# SAFETY DATA SHEET

**DOW CHEMICAL IBERICA S.L.**

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

**Product name: DOWSIL™ 1200 OS Primer Clear**

**Revision Date:** 27.03.2024
**Version:** 6.1
**Date of last issue:** 20.10.2023
**Print Date:** 28.03.2024

DOW CHEMICAL IBERICA S.L. 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™ 1200 OS Primer Clear
**UFI**: RUX0-W1A1-E005-WVC5

**1.2 Relevant identified uses of the substance or mixture and uses advised against**
**Identified uses:** Use at industrial sites: Use in coatings. Widespread use by professional workers: Use in coatings.

**1.3 Details of the supplier of the safety data sheet**
**COMPANY IDENTIFICATION**
DOW CHEMICAL IBERICA S.L.
CALLE JOSE ABASCAL 56
28003 MADRID
SPAIN

**Customer Information Number:** (091) 740 77 00
SDSQuestion@dow.com

**1.4 EMERGENCY TELEPHONE NUMBER**
**24-Hour Emergency Contact:** 0034 9775 43620
**Local Emergency Contact:** 00 34 977 54 36 20
**National Institute of Toxicology:** + 34 91 562 04 20

## SECTION 2: HAZARDS IDENTIFICATION

**2.1 Classification of the substance or mixture**

**Classification according to Regulation (EC) No 1272/2008:**
Flammable liquids - Category 3 - H226
Skin irritation - Category 2 - H315
Serious eye damage - Category 1 - H318
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 pictograms**

**Signal word: DANGER**

**Hazard statements**

| | |
|---|---|
| H226 | Flammable liquid and vapour. |
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H412 | Harmful to aquatic life with long lasting effects. |

**Precautionary statements**

| | |
|---|---|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P264 | Wash skin thoroughly after handling. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves, protective clothing, eye protection, face protection and/or hearing protection. |
| P305 + P351 + P338 + P310 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER and/or doctor. |
| P370 + P378 | In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. |

**Contains** Tetra n-Butyl titanate

### 2.3 Other hazards

Static-accumulating flammable liquid.
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.

Endocrine disrupting properties

| | |
|---|---|
| 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 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. |
| 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 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. |

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical nature:** Inorganic and organic compounds, Mixture
**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** 18765-38-3 **EC-No.** 242-560-0 **Index-No.** – | 01-2120761533-55 | >= 4,8 - <= 5,2 % | Tetrakis(2-butoxyethyl) orthosilicate | Skin Irrit. 2; H315<br>STOT RE 2; H373 (Blood)<br><br>Acute toxicity estimate<br>Acute oral toxicity: > 2 000 mg/kg<br>Acute dermal toxicity: > 2 000 mg/kg |
| **CASRN** 5593-70-4 **EC-No.** 227-006-8 **Index-No.** – | 01-2119967423-33 | >= 4,6 - <= 5,1 % | Tetra n-Butyl titanate | Flam. Liq. 3; H226<br>Skin Irrit. 2; H315<br>Eye Dam. 1; H318<br>STOT SE 3; H336 (Central nervous system)<br>STOT SE 3; H335 (Respiratory system)<br><br>Acute toxicity estimate<br>Acute oral toxicity: 4 220 mg/kg<br>Acute inhalation toxicity: 11 mg/l, 4 Hour, dust/mist<br>Acute dermal toxicity: 5 300 mg/kg |
| **CASRN** 111-76-2 **EC-No.** 203-905-0 **Index-No.** 603-014-00-0 | – | <= 0,11 % | Ethylene glycol monobutyl ether | Acute Tox. 4; H302<br>Acute Tox. 3; H331<br>Skin Irrit. 2; H315<br>Eye Irrit. 2; H319<br><br>Acute toxicity estimate<br>Acute oral toxicity: 1 200 mg/kg<br>Acute inhalation toxicity: 3 mg/l, vapour<br>Acute dermal toxicity: > 2 000 mg/kg |
| **CASRN** 556-67-2 **EC-No.** 209-136-7 **Index-No.** 014-018-00-1 | – | <= 0,046 % | octamethylcyclotetrasiloxane [D4] | Flam. Liq. 3; H226<br>Repr. 2; H361f<br>Aquatic Chronic 1; H410<br><br>M-Factor (Chronic aquatic |

| | | | | |
|---|---|---|---|---|
| | | | | toxicity): 10<br><br>Acute toxicity estimate<br>Acute oral toxicity:<br>> 4 800 mg/kg<br>Acute inhalation toxicity:<br>36 mg/l, 4 Hour, dust/mist<br>Acute dermal toxicity:<br>> 2 400 mg/kg |
| Substances with a workplace exposure limit | | | | |
| **CASRN**<br>107-51-7<br>**EC-No.**<br>203-497-4<br>**Index-No.**<br>– | 01-2119970219-31 | >= 82,0 - <= 87,0 % | Octamethyltrisiloxane | Flam. Liq. 3; H226<br><br>Acute toxicity estimate<br>Acute oral toxicity:<br>> 2 000 mg/kg<br>Acute inhalation toxicity:<br>> 22,6 mg/l, 4 Hour, vapour<br>Acute dermal toxicity:<br>> 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:** Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

