SAFETY DATA SHEET
DOW CHEMICAL (NZ) LIMITED

Product name: DOWSIL™ 790 Silicone Building Sealant Gray **Issue Date:** 17.11.2020
Print Date: 18.11.2020

DOW CHEMICAL (NZ) LIMITED encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: DOWSIL™ 790 Silicone Building Sealant Gray

Recommended use of the chemical and restrictions on use
Identified uses: Sealant

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

Customer Information Number: 0800-504-567
Fnpcust@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 0800 369 363
Local Emergency Contact: 0800 369 363
For medical advice, contact the New Zealand Poisons Information Centre: 0800 POISON (0800 764766)
Transport Emergency Only Dial 111

2. HAZARDS IDENTIFICATION

GHS Classification
NEW ZEALAND HAZARDOUS SUBSTANCES CLASSIFICATION: Classified as hazardous according to criteria in the New Zealand Hazardous Substances (Minimum Degrees of Hazard) Notice 2017, and the Hazardous Substances (Classification) Notice 2017. Refer to Section 15 for HSNO Approval Number.
6.3: Skin irritation - Category B
6.4: Eye irritation - Category A
6.8: Toxic to Reproduction - Category B
9.1: Aquatic toxicity (Acute or Chronic) - Category C
9.4: Ecotoxic to terrestrial invertebrates - Category A

GHS label elements
Hazard pictograms

Signal word: **WARNING!**

Hazard statements
Causes mild skin irritation.
Causes serious eye irritation.
Suspected of damaging fertility or the unborn child.
Harmful to aquatic life with long lasting effects.
Very toxic to terrestrial invertebrates.

Precautionary statements

Prevention
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wash skin thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.
Wear protective gloves/ eye protection/ face protection.

Response
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/ attention.
If skin irritation occurs: Get medical advice/ attention.
If eye irritation persists: Get medical advice and/or attention.
Collect spillage.

Storage
Store locked up.

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

Component	CASRN	Concentration
Polydimethylsiloxane hydroxy-terminated	70131-67-8	>= 34.0 - <= 54.0 %
Methylvinyl bis(N-	87855-59-2	>= 0.8 - <= 2.9 %

ethylacetamido)silane		
Dimethyl, methylhydrogen siloxane, dehydrogenated, reaction with hydroxydiethylamine	68952-53-4	>= 0.9 - <= 2.2 %
Carbon black	1333-86-4	<= 0.88 %
Quartz	14808-60-7	< 0.58 %
Siloxanes and silicones, dimethyl	63148-62-9	>= 0.005 - <= 0.5 %
N-ethylacetamide	625-50-3	>= 0.12 - <= 0.44 %
Octamethyl Cyclotetrasiloxane	556-67-2	>= 0.03 - <= 0.22 %
Impurities in methylvinylbis(N-ethylacetamido)silane	Not available	>= 0.06 - <= 0.22 %

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: Wash off with plenty of water. 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.

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). Formaldehyde.

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..

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations.

Environmental precautions: 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.
See sections: 7, 8, 11, 12 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling: Do not get on skin or clothing. Do not swallow. Do not get in eyes. 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 locked up. Store in accordance with the particular national regulations.

Do not store with the following product types: Strong oxidizing agents.
Unsuitable materials for containers**:** None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Component	Regulation	Type of listing	Value
Carbon black	ACGIH	TWA Inhalable particulate matter	3 mg/m3
	Further information: bronchitis: Bronchitis; A3: Confirmed animal carcinogen with unknown relevance to humans		
Octamethyl Cyclotetrasiloxane	US WEEL	TWA	10 ppm

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 4 or higher (breakthrough time greater than 120 minutes according to AS/NZS 2161.10) is recommended. When only brief contact is expected , a glove with a protection class of 1 or higher (breakthrough time greater than 10 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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	paste
Color	grey
Odor	Fishy
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)	1.48
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.
Liquid Density	1.48 g/cm3
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.

