SAFETY DATA SHEET

DOW CHEMICAL COMPANY LIMITED

Safety Data Sheet according to Reg. (EU) No 2015/830

Product name: DOWSIL™ 791 Weatherproofing Sealant White

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DOW CHEMICAL COMPANY 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.

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier
Product name: DOWSIL™ 791 Weatherproofing Sealant White

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Construction materials and additives

1.3 Details of the supplier of the safety data sheet
COMPANY IDENTIFICATION
DOW CHEMICAL COMPANY LIMITED
STATION ROAD, BIRCH VALE, HIGH PEAK
DERBYSHIRE
England
SK22 1BR
UNITED KINGDOM

Customer Information Number: +44 (0) 1663 746518
SDSQuestion@dow.com
Fax: +44 (0) 1663 746605

1.4 EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 0031 115 694 982
Local Emergency Contact: 00 31 115 69 4982

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008:
Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008:
Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

Precautionary statements
P271 Use only outdoors or in a well-ventilated area.

Supplemental information
EUH210 Safety data sheet available on request.
EUH208 Contains: Methyltrimethoxysilane. May produce an allergic reaction.

2.3 Other hazards
This product contains dodecamethylcyclohexasiloxane (D6) that has been identified by the Member State Committee of ECHA as fulfilling the vPvB criteria laid down in Annex XIII to Regulation (EC) No 1907/2006. See Section 12 for additional information.
This product contains decamethylcyclopentasiloxane (D5) that has been identified by the Member State Committee of ECHA as fulfilling the vPvB criteria laid down in Annex XIII to Regulation (EC) No 1907/2006. See Section 12 for additional information.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Silicone elastomer
3.2 Mixtures

This product is a mixture.

CASRN / EC-No. / Index-No.	REACH Registration Number	Concentration	Component	Classification: REGULATION (EC) No 1272/2008
PBT and vPvB substance				
CASRN 540-97-6 **EC-No.** 208-762-8 **Index-No.** –	–	<= 0.3024 %	Dodecamethyl cyclohexasiloxane	Not classified
CASRN 541-02-6 **EC-No.** 208-764-9 **Index-No.** –	–	<= 0.1034 %	Decamethylcyclope ntasiloxane	Not classified
Substances with a workplace exposure limit				
CASRN 1309-37-1 **EC-No.** 215-168-2 **Index-No.** –	–	<= 4.2 %	Iron oxide (Fe2O3)	Not classified

CASRN 1328-53-6 **EC-No.** 215-524-7 **Index-No.** –	01-2119459333-39	<= 3.15 %	C.I. Pigment Green 7	Not classified
CASRN 20344-49-4 **EC-No.** 243-746-4 **Index-No.** –	_	<= 2.8 %	Iron hydroxide oxide	Not classified
CASRN 1317-61-9 **EC-No.** 215-277-5 **Index-No.** –	_	<= 2.73 %	Iron oxide (Fe3O4)	Not classified
CASRN 51274-00-1 **EC-No.** 257-098-5 **Index-No.** –	_	<= 2.31 %	C.I. Pigment Yellow 42	Not classified
CASRN 12001-26-2 **EC-No.** 310-127-6 **Index-No.** –	_	<= 1.82 %	Mica muscovite	Not classified
CASRN 7727-43-7 **EC-No.** 231-784-4 **Index-No.** –	_	>= 0.16 - <= 1.12 %	Barium sulfate	Not classified

SECTION 4: FIRST AID MEASURES

4.1 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; if effects occur, consult a physician.

Skin contact: Wash off with plenty of water.

Eye contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

Ingestion: No emergency medical treatment necessary.

4.2 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.

4.3 Indication of any immediate medical attention and special treatment needed
Notes to physician: Metal fume fever symptoms of headache, nausea, chills, cough and fever may be accompanied by leukocytosis, and typically resolve in 24 - 48hr. Treatment includes antipyretics, hydration, oxygen, bronchodilators, and rest. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing media: Water spray Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical

Unsuitable extinguishing media: None known.

5.2 Special hazards arising from the substance or mixture
Hazardous combustion products: Metal oxides Formaldehyde Carbon oxides Silicon oxides Cobalt compounds Nitrogen oxides (NOx) Chlorine compounds Sulphur oxides

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

5.3 Advice for firefighters
Fire Fighting Procedures: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

Special protective equipment for firefighters: Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

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

6.2 Environmental precautions: Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

6.3 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, Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

6.4 Reference to other sections:
See sections: 7, 8, 11, 12 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling: Do not get on skin or clothing. Do not swallow. Avoid contact with eyes. 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.

