SAFETY DATA SHEET

DOW CHEMICAL (AUSTRALIA) PTY LTD

Product name: DOWSIL™ 580 (AUS) Glass, Metal and Masonry Sealant White

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DOW CHEMICAL (AUSTRALIA) PTY LTD 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.

SECTION 1: IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

Product name: DOWSIL™ 580 (AUS) Glass, Metal and Masonry Sealant White

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

COMPANY IDENTIFICATION
DOW CHEMICAL (AUSTRALIA) PTY LTD
LEVEL 29
367 COLLINS STREET
MELBOURNE VIC 3000
AUSTRALIA

Customer Information Number: 1800-780-074
SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 1800-033-882
Local Emergency Contact: 1800-033-882
For advice, contact a doctor (at once) or the Australian Poisons Information Centre: 131 126
Transport Emergency Only Dial 000

SECTION 2: HAZARD(S) IDENTIFICATION

GHS Classification
Serious eye damage/eye irritation - Category 2A
Skin sensitisation - Category 1

GHS label elements
Hazard pictograms

Signal word: **WARNING!**

Hazard statements
May cause an allergic skin reaction.
Causes serious eye irritation.

Precautionary statements

Prevention
Avoid breathing 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.
Wear protective gloves/ eye protection/ face protection.

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

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

Other hazards
No data available

SECTION 3: COMPOSITION AND INFORMATION ON INGREDIENTS, IN ACCORDANCE WITH SCHEDULE 8

This product is a mixture.

Component	CASRN	Concentration
Calcium carbonate treated with stearic acid	Not available	>= 36.0 - <= 47.0 %
Distillates (petroleum), hydrotreated middle	64742-46-7	>= 2.0 - <= 7.0 %
Silicon dioxide	7631-86-9	>= 3.0 - <= 6.0 %
2-Butanone, O,O',O''-(methylsilylidyne)trioxime	22984-54-9	>= 2.0 - <= 5.0 %
Titanium dioxide	13463-67-7	>= 0.2 - <= 1.3 %

N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine	1760-24-3	>= 0.5 - <= 1.2 %
Vinyltri (methylethylketoxime) silane	2224-33-1	>= 0.14 - <= 0.7 %
Methyltri(ethylmethylketoxime)silane isomers and oligomers	Not available	>= 0.28 - <= 0.5 %
Quartz	14808-60-7	>= 0.29 - <= 0.48 %
Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane	68928-76-7	>= 0.04 - <= 0.15 %

SECTION 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; consult a physician.

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. Suitable emergency safety shower facility should be available in work area.

Eye contact: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: Rinse mouth with water. 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: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Skin contact may aggravate preexisting dermatitis.

SECTION 5: FIREFIGHTING MEASURES

Hazchem Code
None Allocated

Extinguishing media

Suitable extinguishing media: Water spray. Alcohol-resistant foam. Carbon dioxide (CO2). 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 (NOx).

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

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 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..

SECTION 6: ACCIDENTAL RELEASE MEASURES

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. Dispose of saturated absorbent or cleaning materials appropriately, since spontaneous heating may occur.
See sections: 7, 8, 11, 12 and 13.

SECTION 7: HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED

Precautions for safe handling: Do not get on skin or clothing. Do not swallow. Do not get in 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. 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 only with adequate ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Conditions for safe storage: Keep in properly labelled containers. 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.