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: None known.

Incompatible materials: Avoid contact with oxidizing materials.

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

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, Rat, > 5,000 mg/kg Estimated.

Information for components:

Polydimethylsiloxane hydroxy-terminated
Single dose oral LD50 has not been determined.

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

Methylvinyl bis(N-ethylacetamido)silane
LD50, Rat, 500 mg/kg Acute toxicity estimate

Dimethyl, methylhydrogen siloxane, dehydrogenated, reaction with hydroxydiethylamine
Single dose oral LD50 has not been determined.

Carbon black
LD50, Rat, > 8,000 mg/kg

Quartz
Single dose oral LD50 has not been determined.

Siloxanes and silicones, dimethyl
LD50, Rat, > 48,500 mg/kg

N-ethylacetamide
Based on data from similar materials LD50, Rat, 3,950 mg/kg

Octamethyl Cyclotetrasiloxane
LD50, Rat, male, > 4,800 mg/kg No deaths occurred at this concentration.

Impurities in methylvinylbis(N-ethylacetamido)silane
LD50, 500 mg/kg Acute toxicity estimate

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

As product: The dermal LD50 has not been determined.

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

Information for components:

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

Methylvinyl bis(N-ethylacetamido)silane
LD50, Rat, > 2,000 mg/kg

Dimethyl, methylhydrogen siloxane, dehydrogenated, reaction with hydroxydiethylamine
The dermal LD50 has not been determined.

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

Quartz
The dermal LD50 has not been determined.

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

N-ethylacetamide
The dermal LD50 has not been determined.

Octamethyl Cyclotetrasiloxane
LD50, Rat, male and female, > 2,400 mg/kg No deaths occurred at this concentration.

Impurities in methylvinylbis(N-ethylacetamido)silane
Based on data from similar materials 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:

Polydimethylsiloxane hydroxy-terminated
The LC50 has not been determined.

Methylvinyl bis(N-ethylacetamido)silane
The LC50 has not been determined.

Dimethyl, methylhydrogen siloxane, dehydrogenated, reaction with hydroxydiethylamine
The LC50 has not been determined.

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

Quartz
The LC50 has not been determined.

Siloxanes and silicones, dimethyl
The LC50 has not been determined.

N-ethylacetamide
Based on data from similar materials LC0, Rat, 8 Hour, vapour, 2.19 mg/l No deaths occurred following exposure to a saturated atmosphere.

Octamethyl Cyclotetrasiloxane
LC50, Rat, male and female, 4 Hour, dust/mist, 36 mg/l OECD Test Guideline 403

Impurities in methylvinylbis(N-ethylacetamido)silane
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:

Polydimethylsiloxane hydroxy-terminated
Prolonged exposure not likely to cause significant skin irritation.

Methylvinyl bis(N-ethylacetamido)silane
Brief contact may cause slight skin irritation with local redness.

Dimethyl, methylhydrogen siloxane, dehydrogenated, reaction with hydroxydiethylamine
For similar material(s):
Brief contact may cause skin irritation with local redness.

Carbon black
Prolonged exposure not likely to cause significant skin irritation.

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

Siloxanes and silicones, dimethyl
Brief contact is essentially nonirritating to skin.

N-ethylacetamide
For similar material(s):
Brief contact may cause slight skin irritation with local redness.

Octamethyl Cyclotetrasiloxane
Brief contact is essentially nonirritating to skin.

Impurities in methylvinylbis(N-ethylacetamido)silane
For similar material(s):
Brief contact may cause slight 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:

Polydimethylsiloxane hydroxy-terminated
May cause slight temporary eye irritation.

Corneal injury is unlikely.
May cause mild eye discomfort.

Methylvinyl bis(N-ethylacetamido)silane
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Dimethyl, methylhydrogen siloxane, dehydrogenated, reaction with hydroxydiethylamine
For similar material(s):
May cause eye irritation.