7.2 Conditions for safe storage, including any incompatibilities: 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**:** None known.

7.3 Specific end use(s): See the technical data sheet on this product for further information.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 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/Notation
Decamethylcyclopentasiloxane	US WEEL	TWA	10 ppm
Iron oxide (Fe2O3)	ACGIH	TWA Respirable fraction	5 mg/m3
	GB EH40	TWA inhalable dust	10 mg/m3
	GB EH40	TWA Respirable dust	4 mg/m3
C.I. Pigment Green 7	GB EH40	TWA Dusts and mists	1 mg/m3 , Copper
	GB EH40	STEL Dusts and mists	2 mg/m3 , Copper
Iron hydroxide oxide	GB EH40	TWA Fumes	5 mg/m3 , Iron
	GB EH40	STEL Fumes	10 mg/m3 , Iron
	GB EH40	TWA	1 mg/m3 , Iron
	GB EH40	STEL	2 mg/m3 , Iron
Iron oxide (Fe3O4)	GB EH40	TWA Fumes	5 mg/m3 , Iron

	GB EH40	STEL Fumes	10 mg/m3 , Iron
C.I. Pigment Yellow 42	GB EH40	TWA Fumes	5 mg/m3 , Iron
	GB EH40	STEL Fumes	10 mg/m3 , Iron
Mica muscovite	ACGIH	TWA Respirable fraction	3 mg/m3
	GB EH40	TWA Inhalable	10 mg/m3
	GB EH40	TWA Respirable	0.8 mg/m3
Barium sulfate	ACGIH	TWA Inhalable fraction	5 mg/m3
	GB EH40	TWA Inhalable	10 mg/m3
	GB EH40	TWA Respirable	4 mg/m3

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.

Derived No Effect Level

Dodecamethyl cyclohexasiloxane

Workers

Acute systemic effects		***Acute local effects***		***Long-term systemic effects***		***Long-term local effects***	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	6.1 mg/m3	n.a.	11 mg/m3	n.a.	1.22 mg/m3

Consumers

Acute systemic effects			***Acute local effects***		***Long-term systemic effects***			***Long-term local effects***	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	1.7 mg/kg bw/day	n.a.	1.5 mg/m3	n.a.	2.7 mg/m3	1.7 mg/kg bw/day	n.a.	0.3 mg/m3

Decamethylcyclopentasiloxane

Workers

Acute systemic effects		***Acute local effects***		***Long-term systemic effects***		***Long-term local effects***	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	97.3 mg/m3	n.a.	24.2 mg/m3	n.a.	97.3 mg/m3	n.a.	24.2 mg/m3

Consumers

Acute systemic effects			***Acute local effects***		***Long-term systemic effects***			***Long-term local effects***	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	17.3 mg/m3	5 mg/kg bw/day	n.a.	4.3 mg/m3	n.a.	17.3 mg/m3	5 mg/kg bw/day	n.a.	4.3 mg/m3

Iron oxide (Fe2O3)

Workers

Acute systemic effects	***Acute local effects***	***Long-term systemic effects***	***Long-term local effects***

Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	10 mg/m3	n.a.	10 mg/m3

Consumers

Acute systemic effects			***Acute local effects***		***Long-term systemic effects***			***Long-term local effects***	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

C.I. Pigment Green 7

Workers

Acute systemic effects		***Acute local effects***		***Long-term systemic effects***		***Long-term local effects***	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	450 mg/kg bw/day	4 mg/m3	n.a.	n.a.

Consumers

Acute systemic effects			***Acute local effects***		***Long-term systemic effects***			***Long-term local effects***	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	225 mg/kg bw/day	n.a.	45 mg/kg bw/day	n.a.	n.a.