SECTION 8: EXPOSURE CONTROLS AND 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
Calcium carbonate treated with stearic acid	Dow IHG	TWA	1 mg/m3
	AU OEL	TWA	10 mg/m3 , Calcium carbonate
Distillates (petroleum), hydrotreated middle	AU OEL	TWA Mist	5 mg/m3
Silicon dioxide	Dow IHG	TWA Respirable dust	2 mg/m3
	Dow IHG	TWA Total dust	6 mg/m3
	AU OEL	TWA Respirable dust	2 mg/m3
Titanium dioxide	Dow IHG	TWA	2.4 mg/m3
	ACGIH	TWA	10 mg/m3 , Titanium dioxide
	Further information: LRT irr: Lower Respiratory Tract irritation; A4: Not classifiable as a human carcinogen		
	AU OEL	TWA	10 mg/m3
	Further information: a: This value is for inhalable dust containing no asbestos and < 1% crystalline silica		
N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine	Dow IHG		See Further information
	Further information: Skin Sensitizer		
Quartz	ACGIH	TWA Respirable particulate matter	0.025 mg/m3 , Silica
	Further information: lung cancer: Lung cancer; pulm fibrosis: Pulmonary fibrosis; A2: Suspected human carcinogen		
	AU OEL	TWA Respirable dust	0.1 mg/m3

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane	ACGIH	TWA	0.1 mg/m3 , Tin
	Further information: A4: Not classifiable as a human carcinogen; Skin: Danger of cutaneous absorption		
	ACGIH	STEL	0.2 mg/m3 , Tin
	Further information: A4: Not classifiable as a human carcinogen; Skin: Danger of cutaneous absorption		
	AU OEL	TWA	0.1 mg/m3 , Tin
	Further information: Sk: Skin absorption		
	AU OEL	STEL	0.2 mg/m3 , Tin
	Further information: Sk: Skin absorption		
Methanol	ACGIH	TWA	200 ppm
	Further information: Skin: Danger of cutaneous absorption		
	ACGIH	STEL	250 ppm
	Further information: Skin: Danger of cutaneous absorption		
	AU OEL	TWA	262 mg/m3 200 ppm
	Further information: Sk: Skin absorption		
	AU OEL	STEL	328 mg/m3 250 ppm
	Further information: Sk: Skin absorption		
Methyl Ethyl Ketoxime	US WEEL	TWA	10 ppm
	Further information: DSEN: Dermal Sensitization Notation		
	Dow IHG	TWA	0.15 ppm
	Further information: Skin Sensitizer		

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

Biological occupational exposure limits

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

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 chemical goggles.
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, use an approved respirator. When respiratory protection is required, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply.

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

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	paste
Color	white
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.

SECTION 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.

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. Methanol.

SECTION 11: TOXICOLOGICAL INFORMATION

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. May cause abdominal discomfort or diarrhea.

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

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

Information for components:

Calcium carbonate treated with stearic acid
Single dose oral LD50 has not been determined.

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

Distillates (petroleum), hydrotreated middle
LD50, Rat, > 5,000 mg/kg

Silicon dioxide
LD50, Rat, > 5,000 mg/kg

2-Butanone, O,O',O''-(methylsilylidyne)trioxime
LD50, Rat, male and female, 2,463 mg/kg OECD Test Guideline 401

Titanium dioxide
LD50, Rat, > 10,000 mg/kg

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

Vinyltri (methylethylketoxime) silane
LD50, Rat, > 2,000 mg/kg

Methyltri(ethylmethylketoxime)silane isomers and oligomers
For similar material(s): LD50, Rat, male and female, 2,463 mg/kg OECD Test Guideline 401

Quartz
Single dose oral LD50 has not been determined.

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane
LD50, Rat, male and female, 892 mg/kg OECD 401 or equivalent

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:

Calcium carbonate treated with stearic acid
The dermal LD50 has not been determined.

LD50, Rat, > 2,000 mg/kg Estimated.

Distillates (petroleum), hydrotreated middle
LD50, Rabbit, > 3,160 mg/kg No deaths occurred at this concentration.

Silicon dioxide
LD50, Rabbit, > 5,000 mg/kg

2-Butanone, O,O',O''-(methylsilylidyne)trioxime
LD50, Rat, male and female, > 2,000 mg/kg OECD Test Guideline 402 No deaths occurred at this concentration.