**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:**
Causes skin irritation. Causes serious eye damage.

**4.3 Indication of any immediate medical attention and special treatment needed**
**Notes to physician:** May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. No specific

antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Repeated excessive exposure may aggravate preexisting lung disease.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1 Extinguishing media

**Suitable extinguishing media:** Alcohol-resistant foam. Dry chemical. 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. Formaldehyde. Metal oxides.

**Unusual Fire and Explosion Hazards:** Flash back possible over considerable distance.. Exposure to combustion products may be a hazard to health.. Flammable concentrations of vapor can accumulate at temperatures above flash point; see Section 9.. Flammable mixtures may exist within the vapor space of containers at room temperature.. 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. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Ground and bond all containers and handling equipment. Vapor explosion hazard. Keep out of sewers. 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:** Do not get on skin or clothing. Avoid inhalation of vapour or mist. Do not swallow. Do not get in eyes. 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. Non-sparking tools should be used. Handle in accordance with good industrial hygiene and safety practice. CONTAINERS MAY BE HAZARDOUS WHEN EMPTY. Since emptied containers retain product residue follow all (M)SDS and label warnings even after container is emptied.
Use with local exhaust ventilation. Use only in an area equipped with explosion proof exhaust ventilation. Ensure all equipment is electrically grounded before beginning transfer operations. This material can accumulate static charge due to its inherent physical properties and can therefore cause an electrical ignition source to vapors. In order to prevent a fire hazard, as bonding and grounding may be insufficient to remove static electricity, it isnecessary to provide an inert gas purge before beginning transfer operations. Restrict flow velocity in order to reduce the accumulation of static electricity. Ground and bond container and receiving equipment.

**7.2 Conditions for safe storage, including any incompatibilities:** Keep in properly labelled containers. 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. Organic peroxides. Flammable solids. Pyrophoric liquids. Pyrophoric solids. Self-heating substances and mixtures. Substances and mixtures, which in contact with water, emit flammable gases. 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 |
|---|---|---|---|
| Ethylene glycol monobutyl ether | ACGIH | TWA | 20 ppm |
| | Further information: A3: Confirmed animal carcinogen with unknown relevance to humans | | |

| | | | |
|---|---|---|---|
| | 2000/39/EC | TWA | 98 mg/m3 20 ppm |
| | Further information: skin: Identifies the possibility of significant uptake through the skin; Indicative | | |
| | 2000/39/EC | STEL | 246 mg/m3 50 ppm |
| | Further information: skin: Identifies the possibility of significant uptake through the skin; Indicative | | |
| | ES VLA | VLA-ED | 98 mg/m3 20 ppm |
| | Further information: dermal route: Skin | | |
| | ES VLA | VLA-EC | 245 mg/m3 50 ppm |
| | Further information: dermal route: Skin | | |
| octamethylcyclotetrasiloxane [D4] | US WEEL | TWA | 10 ppm |
| Octamethyltrisiloxane | Dow IHG | TWA | 20 ppm |
| 1-Butanol | ACGIH | TWA | 20 ppm |
| | ES VLA | VLA-ED | 61 mg/m3 20 ppm |
| | ES VLA | VLA-EC | 154 mg/m3 50 ppm |
| propan-1-ol | ACGIH | TWA | 100 ppm |
| | Further information: A4: Not classifiable as a human carcinogen | | |
| | ES VLA | VLA-ED | 500 mg/m3 200 ppm |
| | Further information: dermal route: Skin | | |
| | ES VLA | VLA-EC | 1 000 mg/m3 400 ppm |
| | Further information: dermal route: Skin | | |
| Ethylene glycol monobutyl ether | ACGIH | TWA | 20 ppm |
| | Further information: A3: Confirmed animal carcinogen with unknown relevance to humans | | |
| | 2000/39/EC | TWA | 98 mg/m3 20 ppm |
| | Further information: skin: Identifies the possibility of significant uptake through the skin; Indicative | | |
| | 2000/39/EC | STEL | 246 mg/m3 50 ppm |
| | Further information: skin: Identifies the possibility of significant uptake through the skin; Indicative | | |
| | ES VLA | VLA-ED | 98 mg/m3 20 ppm |
| | Further information: dermal route: Skin | | |
| | ES VLA | VLA-EC | 245 mg/m3 50 ppm |
| | Further information: dermal route: Skin | | |

