SAFETY DATA SHEET

DOW BENELUX B.V.

Safety Data Sheet according to Reg. (EU) 2020/878

Product name: SYLTHERM™ HF Heat Transfer Fluid

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DOW BENELUX B.V. 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: SYLTHERM™ HF Heat Transfer Fluid

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Heat transfer agents Intermediate
1.3 Details of the supplier of the safety data sheet
COMPANY IDENTIFICATION
DOW BENELUX B.V.
HERBERT H.DOWWEG 5
HOEK
4542 NM TERNEUZEN
NETHERLANDS

Customer Information Number: (31) 115 67 2626
SDSQuestion@dow.com

1.4 EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 31-(0)115 694982
Local Emergency Contact: 00 31 115 69 4982
The phone number of the national poisoning information center (NVIC). Only for the purpose of informing medical personnel in case of acute intoxications: 088 755 8000

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008:
Long-term (chronic) aquatic hazard - Category 3 - H412
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008:

Hazard statements
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements
P273 Avoid release to the environment.
P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards
This product contains octamethylcyclotetrasiloxane (D4) that has been identified by the Member State Committee of ECHA as fulfilling the PBT and vPvB criteria laid down in Annex XIII to Regulation (EC) No 1907/2006. See Section 12 for additional information.
Octamethyltrisiloxane (L3) meets the current REACH Annex XIII screening criteria for vPvB. However, octamethyltrisiloxane (L3) does not behave similarly to known PBT/vPvB substances. The weight of scientific evidence from field studies shows that octamethyltrisiloxane (L3) is not biomagnifying in aquatic and terrestrial food webs. Octamethyltrisiloxane (L3) in air will degrade by reaction with naturally occurring hydroxyl radicals in the atmosphere. Any octamethyltrisiloxane (L3) 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.
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.
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.
Decamethyltetrasiloxane (L4) meets the current REACH Annex XIII screening criteria for vPvB. However, decamethyltetrasiloxane (L4)does not behave similarly to known PBT/vPvB substances. The weight of scientific evidence from field studies shows that decamethyltetrasiloxane (L4) is not biomagnifying in aquatic and terrestrial food webs. Decamethyltetrasiloxane (L4) in air will degrade by reaction with naturally occurring hydroxyl radicals in the atmosphere. Any Decamethyltetrasiloxane (L4) in air that does not degrade byreaction with hydroxyl radicals is not expected to deposit from the air to water, to land, or to living organisms.

Endocrine disrupting properties
Human Health: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100, Commission Regulation (EU) 2018/605 or Regulation (EC) 1272/2008 at levels of 0.1% or higher.
Environment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100, Commission Regulation (EU) 2018/605 or Regulation (EC) 1272/2008 at levels of 0.1% or higher.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Silicone
3.2 Mixtures

This product is a mixture.

CASRN / EC-No. / Index-No.	REACH Registration Number	Concentration	Component	Classification: REGULATION (EC) No 1272/2008
CASRN 107-46-0 **EC-No.** 203-492-7 **Index-No.** –	01-2119496108-31	0,59 - 0,81 %	Hexamethyldisiloxane	Flam. Liq. 2; H225 Aquatic Acute 1; H400 Aquatic Chronic 2; H411 M-Factor (Acute aquatic toxicity): 1 Acute toxicity estimate Acute oral toxicity: > 5 000 mg/kg Acute inhalation toxicity: 106 mg/l, 4 Hour, vapour Acute dermal toxicity: > 2 000 mg/kg
CASRN 556-67-2 **EC-No.** 209-136-7 **Index-No.** 014-018-00-1	–	0,17 - 0,23 %	octamethylcyclotetrasiloxane [D4]	Flam. Liq. 3; H226 Repr. 2; H361f Aquatic Chronic 1; H410 M-Factor (Chronic aquatic toxicity): 10 Acute toxicity estimate Acute oral toxicity: > 4 800 mg/kg Acute inhalation toxicity: 36 mg/l, 4 Hour, dust/mist Acute dermal toxicity: > 2 400 mg/kg
vPvB substance				
CASRN 107-51-7 **EC-No.** 203-497-4 **Index-No.** –	01-2119970219-31	4,0 - 8,0 %	Octamethyltrisiloxane	Flam. Liq. 3; H226 Acute toxicity estimate Acute oral toxicity: > 2 000 mg/kg Acute inhalation toxicity: > 22,6 mg/l, 4 Hour, vapour Acute dermal toxicity: > 2 000 mg/kg
CASRN 541-02-6 **EC-No.** 208-764-9 **Index-No.** –	–	0,25 - 0,35 %	Decamethylcyclopentasiloxane	Not classified Acute toxicity estimate Acute oral toxicity: > 24 134 mg/kg Acute inhalation toxicity: 8,67 mg/l, 4 Hour, dust/mist Acute dermal toxicity: > 2 000 mg/kg