Titanium dioxide
LD50, Rabbit, 10,000 mg/kg

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

Vinyltri (methylethylketoxime) silane
LD50, Rat, > 2,000 mg/kg

Methyltri(ethylmethylketoxime)silane isomers and oligomers
For similar material(s): LD50, Rat, male and female, > 2,000 mg/kg OECD Test Guideline 402 No deaths occurred at this concentration.

Quartz
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.

As product: The LC50 has not been determined.

Information for components:

Calcium carbonate treated with stearic acid
Dust may cause irritation to upper respiratory tract (nose and throat).

The LC50 has not been determined.

Distillates (petroleum), hydrotreated middle

LC50, Rat, 4 Hour, dust/mist, > 5.2 mg/l

Silicon dioxide
Maximum attainable concentration. LC50, Rat, 4 Hour, dust/mist, > 2.08 mg/l No deaths occurred at this concentration.

2-Butanone, O,O',O''-(methylsilylidyne)trioxime
The LC50 has not been determined.

Titanium dioxide
LC50, Rat, male, 4 Hour, dust/mist, > 6.82 mg/l No deaths occurred at this concentration.

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

Vinyltri (methylethylketoxime) silane
The LC50 has not been determined.

Methyltri(ethylmethylketoxime)silane isomers and oligomers
The LC50 has not been determined.

Quartz
The LC50 has not been determined.

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane
As product: The LC50 has not been determined.

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

Information for components:

Calcium carbonate treated with stearic acid
Essentially nonirritating to skin.
May cause drying and flaking of the skin.

Distillates (petroleum), hydrotreated middle
Brief contact may cause slight skin irritation with local redness.

Silicon dioxide
Brief contact is essentially nonirritating to skin.
May cause skin irritation due to mechanical abrasion.
May cause drying and flaking of the skin.

2-Butanone, O,O',O''-(methylsilylidyne)trioxime
Brief contact may cause slight skin irritation with local redness.

Titanium dioxide
Essentially nonirritating to skin.

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

Vinyltri (methylethylketoxime) silane
Brief contact may cause slight skin irritation with local redness.

Methyltri(ethylmethylketoxime)silane isomers and oligomers
For similar material(s):
Brief contact may cause slight skin irritation with local redness.

Quartz
May cause skin irritation due to mechanical abrasion.
May cause drying and flaking of the skin.

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane
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 corneal injury.

Information for components:

Calcium carbonate treated with stearic acid
May cause slight temporary eye irritation.
Dust may irritate eyes.

Distillates (petroleum), hydrotreated middle
May cause slight eye irritation.

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

2-Butanone, O,O',O''-(methylsilylidyne)trioxime
May cause slight eye irritation.
May cause slight corneal injury.

Titanium dioxide
Solid or dust may cause irritation due to mechanical action.

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.

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(ethylmethylketoxime)silane isomers and oligomers
For similar material(s):
May cause slight eye irritation.

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

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:

Calcium carbonate treated with stearic acid
For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

Distillates (petroleum), hydrotreated middle
For similar material(s):
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

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

For respiratory sensitization:
No relevant data found.

2-Butanone, O,O',O''-(methylsilylidyne)trioxime
For skin sensitization:
Has caused allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Titanium dioxide
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.

N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine
Has caused 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(ethylmethylketoxime)silane isomers and oligomers
For skin sensitization:
For similar material(s):
Has demonstrated the potential for contact allergy in mice.

For respiratory sensitization:
No relevant data found.

Quartz
For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane
Has caused allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
Available data are inadequate to determine single exposure specific target organ toxicity.

Information for components:

Calcium carbonate treated with stearic acid
Available data are inadequate to determine single exposure specific target organ toxicity.

Distillates (petroleum), hydrotreated middle
Available data are inadequate to determine single exposure specific target organ toxicity.

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

2-Butanone, O,O',O''-(methylsilylidyne)trioxime
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

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

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

Vinyltri (methylethylketoxime) silane
Available data are inadequate to determine single exposure specific target organ toxicity.