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

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

Siloxanes and silicones, dimethyl
May cause slight temporary eye irritation.
Corneal injury is unlikely.
May cause mild eye discomfort.

N-ethylacetamide
For similar material(s):
May cause slight eye irritation.

Octamethyl Cyclotetrasiloxane
Essentially nonirritating to eyes.

Impurities in methylvinylbis(N-ethylacetamido)silane
For similar material(s):
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Sensitization
For skin sensitization:
Contains component(s) which did not cause allergic skin sensitization in guinea pigs.
Contains component(s) which have not demonstrated the potential for contact allergy in mice.

For respiratory sensitization:
No relevant information found.

Information for components:

Polydimethylsiloxane hydroxy-terminated
Did not cause allergic skin reactions when tested in humans.
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Methylvinyl bis(N-ethylacetamido)silane
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Dimethyl, methylhydrogen siloxane, dehydrogenated, reaction with hydroxydiethylamine
For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

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

For respiratory sensitization:
No relevant data found.

Quartz
For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

Siloxanes and silicones, dimethyl
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

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

For respiratory sensitization:
No relevant data found.

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

For respiratory sensitization:
No relevant data found.

Impurities in methylvinylbis(N-ethylacetamido)silane
For similar material(s):
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Information for components:

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

Methylvinyl bis(N-ethylacetamido)silane
Available data are inadequate to determine single exposure specific target organ toxicity.

Dimethyl, methylhydrogen siloxane, dehydrogenated, reaction with hydroxydiethylamine
Available data are inadequate to determine single exposure specific target organ toxicity.

Carbon black
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.

Siloxanes and silicones, dimethyl
Available data are inadequate to determine single exposure specific target organ toxicity.

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

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

Impurities in methylvinylbis(N-ethylacetamido)silane
Available data are inadequate to determine single exposure specific target organ toxicity.

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

Information for components:

Polydimethylsiloxane hydroxy-terminated
Based on physical properties, not likely to be an aspiration hazard.

Methylvinyl bis(N-ethylacetamido)silane
Based on available information, aspiration hazard could not be determined.

Dimethyl, methylhydrogen siloxane, dehydrogenated, reaction with hydroxydiethylamine
Based on physical properties, not likely to be an aspiration hazard.

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

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

Siloxanes and silicones, dimethyl
Based on physical properties, not likely to be an aspiration hazard.

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

Octamethyl Cyclotetrasiloxane
May be harmful if swallowed and enters airways.

Impurities in methylvinylbis(N-ethylacetamido)silane
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 a component(s) that is/are not expected to be bioavailable due to the physical state of the material under normal handling and processing conditions.

Information for components:

Polydimethylsiloxane hydroxy-terminated
For similar material(s):
Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Methylvinyl bis(N-ethylacetamido)silane
No relevant data found.

Dimethyl, methylhydrogen siloxane, dehydrogenated, reaction with hydroxydiethylamine
No relevant data found.

Carbon black
Dust may cause irritation of the upper respiratory tract (nose and throat) and lungs.
Repeated exposures to very fine dusts may cause lung injury.
Due to the physical state of the material, this component is not expected to be bioavailable under normal handling and processing conditions.

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.

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

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

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

Kidney.
Liver.
Respiratory tract.
Female reproductive organs.

Impurities in methylvinylbis(N-ethylacetamido)silane
No relevant data found.

Carcinogenicity
Contains a component(s) that is/are not expected to be bioavailable due to the physical state of the material under normal handling and processing conditions.

Information for components:

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

Methylvinyl bis(N-ethylacetamido)silane
No relevant data found.

Dimethyl, methylhydrogen siloxane, dehydrogenated, reaction with hydroxydiethylamine
No relevant data found.

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

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.

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

N-ethylacetamide
No relevant data found.