CASRN 540-97-6 **EC-No.** 208-762-8 **Index-No.** –	–	0,08 - 0,12 %	Dodecamethyl cyclohexasiloxane	Not classified Acute toxicity estimate Acute oral toxicity: > 2 000 mg/kg Acute dermal toxicity: > 2 000 mg/kg
Substances with a workplace exposure limit				
CASRN 141-62-8 **EC-No.** 205-491-7 **Index-No.** –	01-2119970214-41	24,0 - 38,0 %	Decamethyltetrasiloxane	Flam. Liq. 3; H226 Acute toxicity estimate Acute oral toxicity: > 2 000 mg/kg Acute inhalation toxicity: > 5 080 mg/l, 6 Hour, vapour Acute dermal toxicity: > 2 000 mg/kg

For the full text of the H-Statements mentioned in this Section, see Section 16.

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 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: 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: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

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: 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: Alcohol-resistant foam. Carbon dioxide (CO2). Dry sand.

Unsuitable extinguishing media: High volume water jet. Do not use direct water stream..

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon oxides. Silicon oxides.

Unusual Fire and Explosion Hazards: Flash back possible over considerable distance.. Exposure to combustion products may be a hazard to health.. Closed containers may rupture via pressure build-up when exposed to fire or extreme heat.. Fire burns more vigorously than would be expected.. Vapours may form explosive mixtures with air..

5.3 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 water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed.. Do not use a solid water stream as it may scatter and spread fire..
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Remove undamaged containers from fire area if it is safe to do so.

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:
Remove all sources of ignition. Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations.

6.2 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. Prevent spreading over a wide area (e.g. by containment or oil barriers). 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: Non-sparking tools should be used. Soak up with inert absorbent material. Suppress (knock down) gases/vapours/mists with a water spray jet. Clean up remaining materials from spill with suitable absorbant. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container. Dispose of saturated absorbent or cleaning materials appropriately, since spontaneous heating may occur.

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: Avoid inhalation of vapour or mist. Avoid contact with eyes. Do not swallow. Avoid prolonged or repeated contact with skin. Keep container tightly closed. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. 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 evenafter container is emptied.
Use with local exhaust 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 locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.

Do not store with the following product types: Strong oxidizing agents. Explosives. Gases.
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
Hexamethyldisiloxane	Dow IHG	TWA	50 ppm
octamethylcyclotetrasiloxane [D4]	US WEEL	TWA	10 ppm
Octamethyltrisiloxane	Dow IHG	TWA	20 ppm
Decamethylcyclopentasiloxane	US WEEL	TWA	10 ppm
Decamethyltetrasiloxane	Dow IHG	TWA	20 ppm

Recommended monitoring procedures
Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with the Occupational Exposure Limits and the adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Validated exposure measurement methods should be applied by a competent person and samples should be analysed by an accredited laboratory.
Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy); European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents); European Standard EN 482 (Workplace atmospheres -

General requirements for the performance of procedures for the measurement of chemical agents).
Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.
National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods.
Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods.
Health and Safety Executive (HSE), United Kingdom: Methods for the Determination of Hazardous Substances.
Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany.
L'Institut National de Recherche et de Securité, (INRS), France.

Derived No Effect Level
Hexamethyldisiloxane
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.	333 mg/kg bw/day	53,4 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.	167 mg/kg bw/day	13,3 mg/m3	0,27 mg/kg bw/day	n.a.	n.a.

octamethylcyclotetrasiloxane [D4]
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.	73 mg/m3	n.a.	73 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.	13 mg/m3	3,7 mg/kg bw/day	n.a.	13 mg/m3

Octamethyltrisiloxane
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.	1103 mg/kg bw/day	78 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.	556,5 mg/kg bw/day	19 mg/m3	0,04 mg/kg bw/day	n.a.	n.a.