Iron hydroxide oxide

Workers

Acute systemic effects		***Acute local effects***		***Long-term systemic effects***		***Long-term local effects***	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	10 mg/m3	n.a.	10 mg/m3

Consumers

Acute systemic effects			***Acute local effects***		***Long-term systemic effects***			***Long-term local effects***	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Iron oxide (Fe3O4)

Workers

Acute systemic effects		***Acute local effects***		***Long-term systemic effects***		***Long-term local effects***	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	10 mg/m3	n.a.	10 mg/m3

Consumers

Acute systemic effects			***Acute local effects***		***Long-term systemic effects***			***Long-term local effects***	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

C.I. Pigment Yellow 42

Workers

Acute systemic effects		***Acute local effects***		***Long-term systemic effects***		***Long-term local effects***	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	10 mg/m3	n.a.	10 mg/m3

Consumers

Acute systemic effects			***Acute local effects***		***Long-term systemic effects***			***Long-term local effects***	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Barium sulfate

Workers

Acute systemic effects		***Acute local effects***		***Long-term systemic effects***		***Long-term local effects***	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	10 mg/m3	n.a.	10 mg/m3

Consumers

Acute systemic effects			***Acute local effects***		***Long-term systemic effects***			***Long-term local effects***	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	10 mg/m3	13000 mg/kg bw/day	n.a.	n.a.

Predicted No Effect Concentration

Dodecamethyl cyclohexasiloxane

Compartment	**PNEC**
Fresh water sediment	2.826 mg/kg
Marine sediment	0.282 mg/kg
Soil	3.336 mg/kg
Sewage treatment plant	> 1.0 mg/l

Decamethylcyclopentasiloxane

Compartment	**PNEC**
Fresh water	> 0.0012 mg/l
Marine water	> 0.00012 mg/l
Fresh water sediment	2.4 mg/kg
Marine sediment	0.24 mg/kg
Soil	1.1 mg/kg
Sewage treatment plant	> 10 mg/l

C.I. Pigment Green 7

Compartment	**PNEC**
Fresh water sediment	10 mg/kg
Marine sediment	1 mg/kg
Soil	1 mg/kg

Barium sulfate

Compartment	PNEC
Fresh water	227.8 mg/l
Sewage treatment plant	50.1 mg/l
Soil	707.7 mg/kg
Fresh water sediment	792.7 mg/kg

8.2 Exposure controls

Engineering controls: Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields). Safety glasses (with side shields) should be consistent with EN 166 or equivalent.

Skin protection

Hand protection: Use chemical resistant gloves classified under Standard EN374: 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 EN 374) 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 EN 374) is recommended. Glove thickness alone is not a good indicator of the level of protection a glove provides against a chemical substance as this level of protection is also highly dependent on the specific composition of the material that the glove is fabricated from. The thickness of the glove must, depending on model and type of material, generally be more than 0.35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer laminate gloves may offer prolonged protection at thicknesses less than 0.35 mm. Other glove materials with a thickness of less than 0.35 mm may offer sufficient protection when only brief contact is expected. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

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

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material.

Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2 (meeting standard EN 14387).

Environmental exposure controls
See SECTION 7: Handling and storage and SECTION 13: Disposal considerations for measures to prevent excessive environmental exposure during use and waste disposal.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	
Physical state	paste
Color	in accordance with the product description
Odor	none
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	**closed cup** 70 °C
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)	1.52
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.

9.2 Other information

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

10.1 Reactivity: Not classified as a reactivity hazard.

10.2 Chemical stability: Stable under normal conditions.

10.3 Possibility of hazardous reactions: Can react with strong oxidizing agents. Vapours may form explosive mixture with air.

10.4 Conditions to avoid: None known.

10.5 Incompatible materials: Oxidizing agents

10.6 Hazardous decomposition products: Formaldehyde.

SECTION 11: TOXICOLOGICAL INFORMATION

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

11.1 Information on toxicological effects
Acute toxicity

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.

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.

Acute inhalation toxicity
Brief exposure (minutes) is not likely to cause adverse effects. Vapor from heated material may cause respiratory irritation. Exposure to metal oxide fumes may cause metal fume fever, characterized by influenza-like symptoms.
As product: The LC50 has not been determined.

Skin corrosion/irritation
Prolonged contact may cause slight skin irritation with local redness.

Serious eye damage/eye irritation
May cause slight temporary eye irritation.
Corneal injury is unlikely.
May cause mild eye discomfort.

Sensitization
For the major component(s):
Did not demonstrate the potential for contact allergy in mice.
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant information found.

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

Specific Target Organ Systemic Toxicity (Repeated Exposure)
Contains a component(s) that is/are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency

Carcinogenicity
For this family of materials: Did not cause cancer in long-term animal studies which used routes of exposure considered relevant to industrial handling. Positiveresults have been reported in other studies using routes of exposure not relevant to industrial handling.

Contains an additional component(s) that is/are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency.

