



SAFETY DATA SHEET

DOW CHEMICAL (AUSTRALIA) PTY LTD

Product name: DOWSIL™ 680 Sanitary Sealant Almond Ivory

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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™ 680 Sanitary Sealant Almond Ivory

Recommended use of the chemical and restrictions on use

Identified uses: Construction materials and additives 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

Short-term (acute) aquatic hazard - Category 3

Long-term (chronic) aquatic hazard - Category 3

GHS label elements

Hazard pictograms



Signal word: **WARNING!**

Hazard statements

May cause an allergic skin reaction.
Causes serious eye irritation.
Harmful to aquatic life with long lasting effects.

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.
Avoid release to the environment.
Wear protective gloves/ eye protection/ face protection.

Response

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
Silicon dioxide	7631-86-9	>= 1.0 - < 10.0 %
2-Butanone, O,O',O''-(methylsilylidyne)trioxime	22984-54-9	>= 2.5 - < 10.0 %
Distillates (petroleum), hydrotreated middle	64742-46-7	>= 1.0 - < 10.0 %
Vinyltri (methylethylketoxime) silane	2224-33-1	>= 1.0 - < 3.0 %
3-Aminopropyltriethoxysilane	919-30-2	>= 0.1 - < 1.0 %

Methyltri(ethylmethylketoxime)silane isomers and oligomers Not available $\geq 0.25 - < 1.0 \%$

Propiconazole 60207-90-1 $\geq 0.25 - < 1.0 \%$

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: 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.. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage.. 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: Do not release the product to the aquatic environment above defined regulatory levels. 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.

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. 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
Silicon dioxide	Dow IHG	TWA Respirable dust	2 mg/m ³
	Dow IHG	TWA Total dust	6 mg/m ³
	AU OEL	TWA Respirable dust	2 mg/m ³
Distillates (petroleum), hydrotreated middle	AU OEL	TWA Mist	5 mg/m ³
	Dow IHG	TWA	0.5 mg/m ³
3-Aminopropyltriethoxysilane	Dow IHG	TWA	10 ppm
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:

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 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, 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.

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 to off-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)	0.985
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.

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.

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:

Silicon dioxide

LD50, Rat, > 5,000 mg/kg

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

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

Distillates (petroleum), hydrotreated middle

LD50, Rat, > 5,000 mg/kg

Vinyltri (methylethylketoxime) silane

LD50, Rat, > 2,000 mg/kg

3-Aminopropyltriethoxysilane

LD50, Rat, female, 1,479 mg/kg

LD50, Rat, male, 2,665 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

Propiconazole

LD50, Rat, 1,411 - 1,517 mg/kg

LD50, Mouse, 1,490 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:

Silicon dioxide

LD50, Rabbit, > 5,000 mg/kg

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

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

Distillates (petroleum), hydrotreated middle

LD50, Rabbit, > 3,160 mg/kg No deaths occurred at this concentration.

Vinyltri (methylethylketoxime) silane

LD50, Rat, > 2,000 mg/kg

3-Aminopropyltriethoxysilane

Based on product testing: LD50, Rabbit, male and female, 4,041 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.

Propiconazole

LD50, Rabbit, > 6,000 mg/kg

LD50, Rat, > 4,000 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:

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''-(methylsilyldiyl)trioxime

The LC50 has not been determined.

Distillates (petroleum), hydrotreated middle

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

Vinyltri (methylethylketoxime) silane

The LC50 has not been determined.

3-Aminopropyltriethoxysilane

Based on product testing: LC50, Rat, male, 6 Hour, vapour, > 5 ppm No deaths occurred at this concentration.

Based on product testing: LC50, Rat, female, 6 Hour, vapour, > 16 ppm No deaths occurred at this concentration.

Based on product testing: LC50, Rat, male and female, 4 Hour, Aerosol, > 7.35 mg/l

Methyltri(ethylmethylketoxime)silane isomers and oligomers

The LC50 has not been determined.

Propiconazole

LC50, Rat, 4 Hour, dust/mist, > 5.8 mg/l

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:

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''-(methylsilyldiyl)trioxime

Brief contact may cause slight skin irritation with local redness.

Distillates (petroleum), hydrotreated middle

Brief contact may cause slight skin irritation with local redness.

Vinyltri (methylethylketoxime) silane

Brief contact may cause slight skin irritation with local redness.

3-Aminopropyltriethoxysilane

Brief contact may cause severe skin burns. Symptoms may include pain, severe local redness and tissue damage.