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.	n.a.	n.a.	n.a.	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.	n.a.	n.a.	n.a.	n.a.	n.a.	17,3 mg/m3	5 mg/kg bw/day	n.a.	4,3 mg/m3

Decamethyltetrasiloxane

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.	n.a.	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.	n.a.	n.a.	0,04 mg/kg bw/day	n.a.	n.a.

Predicted No Effect Concentration

Hexamethyldisiloxane

Compartment	**PNEC**
Fresh water	0,002 mg/l
Intermittent use/release	0,003 mg/l
Marine water	0,0002 mg/l
Sewage treatment plant	10 mg/l
Fresh water sediment	8,9 mg/kg dry weight (d.w.)
Marine sediment	0,890 mg/kg dry weight (d.w.)

Soil	0,083 mg/kg dry weight (d.w.)
Oral	5,3 mg/kg dry weight (d.w.)

octamethylcyclotetrasiloxane [D4]

Compartment	**PNEC**
Fresh water	0,0015 mg/l
Marine water	0,00015 mg/l
Sewage treatment plant	10 mg/l
Fresh water sediment	3 mg/kg dry weight (d.w.)
Marine sediment	0,3 mg/kg dry weight (d.w.)
Soil	4,2 mg/kg dry weight (d.w.)
Oral	41 mg/kg food

Octamethyltrisiloxane

Compartment	**PNEC**
Fresh water sediment	8,9 mg/kg dry weight (d.w.)
Marine sediment	0,89 mg/kg dry weight (d.w.)
Soil	0,5 mg/kg dry weight (d.w.)
Oral	1,7 mg/kg food

Decamethylcyclopentasiloxane

Compartment	**PNEC**
Fresh water	> 0,0012 mg/l
Marine water	> 0,00012 mg/l
Fresh water sediment	11 mg/kg
Marine sediment	1,1 mg/kg
Soil	2,54 mg/kg
Sewage treatment plant	10 mg/l
Oral	16 mg/kg food

Dodecamethyl cyclohexasiloxane

Compartment	**PNEC**
Fresh water sediment	13,5 mg/kg dry weight (d.w.)
Marine sediment	1,35 mg/kg dry weight (d.w.)
Oral	66,7 mg/kg food

Decamethyltetrasiloxane

Compartment	**PNEC**
Sewage treatment plant	1 mg/l
Fresh water sediment	8,9 mg/kg dry weight (d.w.)
Marine sediment	0,89 mg/kg dry weight (d.w.)
Oral	1,7 mg/kg food

8.2 Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure

limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields). 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. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). 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 EN 374) 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 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, 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 material is heated or sprayed, use an approved air-purifying respirator.
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	liquid

Color	colourless
Odor	none
Odor Threshold	No data available
pH	No data available
Melting point/freezing point	
Melting point/ range	No data available
Freezing point	not determined
Boiling point or initial boiling point and boiling range	
Boiling point (760 mmHg)	> 190 °C
Flash point	**Pensky-Martens closed cup** 63 °C
Flammability (solid, gas)	Not applicable
Flammability (liquids)	not determined
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor Pressure	No data available
Relative Vapor Density (air = 1)	No data available
Relative Density (water = 1)	0,864
Solubility(ies)	
Water solubility	not determined
Partition coefficient: n-octanol/water	not determined
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Kinematic Viscosity	1,95 cSt
Particle characteristics	
Particle size	Not applicable, liquid

9.2 Other information

Molecular weight	No data available
Explosive properties	Not explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.
Self-heating substances	The substance or mixture is not classified as self heating.
Metal corrosion rate	Not corrosive to metals
Evaporation Rate (Butyl Acetate = 1)	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: Heat, flames and sparks.

10.5 Incompatible materials: Avoid contact with oxidizing materials.

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

SECTION 11: TOXICOLOGICAL INFORMATION

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

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure
Inhalation, Eye contact, Skin contact, Ingestion.