The following substance(s), which have Occupational Exposure Limit(s) (OEL), may be formed during handling or processing:, Propyl alcohol, Ethylene glycol monobutyl ether, butanol

**Biological occupational exposure limits**

| Components | CAS-No. | Control parameters | Biological specimen | Sampling time | Permissible concentration | Basis |
|---|---|---|---|---|---|---|
| Ethylene glycol monobutyl ether | 111-76-2 | butoxy acetic acid | Urine | End of workday | 200 mg/g creatinine | ES VLB |
| | | Butoxyacetic acid (BAA) | Urine | End of shift (As soon as possible after exposure ceases) | 200 mg/g creatinine | ACGIH BEI |
| Ethylene glycol | 111-76-2 | butoxy | Urine | End of | 200 mg/g | ES VLB |

| | | | | | |
|---|---|---|---|---|---|
| monobutyl ether | acetic acid Butoxyaceti c acid (BAA) | Urine | workday End of shift (As soon as possible after exposure ceases) | creatinine 200 mg/g creatinine | ACGIH BEI |

**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**
Tetrakis(2-butoxyethyl) orthosilicate
**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. | 25 mg/kg bw/day | 44 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. | 12,5 mg/kg bw/day | 10,9 mg/m3 | 12,5 mg/kg bw/day | n.a. | n.a. |

Tetra n-Butyl titanate
**Workers**

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

| | | | | ***effects*** | | | |
|---|---|---|---|---|---|---|---|
| Dermal | Inhalation | Dermal | Inhalation | Dermal | Inhalation | Dermal | Inhalation |
| n.a. | n.a. | n.a. | n.a. | n.a. | 127 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. | 37,5 mg/kg bw/day | 152 mg/m3 | 3,75 mg/kg bw/day | n.a. | n.a. |

Ethylene glycol monobutyl ether

**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. | 1091 mg/m3 | n.a. | 246 mg/m3 | n.a. | 98 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. | 426 mg/m3 | 26,7 mg/kg bw/day | n.a. | 147 mg/m3 | n.a. | 59 mg/m3 | 6,3 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 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| mg/kg bw/day | 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 |
| mg/kg bw/day | n.a. | mg/kg bw/day | n.a. | n.a. | 556,5 mg/kg bw/day | 19 mg/m3 | 0,04 mg/kg bw/day | n.a. | n.a. |

**Predicted No Effect Concentration**

Tetrakis(2-butoxyethyl) orthosilicate

| **Compartment** | **PNEC** |
|---|---|
| Fresh water | 10 mg/l |
| Marine water | 1 mg/l |
| Sewage treatment plant | 463 mg/l |
| Fresh water sediment | 63,6 mg/kg dry weight (d.w.) |
| Marine sediment | 6,4 mg/kg dry weight (d.w.) |
| Soil | 0,570 mg/kg dry weight (d.w.) |

Tetra n-Butyl titanate

| **Compartment** | **PNEC** |
|---|---|
| Fresh water | 0,08 mg/l |
| Marine water | 0,008 mg/l |
| Intermittent use/release | 2,25 mg/l |
| Soil | 0,017 mg/kg dry weight (d.w.) |
| Marine sediment | 0,007 mg/kg |
| Sewage treatment plant | 65 mg/l |
| Fresh water sediment | 0,069 mg/kg |

Ethylene glycol monobutyl ether

| **Compartment** | **PNEC** |
|---|---|
| Fresh water | 8,8 mg/l |
| Marine water | 0,88 mg/l |
| Intermittent use/release | 26,4 mg/l |
| Sewage treatment plant | 463 mg/l |
| Fresh water sediment | 34,6 mg/kg dry weight (d.w.) |
| Marine sediment | 3,46 mg/kg dry weight (d.w.) |
| Soil | 2,33 mg/kg dry weight (d.w.) |
| Oral (Secondary Poisoning) | 20 mg/kg food |

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 | 0,84 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 | 1,7 mg/kg food |
| Sewage treatment plant | 1 mg/l |
| Soil | 0,5 mg/kg dry weight (d.w.) |