Octamethyl Cyclotetrasiloxane
Results from a 2 year repeated vapour inhalation exposure study to rats of octamethylcyclotetrasiloxane (D4) indicate effects (benign uterine adenomas) in the uterus of female animals. This finding occurred at the highest exposure dose (700 ppm) only. Studies to date have not demonstrated if these effects occur through pathways that are relevant to humans. Repeated exposure in rats to D4 resulted in protoporphyrin accumulation in the liver. Without knowledge of the specific mechanism leading to the protoporphyrin accumulation the relevance of this finding to humans is unknown.

Impurities in methylvinylbis(N-ethylacetamido)silane
No relevant data found.

Teratogenicity
Contains component(s) which caused birth defects in lab animals at doses nontoxic to the mother.

Information for components:

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

Methylvinyl bis(N-ethylacetamido)silane
No relevant data found.

Dimethyl, methylhydrogen siloxane, dehydrogenated, reaction with hydroxydiethylamine
No relevant data found.

Carbon black
No relevant data found.

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

Siloxanes and silicones, dimethyl
Did not cause birth defects or any other fetal effects in laboratory animals.

N-ethylacetamide
Has caused birth defects in laboratory animals at doses nontoxic to the mother.

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

Impurities in methylvinylbis(N-ethylacetamido)silane
No relevant data found.

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

Information for components:

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

Methylvinyl bis(N-ethylacetamido)silane
In animal studies, has been shown to interfere with reproduction. In animal studies, has been shown to interfere with fertility.

Dimethyl, methylhydrogen siloxane, dehydrogenated, reaction with hydroxydiethylamine

No relevant data found.

Carbon black
No relevant data found.

Quartz
No relevant data found.

Siloxanes and silicones, dimethyl
In animal studies, did not interfere with reproduction.

N-ethylacetamide
No relevant data found.

Octamethyl Cyclotetrasiloxane
In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals. In animal studies, has been shown to interfere with fertility.

Impurities in methylvinylbis(N-ethylacetamido)silane
In animal studies, has been shown to interfere with reproduction. In animal studies, has been shown to interfere with fertility.

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:

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

Methylvinyl bis(N-ethylacetamido)silane
In vitro genetic toxicity studies were negative.

Dimethyl, methylhydrogen siloxane, dehydrogenated, reaction with hydroxydiethylamine
No relevant data found.

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

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

Siloxanes and silicones, dimethyl
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

N-ethylacetamide

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

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

Impurities in methylvinylbis(N-ethylacetamido)silane
In vitro genetic toxicity studies were negative.

12. ECOLOGICAL INFORMATION

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

Ecotoxicity

Polydimethylsiloxane hydroxy-terminated

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, Fish, 96 Hour, > 100 mg/l

Acute toxicity to aquatic invertebrates
For similar material(s):
EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l

Acute toxicity to algae/aquatic plants
For similar material(s):
EC50, algae, 14 d, Growth rate inhibition, > 2,000 mg/l

Chronic toxicity to fish
For similar material(s):
NOEC, Cyprinodon variegatus (sheepshead minnow), 33 d, 91 mg/l

Toxicity to Above Ground Organisms
Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).
Based on information for a similar material:
oral LD50, Colinus virginianus (Bobwhite quail), > 5,000 mg/kg

Methylvinyl bis(N-ethylacetamido)silane

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).
LC50, Danio rerio (zebra fish), 96 Hour, > 100 mg/l
LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 100 mg/l, OECD Test Guideline 203
NOEC, Oncorhynchus mykiss (rainbow trout), 96 Hour, 50 mg/l

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), 48 Hour, 69 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants

EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 100 mg/l, OECD Test Guideline 201
NOEC, Pseudokirchneriella subcapitata (green algae), 72 Hour, 100 mg/l

Dimethyl, methylhydrogen siloxane, dehydrogenated, reaction with hydroxydiethylamine

Acute toxicity to aquatic invertebrates
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).
Based on data from similar materials
EC50, Daphnia magna (Water flea), 48 Hour, > 0.11 - 1 mg/l