Acute toxicity (represents short term exposures with immediate effects - no chronic/delayed effects known unless otherwise noted)

Acute Toxicity Endpoints:

Acute oral toxicity

Information for the Product:

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

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

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

Information for components:

Hexamethyldisiloxane
LD50, Rat, > 5 000 mg/kg

octamethylcyclotetrasiloxane [D4]
LD50, Rat, male, > 4 800 mg/kg No deaths occurred at this concentration.

Octamethyltrisiloxane
LD50, Rat, female, > 2 000 mg/kg No deaths occurred at this concentration.

Decamethylcyclopentasiloxane

LD50, Rat, male and female, > 24 134 mg/kg

Dodecamethyl cyclohexasiloxane
LD50, Rat, male and female, > 2 000 mg/kg OECD Test Guideline 423 No deaths occurred at this concentration.

Decamethyltetrasiloxane
Single dose oral LD50 has not been determined.

For similar material(s): LD50, Rat, > 2 000 mg/kg

Acute dermal toxicity

Information for the Product:

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:

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

octamethylcyclotetrasiloxane [D4]
LD50, Rat, male and female, > 2 400 mg/kg No deaths occurred at this concentration.

Octamethyltrisiloxane
LD50, Rat, male and female, > 2 000 mg/kg No deaths occurred at this concentration.

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

Dodecamethyl cyclohexasiloxane
LD50, Rabbit, male and female, > 2 000 mg/kg OECD Test Guideline 402

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

Acute inhalation toxicity

Information for the Product:

Brief exposure (minutes) is not likely to cause adverse effects. Vapor from heated material or mist may cause respiratory irritation.

As product: The LC50 has not been determined.

Information for components:

Hexamethyldisiloxane
LC50, Rat, male and female, 4 Hour, vapour, 106 mg/l OECD Test Guideline 403

octamethylcyclotetrasiloxane [D4]
LC50, Rat, male and female, 4 Hour, dust/mist, 36 mg/l OECD Test Guideline 403

Octamethyltrisiloxane
LC50, Rat, male and female, 4 Hour, vapour, > 22,6 mg/l No deaths occurred at this concentration.

Decamethylcyclopentasiloxane
LC50, Rat, male and female, 4 Hour, dust/mist, 8,67 mg/l

Dodecamethyl cyclohexasiloxane
The LC50 has not been determined.

Decamethyltetrasiloxane
LC50, Rat, 6 Hour, vapour, > 5 080 mg/l No deaths occurred at this concentration.

Skin corrosion/irritation

Information for the Product:

Based on information for component(s):
Brief contact may cause slight skin irritation with local redness.

Information for components:

Hexamethyldisiloxane
Brief contact is essentially nonirritating to skin.
Prolonged contact may cause skin irritation with local redness.
May cause more severe response on covered skin (under clothing, gloves).

octamethylcyclotetrasiloxane [D4]
Brief contact is essentially nonirritating to skin.

Octamethyltrisiloxane
Brief contact is essentially nonirritating to skin.

Decamethylcyclopentasiloxane
Prolonged contact is essentially nonirritating to skin.

Dodecamethyl cyclohexasiloxane
Essentially nonirritating to skin.

Decamethyltetrasiloxane
Essentially nonirritating to skin.

Serious eye damage/eye irritation

Information for the Product:

Based on information for component(s):
May cause slight eye irritation.
May cause mild eye discomfort.

Information for components:

Hexamethyldisiloxane
May cause slight temporary eye irritation.
Corneal injury is unlikely.
Vapor or mist may cause eye irritation.

octamethylcyclotetrasiloxane [D4]
Essentially nonirritating to eyes.

Octamethyltrisiloxane
May cause slight temporary eye irritation.
Corneal injury is unlikely.

Decamethylcyclopentasiloxane
Essentially nonirritating to eyes.

Dodecamethyl cyclohexasiloxane
May cause slight temporary eye irritation.
Corneal injury is unlikely.

Decamethyltetrasiloxane
May cause slight temporary eye irritation.
Corneal injury is unlikely.

Sensitization

Information for the Product:

For skin sensitization:
Contains component(s) which did not cause allergic skin sensitization in guinea pigs.

For respiratory sensitization:
No relevant information found.