Teratogenicity
For this family of materials: Did not cause birth defects or any other fetal effects in laboratory animals.

Reproductive toxicity
For this family of materials: In animal studies, did not interfere with reproduction.

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

Contains an additional component(s) that is/are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency.

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

COMPONENTS INFLUENCING TOXICOLOGY:

Dodecamethyl cyclohexasiloxane
Acute inhalation toxicity
The LC50 has not been determined.

Decamethylcyclopentasiloxane
Acute inhalation toxicity
LC50, Rat, male and female, 4 Hour, dust/mist, 8.67 mg/l

Iron oxide (Fe2O3)
Acute inhalation toxicity

Vapors are unlikely due to physical properties. Dust may cause irritation to upper respiratory tract (nose and throat). Exposure to metal oxide fumes may cause metal fume fever, characterized by influenza-like symptoms.

As product: The LC50 has not been determined.

C.I. Pigment Green 7

Acute inhalation toxicity
The LC50 has not been determined.

Iron hydroxide oxide

Acute inhalation toxicity
Dust may cause irritation to upper respiratory tract (nose and throat). Prolonged excessive exposure to dust may cause adverse effects.

The LC50 has not been determined.

Iron oxide (Fe3O4)

Acute inhalation toxicity
The LC50 has not been determined.

C.I. Pigment Yellow 42

Acute inhalation toxicity
The LC50 has not been determined.

Mica muscovite

Acute inhalation toxicity
The LC50 has not been determined.

Barium sulfate

Acute inhalation toxicity
No adverse effects are anticipated from single exposure to dust. For respiratory irritation and narcotic effects: No relevant data found.

The LC50 has not been determined.

SECTION 12: ECOLOGICAL INFORMATION

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

12.1 Toxicity

Dodecamethyl cyclohexasiloxane

Acute toxicity to algae/aquatic plants
Not expected to be acutely toxic to aquatic organisms.

No toxicity at the limit of solubility
ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 0.002 mg/l

Chronic toxicity to aquatic invertebrates
No toxicity at the limit of solubility

NOEC, Daphnia magna (Water flea), 21 d, 0.0046 mg/l

Decamethylcyclopentasiloxane

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), 96 Hour, > 16 µg/l, OECD Test Guideline 204 or Equivalent

Acute toxicity to aquatic invertebrates
No toxicity at the limit of solubility
EC50, Daphnia magna, 48 Hour, > 2.9 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
No toxicity at the limit of solubility
ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate, > 0.012 mg/l
No toxicity at the limit of solubility
NOEC, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate, 0.012 mg/l

Chronic toxicity to fish
No toxicity at the limit of solubility
LC50, Oncorhynchus mykiss (rainbow trout), 14 d, > 16 mg/l
No toxicity at the limit of solubility
NOEC, Oncorhynchus mykiss (rainbow trout), 45 d, >= 0.017 mg/l
No toxicity at the limit of solubility
NOEC, Oncorhynchus mykiss (rainbow trout), 90 d, >= 0.014 mg/l

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna, 21 d, 0.015 mg/l

Toxicity to soil-dwelling organisms
This product does not have any known adverse effect on the soil organisms tested.
NOEC, Eisenia fetida (earthworms), >= 76 mg/kg

Iron oxide (Fe2O3)

Acute toxicity to fish
Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).
LC50, Danio rerio (zebra fish), static test, 96 Hour, > 50,000 mg/l

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), static test, 48 Hour, > 100 mg/l, OECD Test Guideline 202

Toxicity to bacteria
EC50, Pseudomonas fluorescens, 24 Hour, >5,000 mg/l
EC50, activated sludge, static test, 3 Hour, Respiration rates., > 10,000 mg/l, ISO 8192

C.I. Pigment Green 7

Acute toxicity to fish
Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 Hour, 356 mg/l, Method Not Specified.

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), Static, 48 Hour, > 500 mg/l, Directive 84/449/EEC, C.2

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

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna, semi-static test, 21 d, Immobilization, > 1 mg/l

Iron hydroxide oxide

Acute toxicity to fish
Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).
LC50, Leuciscus idus (Golden orfe), static test, 96 Hour, > 500 mg/l

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l, OECD Test Guideline 202

Iron oxide (Fe3O4)

Acute toxicity to fish
Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).
LC50, Leuciscus idus (Golden orfe), static test, 48 Hour, > 1,000 mg/l, Method Not Specified.