Carbon black

Acute toxicity to fish
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Leuciscus idus (Golden orfe), static test, 96 Hour, > 1,000 mg/l, OECD Test Guideline 203 or Equivalent

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

Acute toxicity to algae/aquatic plants
NOEC, Desmodesmus subspicatus (green algae), 72 Hour, 10,000 mg/l, OECD Test Guideline 201

Quartz

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

Siloxanes and silicones, dimethyl

Acute toxicity to fish
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Fish, 96 Hour, > 100 mg/l

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l

Acute toxicity to algae/aquatic plants
EC50, algae, 14 d, > 2,000 mg/l

Chronic toxicity to fish
NOEC, Cyprinodon variegatus (sheepshead minnow), 33 d, 91 mg/l

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

N-ethylacetamide

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).
Based on data from similar materials

LC50, Leuciscus idus (Golden orfe), 96 Hour, 3,390 mg/l, DIN 38412

Acute toxicity to aquatic invertebrates
Based on data from similar materials
EC50, Daphnia magna (Water flea), 48 Hour, > 580 mg/l, DIN 38412

Acute toxicity to algae/aquatic plants
Based on data from similar materials
EC50, Desmodesmus subspicatus (green algae), 96 Hour, > 500 mg/l

Toxicity to bacteria
Based on data from similar materials
EC10, Pseudomonas putida, 17 Hour, > 10,000 mg/l, DIN 38 412 Part 8

Octamethyl Cyclotetrasiloxane

Acute toxicity to fish
Not expected to be acutely toxic to aquatic organisms.
No toxicity at the limit of solubility
LC50, Oncorhynchus mykiss (rainbow trout), flow-through, 96 Hour, > 0.022 mg/l
No toxicity at the limit of solubility
LC50, Cyprinodon variegatus (sheepshead minnow), flow-through, 14 d, > 0.0063 mg/l

Acute toxicity to aquatic invertebrates
No toxicity at the limit of solubility
EC50, Mysidopsis bahia (opossum shrimp), flow-through test, 96 Hour, > 0.0091 mg/l
No toxicity at the limit of solubility
EC50, Daphnia magna (Water flea), flow-through test, 48 Hour, > 0.015 mg/l

Acute toxicity to algae/aquatic plants
No toxicity at the limit of solubility
ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate, > 0.022 mg/l

Chronic toxicity to fish
No toxicity at the limit of solubility
NOEC, Oncorhynchus mykiss (rainbow trout), 93 d, >= 0.0044 mg/l

Chronic toxicity to aquatic invertebrates
No toxicity at the limit of solubility
NOEC, Daphnia magna (Water flea), 21 d, >= 0.0079 mg/l

Persistence and degradability

Polydimethylsiloxane hydroxy-terminated

Biodegradability: The product is not biodegradable.

Methylvinyl bis(N-ethylacetamido)silane

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.
Biodegradation: 62.66 %
Method: OECD Test Guideline 301B

Dimethyl, methylhydrogen siloxane, dehydrogenated, reaction with hydroxydiethylamine

Biodegradability: Material is not readily biodegradable according to OECD/EEC guidelines.
10-day Window: Fail For similar material(s):
Biodegradation: 0.43 %
Exposure time: 29 d
Method: OECD Test Guideline 301B

Carbon black

Biodegradability: Biodegradation is not applicable.

Quartz

Biodegradability: Biodegradation is not applicable.

Siloxanes and silicones, dimethyl

Biodegradability: The product is not biodegradable.

N-ethylacetamide

Biodegradability: Material has inherent, ultimate biodegradability according to OECD test (s) guidelines (reaches > 60 or 70% biodegradation in OECD test(s).
Based on data from similar materials
Biodegradation: 100 %
Exposure time: 6 d

Octamethyl Cyclotetrasiloxane

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
10-day Window: Not applicable
Biodegradation: 3.7 %
Exposure time: 28 d
Method: OECD Test Guideline 310

Stability in Water (1/2-life)
Hydrolysis, DT50, 69.3 - 144 Hour, pH 7, Half-life Temperature 24.6 °C, OECD Test Guideline 111

Photodegradation
Atmospheric half-life: 16 d
Method: Estimated.