Information for components:

Hexamethyldisiloxane
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.

octamethylcyclotetrasiloxane [D4]
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:

No relevant data found.

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

For respiratory sensitization:
No relevant data found.

Decamethylcyclopentasiloxane
Did not demonstrate the potential for contact allergy in mice.

For respiratory sensitization:
No relevant data found.

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

For respiratory sensitization:
No relevant data found.

Decamethyltetrasiloxane
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)

Information for the Product:

Product test data not available.

Information for components:

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

octamethylcyclotetrasiloxane [D4]
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

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

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

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

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

Aspiration Hazard

Information for the Product:

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

Information for components:

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

octamethylcyclotetrasiloxane [D4]
Material is not classified as an aspiration hazard based on insufficient data, however materials with low viscosity may be aspirated into the lungs during ingestion or vomiting.

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

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

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

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

Chronic toxicity (represents longer term exposures with repeated dose resulting in chronic/delayed effects - no immediate effects known unless otherwise noted)

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Information for the Product:

Product test data not available.

Information for components:

Hexamethyldisiloxane
In animals, effects have been reported on the following organs:
Liver.
Testes.
Kidney.
However, the effects are species specific and are not relevant to humans.
This material contains hexamethyldisiloxane (HMDS). Repeated inhalation exposure in rats to HMDS 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.

octamethylcyclotetrasiloxane [D4]

In animals, effects have been reported on the following organs:
Kidney.
Liver.
Respiratory tract.
Female reproductive organs.

Octamethyltrisiloxane
In animals, effects have been reported on the following organs:
Liver
This material contains octamethyltrisiloxane (L3). Repeated inhalation exposure in rats to L3 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.

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

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

Decamethyltetrasiloxane
This material contains decamethyltetrasiloxane (L4). Repeated oral exposure in rats to L4 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.

Carcinogenicity

Information for the Product:

Product test data not available.

Information for components:

Hexamethyldisiloxane
Kidney effects and/or tumors have been observed in male rats. These effects are believed to be species specific and unlikely to occur in humans. Early onset of testicular cell tumors has been observed that are spontaneous and common in rats. These effects are believed to be species specific and unlikely to occur in humans.

octamethylcyclotetrasiloxane [D4]
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.

Octamethyltrisiloxane

Did not cause cancer in laboratory animals.

Decamethylcyclopentasiloxane
Results from a 2 year repeated vapour inhalation exposure study to rats of decamethylcyclopentasiloxane (D5) indicate effects (uterine endometrial tumors) in female animals. This finding occurred at the highest exposure dose (160 ppm) only. Studies to date have not demonstrated if this effect occurs through a pathway that is relevant to humans.

Dodecamethyl cyclohexasiloxane
No relevant data found.

Decamethyltetrasiloxane
No relevant data found.

Teratogenicity

Information for the Product:

Product test data not available.

Information for components:

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

octamethylcyclotetrasiloxane [D4]
Did not cause birth defects or any other fetal effects in laboratory animals.

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

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

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

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

Reproductive toxicity

Information for the Product:

Product test data not available.

Information for components:

Hexamethyldisiloxane
In animal studies, did not interfere with reproduction.

octamethylcyclotetrasiloxane [D4]
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.

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

Decamethylcyclopentasiloxane
In animal studies, did not interfere with reproduction.

Dodecamethyl cyclohexasiloxane
In animal studies, did not interfere with reproduction.

Decamethyltetrasiloxane
In animal studies, did not interfere with reproduction.

Mutagenicity

Information for the Product:

Product test data not available.

Information for components:

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

octamethylcyclotetrasiloxane [D4]
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

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

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

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

Decamethyltetrasiloxane
In vitro genetic toxicity studies were negative.

11.2 Information on other hazards
Endocrine disrupting properties

Not classified based on available information.

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100, Commission Regulation (EU) 2018/605 or Regulation (EC) 1272/2008 at levels of 0.1% or higher.

Information for components:

Hexamethyldisiloxane
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605, Commission Delegated Regulation (EU) 2017/2100 or Regulation (EC) 1272/2008.

octamethylcyclotetrasiloxane [D4]
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605, Commission Delegated Regulation (EU) 2017/2100 or Regulation (EC) 1272/2008.