Methyltri(ethylmethylketoxime)silane isomers and oligomers

For similar material(s):

Brief contact may cause slight skin irritation with local redness.

Propiconazole

Brief contact is essentially nonirritating to skin.

Serious eye damage/eye irritation

Based on information for component(s):

May cause moderate eye irritation.

May cause corneal injury.

Information for components:

Silicon dioxide

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

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

May cause slight eye irritation.

May cause slight corneal injury.

Distillates (petroleum), hydrotreated middle

May cause slight eye irritation.

Vinyltri (methylethylketoxime) silane

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

3-Aminopropyltriethoxysilane

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

Vapor or mist may cause eye irritation.

Methyltri(ethylmethylketoxime)silane isomers and oligomers

For similar material(s):

May cause slight eye irritation.

Propiconazole

May cause slight eye irritation.

May cause slight corneal injury.

Sensitization

For skin sensitization:

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

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

For respiratory sensitization:

No relevant information found.

Information for components:

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''-(methylsilyldyne)trioxime

For skin sensitization:

Has caused allergic skin reactions when tested in guinea pigs.

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.

Vinyltri (methylethylketoxime) silane

Has caused allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

3-Aminopropyltriethoxysilane

For skin sensitization:

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.

Propiconazole

Skin contact may cause an allergic skin reaction.

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:

Silicon dioxide

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

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

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

Distillates (petroleum), hydrotreated middle

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.

3-Aminopropyltriethoxysilane

Material is corrosive. Material is not classified as a respiratory irritant; however, upper respiratory tract irritation or corrosivity may be expected.

Methyltri(ethylmethylketoxime)silane isomers and oligomers

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

Propiconazole

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

Aspiration Hazard

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

Information for components:

Silicon dioxide

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.

Distillates (petroleum), hydrotreated middle

May be fatal if swallowed and enters airways.

Vinyltri (methylethylketoxime) silane

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

3-Aminopropyltriethoxysilane

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.

Propiconazole

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

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:

Silicon dioxide

No relevant data found.

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

For similar material(s):

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

Blood

Distillates (petroleum), hydrotreated middle

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

Vinyltri (methylethylketoxime) silane

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

Blood.

3-Aminopropyltriethoxysilane

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

Liver.

Methyltri(ethylmethylketoxime)silane isomers and oligomers

For similar material(s):

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

Blood

Propiconazole

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

Liver.

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.

Information for components:

Silicon dioxide

No relevant data found.

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

No relevant data found.

Distillates (petroleum), hydrotreated middle

For similar material(s): Did not cause cancer in laboratory animals.

Vinyltri (methylethylketoxime) silane

No relevant data found.

3-Aminopropyltriethoxysilane

Did not cause cancer in laboratory animals.

Methyltri(ethylmethylketoxime)silane isomers and oligomers

No relevant data found.

Propiconazole

Has caused cancer in some laboratory animals. However, the relevance of this to humans is unknown.

Teratogenicity

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

Information for components:

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.

Distillates (petroleum), hydrotreated middle

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

Vinyltri (methylethylketoxime) silane

No relevant data found.

3-Aminopropyltriethoxysilane

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

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.

Propiconazole

Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Has caused birth defects in laboratory animals only at doses producing severe toxicity in the mother.

Reproductive toxicity

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

Information for components:

Silicon dioxide

No relevant data found.

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

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

Distillates (petroleum), hydrotreated middle

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

Vinyltri (methylethylketoxime) silane

No relevant data found.

3-Aminopropyltriethoxysilane

In animal studies, did not interfere with fertility.

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.

Propiconazole

In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

Mutagenicity

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

Information for components:

Silicon dioxide

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

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

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

Distillates (petroleum), hydrotreated middle

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.

3-Aminopropyltriethoxysilane

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.

Propiconazole

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

SECTION 12: ECOLOGICAL INFORMATION

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

Ecotoxicity

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''-(methylsilyldiyl)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

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

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

3-Aminopropyltriethoxysilane

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), semi-static test, 96 Hour, > 934 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

EC50, *Daphnia magna* (Water flea), static test, 48 Hour, 331 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

ErC50, *Desmodesmus subspicatus* (green algae), static test, 72 Hour, Growth rate inhibition, > 1,000 mg/l
NOEC, *Desmodesmus subspicatus* (green algae), static test, 72 Hour, Growth rate inhibition, 1.3 mg/l

Toxicity to bacteria

EC50, *Pseudomonas putida*, 5.75 Hour, Respiration rates., 43 mg/l

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

Propiconazole

Acute toxicity to fish

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

LC50, Leuciscus idus (Golden orfe), 96 Hour, 5.1 mg/l

LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, 0.83 - 506 mg/l

LC50, Cyprinus carpio (Carp), 96 Hour, 5.7 - 46 mg/l

Acute toxicity to aquatic invertebrates

LC50, saltwater mysid Mysidopsis bahia, 96 Hour, 0.5 mg/l, Method Not Specified.