Acute toxicity to aquatic invertebrates
LL50, Daphnia magna (Water flea), 48 Hour, > 10,000 mg/l

Toxicity to bacteria
EC50, 3 Hour, > 10,000 mg/l, OECD Test Guideline 209

C.I. Pigment Yellow 42

Acute toxicity to fish
Not expected to be acutely toxic to aquatic organisms.
Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l, OECD Test Guideline 202

Mica muscovite

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

Barium sulfate

Acute toxicity to fish
Based on information for a similar material:
Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

Acute toxicity to aquatic invertebrates
No toxicity at the limit of solubility
Based on data from similar materials
EC50, Daphnia magna (Water flea), 48 Hour, > 4 mg/l

Acute toxicity to algae/aquatic plants
Based on data from similar materials
NOEC, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 100 mg/l, OECD Test Guideline 201
Based on data from similar materials
EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 100 mg/l, OECD Test Guideline 201

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

Chronic toxicity to aquatic invertebrates
Based on data from similar materials
NOEC, Daphnia magna (Water flea), 21 d, 2.9 mg/l

12.2 Persistence and degradability

Dodecamethyl cyclohexasiloxane
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: 57 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

Decamethylcyclopentasiloxane
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: 0.14 %
Exposure time: 28 d
Method: OECD Test Guideline 310

Iron oxide (Fe2O3)
Biodegradability: Biodegradation is not applicable.

C.I. Pigment Green 7
Biodegradability: Material is not readily biodegradable according to OECD/EEC guidelines.
10-day Window: Fail
Biodegradation: 5 %
Exposure time: 28 d
Method: OECD Test Guideline 301C

Iron hydroxide oxide

Biodegradability: Biodegradation is not applicable.

Iron oxide (Fe3O4)
Biodegradability: Biodegradability is not applicable to inorganic substances.

C.I. Pigment Yellow 42
Biodegradability: Biodegradation is not applicable.

Mica muscovite
Biodegradability: Biodegradability is not applicable to inorganic substances.

Barium sulfate
Biodegradability: Biodegradation is not applicable.

12.3 Bioaccumulative potential

Dodecamethyl cyclohexasiloxane
Bioaccumulation: Bioconcentration potential is low (BCF less than 100 or log Pow greater than 7).
Partition coefficient: n-octanol/water(log Pow): 8.87

Decamethylcyclopentasiloxane
Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).
Partition coefficient: n-octanol/water(log Pow): 5.2 Measured
Bioconcentration factor (BCF): 2,010 Fish Estimated.

Iron oxide (Fe2O3)
Bioaccumulation: Partitioning from water to n-octanol is not applicable.

C.I. Pigment Green 7
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Bioconcentration factor (BCF): 0.51 - 74 Fish 42 d

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

Iron oxide (Fe3O4)
Bioaccumulation: Partitioning from water to n-octanol is not applicable.

C.I. Pigment Yellow 42
Bioaccumulation: Partitioning from water to n-octanol is not applicable.

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

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

12.4 Mobility in soil

Dodecamethyl cyclohexasiloxane
Potential for mobility in soil is very high (Koc between 0 and 50).

Decamethylcyclopentasiloxane

Expected to be relatively immobile in soil (Koc > 5000).
Partition coefficient (Koc): > 5000 Estimated.

Iron oxide (Fe2O3)

No relevant data found.

C.I. Pigment Green 7

No relevant data found.

Iron hydroxide oxide

No relevant data found.

Iron oxide (Fe3O4)

No relevant data found.

C.I. Pigment Yellow 42

No relevant data found.

Mica muscovite

No relevant data found.

Barium sulfate

No relevant data found.

12.5 Results of PBT and vPvB assessment

Dodecamethyl cyclohexasiloxane

Dodecamethyl cyclohexasiloxane (D6) meets the current REACh Annex XIII criteria for vPvB. However, D6 does not behave similarly to known PBT/vPvB substances. The weight of scientific evidence from field studies shows that D6 is not biomagnifying in aquatic and terrestrial food webs. D6 in air will degrade by reaction with naturally occurring hydroxyl radicals in the atmosphere. Any D6 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.