Octamethyltrisiloxane
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605, Commission Delegated Regulation (EU) 2017/2100 or Regulation (EC) 1272/2008.

Decamethylcyclopentasiloxane
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605, Commission Delegated Regulation (EU) 2017/2100 or Regulation (EC) 1272/2008.

Dodecamethyl cyclohexasiloxane
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605, Commission Delegated Regulation (EU) 2017/2100 or Regulation (EC) 1272/2008.

Decamethyltetrasiloxane
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605, Commission Delegated Regulation (EU) 2017/2100 or Regulation (EC) 1272/2008.

SECTION 12: ECOLOGICAL INFORMATION

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

12.1 Toxicity

Information for the Product:

Product test data not available.

Information for components:

Hexamethyldisiloxane
Acute toxicity to fish

Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).
LC50, Oncorhynchus mykiss (rainbow trout), flow-through test, 96 Hour, 0,46 mg/l

Acute toxicity to algae/aquatic plants
No toxicity at the limit of solubility
ErC50, Selenastrum capricornutum (green algae), 72 Hour, Growth rate, > 0,55 mg/l, OECD Test Guideline 201

Chronic toxicity to fish
NOEC, Fathead minnow (Pimephales promelas), flow-through, 32 d, growth, 0,029 mg/l

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 0,08 mg/l

octamethylcyclotetrasiloxane [D4]
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), 96 Hour, Growth rate, > 0,022 mg/l
No toxicity at the limit of solubility
EC10, Pseudokirchneriella subcapitata (green algae), 96 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, growth, >= 0,0044 mg/l

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), 21 d, survival, >= 0,0079 mg/l

Octamethyltrisiloxane
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 test, 96 Hour, > 0,0191 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates
No toxicity at the limit of solubility
EC50, Daphnia magna (Water flea), flow-through test, 48 Hour, > 0,02 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants
No toxicity at the limit of solubility
EC50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Growth rate inhibition, > 0,0094 mg/l, OECD Test Guideline 201

Toxicity to bacteria
For similar material(s):
EC50, activated sludge, static test, 3 Hour, Respiration rates., > 100 mg/l, OECD Test Guideline 209

Chronic toxicity to fish
No toxicity at the limit of solubility
NOEC, Oncorhynchus mykiss (rainbow trout), 90 d, > 0,027 mg/l

Chronic toxicity to aquatic invertebrates
No toxicity at the limit of solubility
NOEC, Daphnia magna (Water flea), flow-through test, 21 d, > 0,015 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
No toxicity at the limit of solubility

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

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
No toxicity at the limit of solubility
NOEC, 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

Decamethyltetrasiloxane
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, > 0,0063 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates
No toxicity at the limit of solubility
EC50, Daphnia magna (Water flea), 48 Hour, > 0,0055 mg/l

Acute toxicity to algae/aquatic plants
No toxicity at the limit of solubility
EC50, Pseudokirchneriella subcapitata (green algae), Static, 72 Hour, Growth rate, > 0,0022 mg/l

Toxicity to bacteria
EC50, activated sludge, Static, 3 Hour, Respiration rates., > 100 mg/l, OECD Test Guideline 209

Chronic toxicity to fish
No toxicity at the limit of solubility
LC50, Oncorhynchus mykiss (rainbow trout), 14 d, > 0,0056 mg/l
No toxicity at the limit of solubility
NOEC, Oncorhynchus mykiss (rainbow trout), 14 d, >= 0,0056 mg/l
No toxicity at the limit of solubility
NOEC, Oncorhynchus mykiss (rainbow trout), 90 d, >= 0,0079 mg/l

Chronic toxicity to aquatic invertebrates
No toxicity at the limit of solubility
NOEC, Daphnia magna (Water flea), 21 d, 0,0049 mg/l

12.2 Persistence and degradability

Information for the Product:

Product test data not available.