Methyltri(ethylmethylketoxime)silane isomers and oligomers
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

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

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:

Calcium carbonate treated with stearic acid
Based on physical properties, not likely to be an aspiration hazard.

Distillates (petroleum), hydrotreated middle
May be fatal if swallowed and enters airways.

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

2-Butanone, O,O',O''-(methylsilylidyne)trioxime
Based on available information, aspiration hazard could not be determined.

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

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

Vinyltri (methylethylketoxime) silane
Based on available information, aspiration hazard could not be determined.

Methyltri(ethylmethylketoxime)silane isomers and oligomers
Based on available information, aspiration hazard could not be determined.

Quartz
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
Respiratory tract.
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:

Calcium carbonate treated with stearic acid
Repeated exposures to dusts of this material are not anticipated to result in systemic toxicity or permanent lung injury; however, excessive exposures may cause less severe respiratory effects.

Distillates (petroleum), hydrotreated middle
Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Silicon dioxide
No relevant data found.

2-Butanone, O,O',O''-(methylsilylidyne)trioxime
For similar material(s):
In animals, effects have been reported on the following organs:
Blood

Titanium dioxide
Repeated excessive inhalation exposures to dusts may cause respiratory effects.
In animals, effects have been reported on the following organs:
Lung.
Due to the physical state of the material, this component is not expected to be bioavailable under normal handling and processing conditions.

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

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

Quartz
In humans, effects have been reported on the following organs:
Kidney.
Repeated excessive exposure to crystalline silica may cause silicosis, a progressive and disabling disease of the lungs.
Due to the physical state of the material, this component is not expected to be bioavailable under normal handling and processing conditions.

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

In animals, effects have been reported on the following organs:
Blood
Kidney
Liver
Immune system.

Carcinogenicity
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. 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:

Calcium carbonate treated with stearic acid
No relevant data found.

Distillates (petroleum), hydrotreated middle
For similar material(s): Did not cause cancer in laboratory animals.

Silicon dioxide
No relevant data found.

2-Butanone, O,O',O''-(methylsilylidyne)trioxime
No relevant data found.

Titanium dioxide
Lung fibrosis and tumors have been observed in rats exposed to titanium dioxide in two lifetime inhalation studies. Effects are believed to be due to overloading of the normal respiratory clearance mechanisms caused by the extreme study conditions. Workers exposed to titanium dioxide in the workplace have not shown an unusual incidence of chronic respiratory disease or lung cancer. Titanium dioxide was not carcinogenic in laboratory animals in lifetime feeding studies. Due to the physical state of the material, this component is not expected to be bioavailable under normal handling and processing conditions.

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

Vinyltri (methylethylketoxime) silane
No relevant data found.

Methyltri(ethylmethylketoxime)silane isomers and oligomers
No relevant data found.

Quartz
Has caused cancer in humans. Has caused cancer in laboratory animals. Due to the physical state of the material, this component is not expected to be bioavailable under normal handling and processing conditions.

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane
No relevant data found.

Teratogenicity

Contains component(s) which did not cause birth defects or any other fetal effects in lab animals.

Information for components:

Calcium carbonate treated with stearic acid
For similar material(s): Did not cause birth defects or any other fetal effects in laboratory animals.

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

Silicon dioxide
No relevant data found.

2-Butanone, O,O',O''-(methylsilylidyne)trioxime
For similar material(s): Did not cause birth defects or any other fetal effects in laboratory animals.

Titanium dioxide
No relevant data found.

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

Vinyltri (methylethylketoxime) silane
No relevant data found.

Methyltri(ethylmethylketoxime)silane isomers and oligomers
For similar material(s): Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

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

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

Calcium carbonate treated with stearic acid
For similar material(s): In animal studies, did not interfere with fertility. In animal studies, did not interfere with reproduction.

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

Silicon dioxide

No relevant data found.

2-Butanone, O,O',O''-(methylsilylidyne)trioxime
For similar material(s): In animal studies, did not interfere with reproduction.