Decamethylcyclopentasiloxane

Decamethylcyclopentasiloxane (D5) meets the current REACh Annex XIII criteria for vPvB. However, D5 does not behave similarly to known PBT/vPvB substances. The weight of scientific evidence from field studies shows that D5 is not biomagnifying in aquatic and terrestrial food webs. D5 in air will degrade by reaction with naturally occurring hydroxyl radicals in the atmosphere. Any D5 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. Based on an independent scientific panel of experts, the Canadian Minister of the Environment has concluded that "D5 is not entering the environment in a quantity or concentration or under conditions that have or may have an immediate or long-term harmful effect on the environment or its biological diversity, or that constitute or may constitute a danger to the environment on which life depends".

C.I. Pigment Green 7

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

Iron hydroxide oxide

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).

Iron oxide (Fe3O4)

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).

C.I. Pigment Yellow 42

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

Mica muscovite

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

Barium sulfate

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

12.6 Other adverse effects

Dodecamethyl cyclohexasiloxane

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

Decamethylcyclopentasiloxane

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

Iron oxide (Fe2O3)

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

C.I. Pigment Green 7

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

Iron hydroxide oxide

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

Iron oxide (Fe3O4)

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

C.I. Pigment Yellow 42

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

Mica muscovite

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

Barium sulfate

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

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Do not dump into any sewers, on the ground, or into any body of water. This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 2008/98/EC. Any disposal practices must be in compliance with all national

and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required.

The definitive assignment of this material to the appropriate EWC group and thus its proper EWC code will depend on the use that is made of this material. Contact the authorized waste disposal services.

SECTION 14: TRANSPORT INFORMATION

Classification for ROAD and Rail transport (ADR/RID):

14.1	**UN number**	Not applicable
14.2	**UN proper shipping name**	Not regulated for transport
14.3	**Transport hazard class(es)**	Not applicable
14.4	**Packing group**	Not applicable
14.5	**Environmental hazards**	Not considered environmentally hazardous based on available data.
14.6	**Special precautions for user**	No data available.

Classification for SEA transport (IMO-IMDG):

14.1	**UN number**	Not applicable
14.2	**UN proper shipping name**	Not regulated for transport
14.3	**Transport hazard class(es)**	Not applicable
14.4	**Packing group**	Not applicable
14.5	**Environmental hazards**	Not considered as marine pollutant based on available data.
14.6	**Special precautions for user**	No data available.
14.7	**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):

14.1	**UN number**	Not applicable
14.2	**UN proper shipping name**	Not regulated for transport
14.3	**Transport hazard class(es)**	Not applicable
14.4	**Packing group**	Not applicable
14.5	**Environmental hazards**	Not applicable
14.6	**Special precautions for user**	No data available.

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

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACh Regulation (EC) No 1907/2006
This product contains only components that have been either pre-registered, registered, are exempt from registration, are regarded as registered or are not subject to registration according to Regulation (EC) No. 1907/2006 (REACH)., The aforementioned indications of the REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. It is the buyer´s/user´s responsibility to ensure that his/her understanding of the regulatory status of this product is correct.

Restrictions on the manufacture, placing on the market and use:
The following substance/s contained in this product is/are subject through Annex XVII of REACH regulation to restrictions on the manufacture, placing on the market and use when present in certain dangerous substances, mixtures and articles. Users of this product have to comply with the restrictions placed upon it by the aforementioned provision.

CAS-No.: 541-02-6	Name: Decamethylcyclopentasiloxane

Restriction status: listed in REACH Annex XVII
Restricted uses: See Commission Regulation (EU) No 2018/35 for Conditions of restriction
Number on the list: 70

Authorisation status under REACH:
The following substance/s contained in this product might be or is/are subject to authorization in accordance with REACH:

CAS-No.: 540-97-6	Name: Dodecamethyl cyclohexasiloxane

Authorisation status: listed in the Candidate List of Substances of Very High Concern for Authorisation
Authorisation number: Not available
Sunset date: Not available
Exempted (Categories of) Uses: Not available

CAS-No.: 541-02-6	Name: Decamethylcyclopentasiloxane

Authorisation status: listed in the Candidate List of Substances of Very High Concern for Authorisation
Authorisation number: Not available
Sunset date: Not available
Exempted (Categories of) Uses: Not available

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.
Listed in Regulation: Not applicable

15.2 Chemical safety assessment
Not applicable

SECTION 16: OTHER INFORMATION

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008
This product is not classified as dangerous according to EC criteria.

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Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
GB EH40	UK. EH40 WEL - Workplace Exposure Limits
STEL	Short-term exposure limit (15-minute reference period)
TWA	8-hour, time-weighted average
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

Full text of other abbreviations
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

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

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