Information for components:

Hexamethyldisiloxane
Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability. This material rapidly hydrolyzes to products that are either readily or ultimately biodegradable.
10-day Window: Not applicable
Biodegradation: 2 %
Exposure time: 28 d
Method: OECD Test Guideline 301C

Stability in Water (1/2-life)
Hydrolyses on contact with water.

octamethylcyclotetrasiloxane [D4]
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, 3,9 d, pH 7, Half-life Temperature 25 °C, OECD Test Guideline 111
Hydrolysis, DT50, 16,7 d, pH 7, Half-life Temperature 12 °C, OECD Test Guideline 111
Hydrolysis, DT50, 0,075 d, pH 4, Half-life Temperature 25 °C, OECD Test Guideline 111

Octamethyltrisiloxane
Biodegradability: Biodegradation under aerobic laboratory conditions is below detectable limits (BOD20 or BOD28/ThOD < 2.5%).
10-day Window: Not applicable
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 310 or Equivalent

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

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: 4,5 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

Decamethyltetrasiloxane
Biodegradability: Material is not readily biodegradable according to OECD/EEC guidelines.
10-day Window: Not applicable
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 310

12.3 Bioaccumulative potential

Information for the Product:

Product test data not available.

Information for components:

Hexamethyldisiloxane
Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5). Reacts with water.
Partition coefficient: n-octanol/water(log Pow): 5,06 Measured
Bioconcentration factor (BCF): 1 971 Carp (Cyprinus carpio) OECD Test Guideline 305C

octamethylcyclotetrasiloxane [D4]
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

Octamethyltrisiloxane
Bioaccumulation: Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).
Partition coefficient: n-octanol/water(log Pow): 5,35 Estimated.
Bioconcentration factor (BCF): >= 500 Pimephales promelas (fathead minnow) OECD Test Guideline 305

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): 7 060 Fathead minnow (Pimephales promelas) Estimated.

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
Bioconcentration factor (BCF): 1 160 Fathead minnow (Pimephales promelas) Estimated.

Decamethyltetrasiloxane
Bioaccumulation: Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).
Partition coefficient: n-octanol/water(log Pow): 8,21 Measured
Bioconcentration factor (BCF): 6 910 Fathead minnow (Pimephales promelas) OECD Test Guideline 305

12.4 Mobility in soil

Information for the Product:

Product test data not available.

Information for components:

Hexamethyldisiloxane
Partition coefficient (Koc): 390 - 4600 Estimated.

octamethylcyclotetrasiloxane [D4]
Partition coefficient (Koc): 16596 OECD Test Guideline 106

Octamethyltrisiloxane
Partition coefficient (Koc): 3179 Estimated.

Decamethylcyclopentasiloxane
Partition coefficient (Koc): > 5000 Estimated.

Dodecamethyl cyclohexasiloxane
Partition coefficient (Koc): > 5000

Decamethyltetrasiloxane
OECD Test Guideline 106

12.5 Results of PBT and vPvB assessment

Information for the Product:

Product test data not available.

Information for components:

Hexamethyldisiloxane
Substance is not persistent, bioaccumulative, and toxic (PBT). Not very persistent and very bioaccumulative (vPvB).

octamethylcyclotetrasiloxane [D4]

Octamethylcyclotetrasiloxane (D4) meets the current criteria for PBT and vPvB under REACh Annex XIII or other regionally specific 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.

Octamethyltrisiloxane
Substance is not persistent, bioaccumulative, and toxic (PBT).
Octamethyltrisiloxane (L3) meets the current REACH Annex XIII screening criteria for vPvB. However, octamethyltrisiloxane (L3) does not behave similarly to known PBT/vPvB substances. The weight of scientific evidence from field studies shows that octamethyltrisiloxane (L3) is not biomagnifying in aquatic and terrestrial food webs. Octamethyltrisiloxane (L3) in air will degrade by reaction with naturally occurring hydroxyl radicals in the atmosphere. Any octamethyltrisiloxane (L3) 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".

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.

Decamethyltetrasiloxane
Substance is not persistent, bioaccumulative, and toxic (PBT).
Decamethyltetrasiloxane (L4) meets the current REACH Annex XIII screening criteria for vPvB. However, decamethyltetrasiloxane (L4)does not behave similarly to known PBT/vPvB substances. The weight of scientific evidence from field studies shows that decamethyltetrasiloxane (L4) is not biomagnifying in aquatic and terrestrial food webs. Decamethyltetrasiloxane (L4) in air will degrade by reaction with naturally occurring hydroxyl radicals in the atmosphere. Any Decamethyltetrasiloxane (L4) in air that does not degrade byreaction with hydroxyl radicals is not expected to deposit from the air to water, to land, or to living organisms.