Bioaccumulative potential

Polydimethylsiloxane hydroxy-terminated

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

Methylvinyl bis(N-ethylacetamido)silane

Bioaccumulation: No relevant data found.

Dimethyl, methylhydrogen siloxane, dehydrogenated, reaction with hydroxydiethylamine

Bioaccumulation: No relevant data found.

Carbon black

Bioaccumulation: No relevant data found.

Quartz

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

Siloxanes and silicones, dimethyl

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

N-ethylacetamide

Bioaccumulation: No relevant data found.

Octamethyl Cyclotetrasiloxane

Bioaccumulation: Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).
Partition coefficient: n-octanol/water(log Pow): 6.49 Measured
Bioconcentration factor (BCF): 12,400 Pimephales promelas (fathead minnow) Measured

Mobility in Soil

Polydimethylsiloxane hydroxy-terminated

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

Methylvinyl bis(N-ethylacetamido)silane

No relevant data found.

Dimethyl, methylhydrogen siloxane, dehydrogenated, reaction with hydroxydiethylamine

No relevant data found.

Carbon black

No relevant data found.

Quartz

No relevant data found.

Siloxanes and silicones, dimethyl

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

N-ethylacetamide

No relevant data found.

Octamethyl Cyclotetrasiloxane

Expected to be relatively immobile in soil (Koc > 5000).
Partition coefficient (Koc): 16596 OECD Test Guideline 106

Results of PBT and vPvB assessment

Polydimethylsiloxane hydroxy-terminated

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

Methylvinyl bis(N-ethylacetamido)silane

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

Dimethyl, methylhydrogen siloxane, dehydrogenated, reaction with hydroxydiethylamine

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

Carbon black

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).

Siloxanes and silicones, dimethyl

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

N-ethylacetamide

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

Octamethyl Cyclotetrasiloxane

Octamethylcyclotetrasiloxane (D4) meets the current REACh Annex XIII criteria for PBT and vPvB. In Canada, D4 has been assessed and deemed to meet the PiT criteria. However, D4 does not behave similarly to known PBT/vPvB substances. The weight of scientific evidence from field studies shows that D4 is not biomagnifying in aquatic and terrestrial food webs. D4 in air will degrade by reaction with naturally occurring hydroxyl radicals in the atmosphere. Any D4 in air that does not degrade by reaction with hydroxyl radicals is not expected to deposit from the air to water, to land, or to living organisms.

Impurities in methylvinylbis(N-ethylacetamido)silane

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

Other adverse effects

Polydimethylsiloxane hydroxy-terminated

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

Methylvinyl bis(N-ethylacetamido)silane

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

Dimethyl, methylhydrogen siloxane, dehydrogenated, reaction with hydroxydiethylamine

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

Carbon black

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

Quartz

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

Siloxanes and silicones, dimethyl

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

N-ethylacetamide

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

Octamethyl Cyclotetrasiloxane

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

Impurities in methylvinylbis(N-ethylacetamido)silane

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

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.

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

14. TRANSPORT INFORMATION

Classification for ROAD and Rail transport:

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

Not regulated for transport

Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

Hazchem Code
None Allocated

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

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

HSNO Approval
Surface Coatings and Colourants Subsidiary Hazard Group Standard 2017

HSNO Approval Number: HSR002670

HSNO Controls
Certified handler certificate not required.
Tracking hazardous substance not required.
Refer to the Health and Safety at Work (Hazardous Substances) Regulations 2017, for further information.

16. OTHER INFORMATION

Revision
Identification Number: 4110834 / A156 / Issue Date: 17.11.2020 / Version: 3.0
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)
TWA	8-hour, time-weighted average
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

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