane****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, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 120 mg/l, OECD Test Guideline 203

LC50, Oryzias latipes (Orange-red killifish), 96 Hour, > 100 mg/l, OECD Test Guideline 203

**Methyltri(ethylmethylketoxime)silane isomers and oligomers**

**Acute toxicity to fish**

No relevant data found.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

**Acute toxicity to fish**

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

For similar material(s):

LC50, Zebra fish (Danio/Brachydanio rerio), semi-static test, 96 Hour, > 100 mg/l, OECD Test Guideline 203 or Equivalent

**Acute toxicity to aquatic invertebrates**

For similar material(s):

EC50, Daphnia magna, static test, 48 Hour, 17 mg/l, OECD Test Guideline 202 or Equivalent

**Acute toxicity to algae/aquatic plants**

For similar material(s):

ErC50, Algae (Scenedesmus subspicatus), Growth rate, 72 Hour, Growth rate, 37 mg/l, OECD Test Guideline 201 or Equivalent

For similar material(s):

NOEC, Algae (Scenedesmus subspicatus), Growth rate, 72 Hour, Growth rate, 1.1 mg/l, OECD Test Guideline 201 or Equivalent

**Toxicity to bacteria**

For similar material(s):

EC50, Bacteria, 3 Hour, Respiration rates., 14 mg/l

**Persistence and degradability**

**Polydimethylsiloxane hydroxy-terminated**

**Biodegradability:** Chemical degradation (hydrolysis) is expected in the environment.

**Siloxanes and silicones, dimethyl**

**Biodegradability:** The product is not biodegradable.

**2-Butanone, O,O',O''-(methylsilyldi)trioxime**

**Biodegradability:** Based on information for a similar material: This material rapidly hydrolyzes to products that are either readily or ultimately biodegradable.

10-day Window: Fail

**Biodegradation:** 0 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301A

**Carbon black**

**Biodegradability:** Biodegradation is not applicable.

**Vinyltri (methylethylketoxime) silane**

**Biodegradability:** Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

10-day Window: Fail

**Biodegradation:** 0 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301A

**Stability in Water (1/2-life)**

Hydrolysis, DT50, < 1 min, Half-life Temperature 2 °C, OECD Test Guideline 111

**Methyltri(ethylmethylketoxime)silane isomers and oligomers**

**Biodegradability:** No relevant data found.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

**Biodegradability:** For similar material(s): Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

For similar material(s): 10-day Window: Fail

**Biodegradation:** 3 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301F or Equivalent

**Bioaccumulative potential**

**Polydimethylsiloxane hydroxy-terminated**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** 0.63 Measured

**Bioconcentration factor (BCF):** < 5.8 Cyprinus carpio (Carp) Measured

**Siloxanes and silicones, dimethyl**

**Bioaccumulation:** No bioconcentration is expected because of the relatively high molecular weight (MW greater than 1000).

**2-Butanone, O,O',O''-(methylsilyldiene)trioxime**

**Bioaccumulation:** Bioconcentration potential is low (BCF less than 100 or log Pow greater than 7).

**Partition coefficient: n-octanol/water(log Pow):** 11.2

**Carbon black**

**Bioaccumulation:** No relevant data found.

**Vinyltri (methylethylketoxime) silane**

**Bioaccumulation:** No relevant data found.

**Methyltri(ethylmethylketoxime)silane isomers and oligomers**

**Bioaccumulation:** No relevant data found.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

**Bioaccumulation:** No relevant data found.

**Mobility in Soil**

**Polydimethylsiloxane hydroxy-terminated**

Potential for mobility in soil is high (Koc between 50 and 150).

**Partition coefficient (Koc):** 130 Estimated.

**Siloxanes and silicones, dimethyl**

Expected to be relatively immobile in soil (Koc > 5000).

**2-Butanone, O,O',O''-(methylsilylidyne)trioxime**

No relevant data found.

**Carbon black**

No relevant data found.

**Vinyltri (methylethylketoxime) silane**

No relevant data found.

**Methyltri(ethylmethylketoxime)silane isomers and oligomers**

No relevant data found.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

No relevant data found.

**Results of PBT and vPvB assessment****Polydimethylsiloxane hydroxy-terminated**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**Siloxanes and silicones, dimethyl**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**2-Butanone, O,O',O''-(methylsilylidyne)trioxime**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**Carbon black**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**Vinyltri (methylethylketoxime) silane**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**Methyltri(ethylmethylketoxime)silane isomers and oligomers**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

**Other adverse effects****Polydimethylsiloxane hydroxy-terminated**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Siloxanes and silicones, dimethyl**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**2-Butanone, O,O',O''-(methylsilylidyne)trioxime**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Carbon black**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Vinyltri (methylethylketoxime) silane**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Methyltri(ethylmethylketoxime)silane isomers and oligomers**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

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### 13. DISPOSAL CONSIDERATIONS

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**Disposal methods:** DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler. Reclaimer. Incinerator or other thermal destruction device. For additional information, refer to: Handling & Storage Information, MSDS Section 7 Stability & Reactivity Information, MSDS Section 10 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.

Waste handling, treatment and disposal practices must be in compliance with the New Zealand Hazardous Substances (Disposal) Notice 2017. Additional local requirements may be applicable in accordance with planning controls under the Resource Management Act. Regulations concerning waste management may vary in different locations.

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### 14. TRANSPORT INFORMATION

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**Classification for ROAD and Rail transport:**

Not regulated for transport

**Classification for SEA transport (IMO-IMDG):**

Not regulated for transport

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

Consult IMO regulations before transporting ocean bulk

**Classification for AIR transport (IATA/ICAO):**

Not regulated for transport

**Hazchem Code**

None Allocated

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.

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## 15. REGULATORY INFORMATION

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### New Zealand. Inventory of Chemical Substances

The hazardous components of this product are listed in the New Zealand Inventory of Chemicals (NZIoC) or the product otherwise complies with the requirements of the Hazardous Substances and New Organisms (HSNO) Act 1996.

### HSNO Approval

Surface Coatings and Colourants Toxic 6.7 Group Standard 2017

HSNO Approval Number: HSR002679

### HSNO Controls

Certified handler certificate not required.

Tracking hazardous substance not required.

Refer to the Health and Safety at Work (Hazardous Substances) Regulations 2017, for further information.

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## 16. OTHER INFORMATION

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### Revision

Identification Number: 4063592 / A156 / Issue Date: 01.04.2020 / Version: 4.1

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)
NZ OEL	New Zealand. Workplace Exposure Standards for Atmospheric Contaminants
STEL	Short-term exposure limit
TWA	8-hour, time-weighted average
WES-STEL	Workplace Exposure Standard - Short-Term Exposure Limit
WES-TWA	Workplace Exposure Standard - Time Weighted average

### Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen,

Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; 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; 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; IECS - 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; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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; WHMIS - Workplace Hazardous Materials Information System

DOW CHEMICAL (NZ) LIMITED 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.

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