12.6 Endocrine disrupting properties

Information for the Product:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100, Commission Regulation (EU) 2018/605 or Regulation (EC) 1272/2008 at levels of 0.1% or higher.

Information for components:

Hexamethyldisiloxane

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605, Commission Delegated Regulation (EU) 2017/2100 or Regulation (EC) 1272/2008.

octamethylcyclotetrasiloxane [D4]

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605, Commission Delegated Regulation (EU) 2017/2100 or Regulation (EC) 1272/2008.

Octamethyltrisiloxane

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605, Commission Delegated Regulation (EU) 2017/2100 or Regulation (EC) 1272/2008.

Decamethylcyclopentasiloxane

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605, Commission Delegated Regulation (EU) 2017/2100 or Regulation (EC) 1272/2008.

Dodecamethyl cyclohexasiloxane

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605, Commission Delegated Regulation (EU) 2017/2100 or Regulation (EC) 1272/2008.

Decamethyltetrasiloxane

The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605, Commission Delegated Regulation (EU) 2017/2100 or Regulation (EC) 1272/2008.

12.7 Other adverse effects

Information for the Product:

Product test data not available.

Information for components:

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

octamethylcyclotetrasiloxane [D4]
This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

Octamethyltrisiloxane
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.

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

Decamethyltetrasiloxane
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, provided it fulfils the criteria listed in Annex III of this directive. 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 or ID 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 INLAND waterways (ADNR/ADN):
Consult your Dow contact before transporting by inland waterway

Classification for SEA transport (IMO-IMDG):

14.1	**UN number or ID 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	**Maritime transport in bulk according to IMO instruments**	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

14.1	**UN number or ID 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 registered, are exempt from registration, are regarded as registered or are not subject to registration according to Regulation (EC) No. 1907/2006 (REACH)., Polymers are exempted from registration under REACH. All relevant starting materials and additives have been either registered or are exempt from 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.

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	Conditions of restriction for the following entries should be considered: Number on list 3, 70 (2024), 75 octamethylcyclotetrasiloxane [D4] (Number on list 70 (2024)) Decamethylcyclopentasiloxane (Number on list 70 (2024)) Dodecamethyl cyclohexasiloxane (Number on list 70 (2024))

Regulation (EC) No. 1907/2006 (REACH), Annex XVII, entry number 78 as regards synthetic polymer microparticles (Commission Regulation (EU) 2023/2055)

Not applicable

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.: 556-67-2	Name: octamethylcyclotetrasiloxane [D4]

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.: 107-51-7	Name: Octamethyltrisiloxane

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

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.: 141-62-8	Name: Decamethyltetrasiloxane

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

ABM (Algemene Beoordelingsmethodiek): Please contact our product stewardship specialist via the Customer Information contact details in Section 1 for information on the assessment of substances and preparations within the context of the implementation of the water discharge policy.

15.2 Chemical safety assessment
No Chemical Safety Assessment has been carried out for this substance/mixture.

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H361f	Suspected of damaging fertility.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008
Aquatic Chronic - 3 - H412 - Calculation method

Revision
Identification Number: 99109210 / A281 / Issue Date: 10.09.2025 / Version: 9.0

In case this version of the SDS contains significant changes from the previous version, they are listed below or noted by bold, double bars in the left-hand margin throughout this document.
Changes encompass identification, hazards, tox/eco-tox information and the addition/removal of the ingredients, and regulatory information, hazard information, uses, risk management measures and other key regulatory changes of the product. Detailed explanation of the changes can be obtained upon request.

Legend

Dow IHG	Dow Industrial Hygiene Guideline
TWA	Time weighted average
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)
Aquatic Acute	Short-term (acute) aquatic hazard
Aquatic Chronic	Long-term (chronic) aquatic hazard
Flam. Liq.	Flammable liquids
Repr.	Reproductive toxicity

Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; 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 Harmonised 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 Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; 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 - Organisation 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; TECI - Thailand Existing Chemicals 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 BENELUX B.V. 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 informationherein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express orimplied, 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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