Titanium dioxide
No relevant data found.

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

Vinyltri (methylethylketoxime) silane
No relevant data found.

Methyltri(ethylmethylketoxime)silane isomers and oligomers
For similar material(s): In animal studies, did not interfere with fertility. In animal studies, did not interfere with reproduction.

Quartz
No relevant data found.

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane
No relevant data found.

Mutagenicity
Contains component(s) which were negative in some in vitro genetic toxicity studies and positive in others. Genetic toxicity studies in animals were negative for component(s) tested.

Information for components:

Calcium carbonate treated with stearic acid
For similar material(s): In vitro genetic toxicity studies were negative.

Distillates (petroleum), hydrotreated middle
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

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

2-Butanone, O,O',O''-(methylsilylidyne)trioxime
For similar material(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

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

Vinyltri (methylethylketoxime) silane
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Methyltri(ethylmethylketoxime)silane isomers and oligomers
For similar material(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

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

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.

SECTION 12: ECOLOGICAL INFORMATION

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

Ecotoxicity

Calcium carbonate treated with stearic acid

Acute toxicity to fish
No relevant data found.

Distillates (petroleum), hydrotreated middle

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).
LL50, Scophthalmus maximus (turbot), 96 Hour, > 1,028 mg/l, Test substance: Water Accommodated Fraction

Acute toxicity to aquatic invertebrates
LL50, Acartia tonsa, 48 Hour, > 3,193 mg/l, Test substance: Water Accommodated Fraction

Acute toxicity to algae/aquatic plants
EL50, Skeletonema costatum (marine diatom), 72 Hour, > 10,000 mg/l, Test substance: Water Accommodated Fraction

Toxicity to bacteria
EC50, 3 Hour, > 100 mg/l, OECD Test Guideline 209

Chronic toxicity to aquatic invertebrates
NOELR, Ceriodaphnia dubia (water flea), 8 d, > 100 mg/l, Test substance: Water Accommodated Fraction

Silicon dioxide

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, Danio rerio (zebra fish), 96 Hour, 5,000 - 10,000 mg/l

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), 24 Hour, > 1,000 mg/l

Acute toxicity to algae/aquatic plants
EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Biomass, 440 mg/l

2-Butanone, O,O',O''-(methylsilylidyne)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 similar material(s):
LC50, Fathead minnow (Pimephales promelas), Static, 96 Hour, 843 mg/l, OECD Test Guideline 203
For similar material(s):
LC50, Oryzias latipes (Japanese medaka), Static, 96 Hour, > 100 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates
For similar material(s):
EC50, Daphnia magna (Water flea), static test, 48 Hour, 201 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants
For similar material(s):
NOEC, Selenastrum capricornutum (green algae), Static, 72 Hour, Growth rate, 2.6 mg/l, OECD Test Guideline 201
For similar material(s):
EC50, Selenastrum capricornutum (green algae), Static, 72 Hour, Growth rate, 16 mg/l, OECD Test Guideline 201

Toxicity to bacteria
For similar material(s):
EC50, activated sludge, 3 Hour, Respiration rates., > 390.45 mg/l, OECD Test Guideline 209

Chronic toxicity to fish
For similar material(s):
NOEC, Oryzias latipes (Orange-red killifish), flow-through test, 14 d, mortality, 50 mg/l

Chronic toxicity to aquatic invertebrates
For similar material(s):
NOEC, Daphnia magna, semi-static test, 21 d, number of offspring, > 100 mg/l

Titanium dioxide

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).
NOEC mortality, Leuciscus idus (Golden orfe), static test, 48 Hour, > 1,000 mg/l

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), static test, 48 Hour, > 1,000 mg/l

Acute toxicity to algae/aquatic plants
EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 100 mg/l, OECD Test Guideline 201

Toxicity to bacteria
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

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
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
For similar material(s):
NOEC, Oryzias latipes (Orange-red killifish), flow-through test, 14 d, 50 mg/l

Chronic toxicity to aquatic invertebrates
For similar material(s):
NOEC, Daphnia magna, semi-static test, 21 d, > 100 mg/l

Quartz

Acute toxicity to fish
Not expected to be acutely toxic to aquatic organisms.