LC50, scud Gammarus sp., flow-through test, 96 Hour, 1.3 mg/l, Method Not Specified.

EC50, Daphnia magna (Water flea), 48 Hour, 10.2 mg/l, Method Not Specified.

Acute toxicity to algae/aquatic plants

EC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, 0.57 mg/l

EC50, diatom Navicula sp., 11 d, 0.093 mg/l

Chronic toxicity to fish

NOEC, Cyprinodon variegatus (sheepshead minnow), 100 d, 0.068 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, Daphnia magna (Water flea), 21 d, 0.31 mg/l

Toxicity to Above Ground Organisms

Material is slightly toxic to birds on an acute basis (LD50 between 501 and 2000 mg/kg).

Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).

oral LD50, Coturnix japonica (Japanese quail), 1,777 - 2,223 mg/kg

dietary LC50, Anas platyrhynchos (Mallard duck), 8 d, > 5,620 ppm

contact LD50, Apis mellifera (bees), > 100micrograms/bee

oral LD50, Apis mellifera (bees), > 100micrograms/bee

Persistence and degradability

Silicon dioxide

Biodegradability: Biodegradation is not applicable.

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

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

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

3-Aminopropyltriethoxysilane

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: 67 %

Exposure time: 28 d

Method: OECD Test Guideline 301A or Equivalent

Stability in Water (1/2-life)

Hydrolysis, half-life, 8.5 Hour, pH 7, Half-life Temperature 24.7 °C

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

Propiconazole

Biodegradability: No relevant information found.

Theoretical Oxygen Demand: 2.01 mg/mg

Photodegradation**Test Type:** Half-life (indirect photolysis)**Sensitization:** OH radicals**Atmospheric half-life:** 5.533 Hour**Method:** Estimated.**Bioaccumulative potential****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).**Distillates (petroleum), hydrotreated middle****Bioaccumulation:** No relevant data found.**Vinyltri (methylethylketoxime) silane****Bioaccumulation:** No relevant data found.**3-Aminopropyltriethoxysilane****Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).**Partition coefficient: n-octanol/water(log Pow):** 1.7 at 20 °C Calculated.**Bioconcentration factor (BCF):** 3.4 Cyprinus carpio (Carp) 56 d**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**Propiconazole****Bioaccumulation:** Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).**Partition coefficient: n-octanol/water(log Pow):** 3.72 Measured**Bioconcentration factor (BCF):** 116 Lepomis macrochirus (Bluegill sunfish) 14 d**Mobility in Soil****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.

Distillates (petroleum), hydrotreated middle

No relevant data found.

Vinyltri (methylethylketoxime) silane

No relevant data found.

3-Aminopropyltriethoxysilane

No relevant data found.

Methyltri(ethylmethylketoxime)silane isomers and oligomers

No relevant data found.

Propiconazole

Potential for mobility in soil is medium (Koc between 150 and 500).

Partition coefficient (Koc): 382 - 1789 Measured

Results of PBT and vPvB assessment

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''-(methylsilyldiyl)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).

Distillates (petroleum), hydrotreated middle

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).

3-Aminopropyltriethoxysilane

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).

Methyltri(ethylmethylketoxime)silane isomers and oligomers

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

Propiconazole

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

Other adverse effects

Silicon dioxide

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

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

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.

Vinyltri (methylethylketoxime) silane

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

3-Aminopropyltriethoxysilane

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.

Propiconazole

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: 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.

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

S6

Product repackaged for public consumer use should be labelled in accordance with the current Standard for the Uniform Scheduling of Medicines and Poisons.

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 : There is no applicable prohibition or notification/licensing requirements, including for carcinogens under Commonwealth, State or Territory legislation.

SECTION 16: ANY OTHER RELEVANT INFORMATION

Revision

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

Legend

AU OEL	Australia. Workplace Exposure Standards for Airborne Contaminants.
Dow IHG	Dow Industrial Hygiene Guideline
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 - Leading 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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