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
EC50, Daphnia magna, static test, 48 Hour, 39 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
ErC50, Algae (Scenedesmus subspicatus), Growth rate, 72 Hour, Growth rate, 7.6 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

Calcium carbonate treated with stearic acid

Biodegradability: No relevant data found.

Distillates (petroleum), hydrotreated middle

Biodegradability: Material is expected to be readily biodegradable.
10-day Window: Not applicable
Biodegradation: 74 %
Exposure time: 28 d

Method: OECD Test Guideline 306

Silicon dioxide

Biodegradability: Biodegradation is not applicable.

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

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: 20 - 28 %
Exposure time: 28 d
Method: OECD Test Guideline 301C or Equivalent

Titanium dioxide

Biodegradability: Biodegradation is not applicable.

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.

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: For similar material(s): 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

Quartz
Biodegradability: Biodegradation is not applicable.

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

Calcium carbonate treated with stearic acid
Bioaccumulation: No relevant data found.

Distillates (petroleum), hydrotreated middle
Bioaccumulation: No relevant data found.

Silicon dioxide
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0.53
Bioconcentration factor (BCF): 3.16

2-Butanone, O,O',O''-(methylsilylidyne)trioxime
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 1.69 Estimated by Structure-Activity Relationship (SAR).

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

Vinyltri (methylethylketoxime) silane
Bioaccumulation: No relevant data found.

Methyltri(ethylmethylketoxime)silane isomers and oligomers
Bioaccumulation: For similar material(s): Bioconcentration potential is low (BCF less than 100 or log Pow greater than 7).

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

Quartz

Bioaccumulation: Partitioning from water to n-octanol is not applicable.

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

Bioaccumulation: No relevant data found.

Mobility in Soil

Calcium carbonate treated with stearic acid

No relevant data found.

Distillates (petroleum), hydrotreated middle

No relevant data found.

Silicon dioxide

Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient (Koc): 21.73

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

No relevant data found.

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

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

Vinyltri (methylethylketoxime) silane

No relevant data found.

Methyltri(ethylmethylketoxime)silane isomers and oligomers

No relevant data found.

Quartz

No relevant data found.

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

No relevant data found.

Results of PBT and vPvB assessment

Calcium carbonate treated with stearic acid

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

Distillates (petroleum), hydrotreated middle

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

Silicon dioxide

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).

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).

Titanium dioxide

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

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

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).

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).

Quartz

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

Calcium carbonate treated with stearic acid

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

Distillates (petroleum), hydrotreated middle

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

Silicon dioxide

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.

Titanium dioxide

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

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

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.

Quartz

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.

SECTION 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.

SECTION 14: TRANSPORT INFORMATION

ADG

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.

SECTION 15: REGULATORY INFORMATION

Poison Schedule
Not Scheduled

Australia Inventory of Chemical Substances (AICS)
All ingredients in this preparation are listed in the Australian Inventory of Chemical Substances, AICS, or are exempt.

Prohibition/Licensing Requirements : Refer to model WHS Act and Regulations for prohibition, authorisation and restricted use.

SECTION 16: ANY OTHER RELEVANT INFORMATION

Revision
Identification Number: 4018243 / A142 / Issue Date: 01.09.2020 / Version: 3.1
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)
ACGIH BEI	ACGIH - Biological Exposure Indices (BEI)
AU OEL	Australia. Workplace Exposure Standards for Airborne Contaminants.
Dow IHG	Dow Industrial Hygiene Guideline
STEL	Exposure standard - short term exposure limit
TWA	Time weighted average
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

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; 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; 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 (AUSTRALIA) PTY LTD 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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