**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 chemical goggles. Chemical goggles 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 chloride ("PVC" or "vinyl"). Natural rubber ("latex"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 4 or higher (breakthrough time greater than 120 minutes according to 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. In misty atmospheres, use an approved particulate 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** | slight |
| **Odor Threshold** | No data available |
| **pH** | Not applicable, substance/mixture is non-soluble (in water) |
| **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)** | > 100 °C |
| **Flash point** | **closed cup** 27 °C |
| **Flammability (solid, gas)** | Not applicable liquid |
| **Flammability (liquids)** | Static-accumulating flammable liquid. |
| **Lower explosion limit** | 0,90 % vol Octamethyltrisiloxane (major component) |
| **Upper explosion limit** | 13,75 % vol Octamethyltrisiloxane (major component) |
| **Vapor Pressure** | No data available |
| **Relative Vapor Density (air = 1)** | No data available |
| **Relative Density (water = 1)** | 0,82 |
| **Solubility(ies)** | |
| **Water solubility** | insoluble |
| **Partition coefficient: n-octanol/water** | not determined |
| **Auto-ignition temperature** | 350 °C Octamethyltrisiloxane (major component) |
| **Decomposition temperature** | No data available |
| **Kinematic Viscosity** | 1,3 mm2/s at 25 °C |
| **Particle characteristics** | |
| **Particle size** | Not applicable |

**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. Flammable liquid and vapour.

**10.4 Conditions to avoid:** Avoid static discharge. 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: Propyl alcohol. Ethylene glycol monobutyl ether. Butanol.

## 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:**

**Tetrakis(2-butoxyethyl) orthosilicate**
LD50, Rat, > 2 000 mg/kg

**Tetra n-Butyl titanate**
LD50, Rat, male, 4 220 mg/kg

**Ethylene glycol monobutyl ether**
Acute toxicity estimate, 1 200 mg/kg Acute toxicity estimate according to Regulation (EC) No. 1272/2008

**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.

**Acute dermal toxicity**

**Information for the Product:**

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

As product:

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

**Information for components:**

**Tetrakis(2-butoxyethyl) orthosilicate**
Information taken from reference works and the literature. LD50, Rat, > 2 000 mg/kg

**Tetra n-Butyl titanate**
LD50, Rabbit, 5 300 mg/kg

**Ethylene glycol monobutyl ether**
Humans and guinea pigs are resistant to blood effects that are seen for rodents and rabbits. For this reason, the guinea pig data is used as the basis for the acute toxicity classification as it is a better model to assess acute toxicity to humans. LD50, Guinea pig, > 2 000 mg/kg

**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.

**Acute inhalation toxicity**

**Information for the Product:**

Brief exposure (minutes) is not likely to cause adverse effects. Mist may cause irritation of upper respiratory tract (nose and throat) and lungs.

As product: The LC50 has not been determined.

**Information for components:**

**Tetrakis(2-butoxyethyl) orthosilicate**
Brief exposure (minutes) is not likely to cause adverse effects.

**Tetra n-Butyl titanate**
LC50, Rat, 4 Hour, dust/mist, 11 mg/l

**Ethylene glycol monobutyl ether**
Acute toxicity estimate, vapour, 3 mg/l Acute toxicity estimate according to Regulation (EC) No. 1272/2008

**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.

**Skin corrosion/irritation**

Causes skin irritation.

**Information for the Product:**

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

**Information for components:**

**Tetrakis(2-butoxyethyl) orthosilicate**
Brief contact may cause moderate skin irritation with local redness.

**Tetra n-Butyl titanate**
Prolonged contact may cause moderate skin irritation with local redness.

**Ethylene glycol monobutyl ether**
Brief contact may cause slight skin irritation with local redness.
Repeated exposure may cause irritation, even a burn.
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.

**Serious eye damage/eye irritation**

Causes serious eye damage.

**Information for the Product:**

Based on information for component(s):
May cause moderate eye irritation.
May cause severe corneal injury.
May cause permanent impairment of vision.

**Information for components:**

**Tetrakis(2-butoxyethyl) orthosilicate**
Essentially nonirritating to eyes.

**Tetra n-Butyl titanate**
May cause moderate eye irritation.
May cause severe corneal injury.
May cause permanent impairment of vision.

**Ethylene glycol monobutyl ether**
May cause severe eye irritation.
May cause moderate corneal injury.
Effects may be slow to heal.
Vapor may cause eye irritation experienced as mild discomfort and redness.

**octamethylcyclotetrasiloxane [D4]**
Essentially nonirritating to eyes.

**Octamethyltrisiloxane**
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 data found.

**Information for components:**

**Tetrakis(2-butoxyethyl) orthosilicate**
For skin sensitization:
Did not cause allergic skin reactions when tested in guinea pigs.

No relevant data found.

**Tetra n-Butyl titanate**
Did not demonstrate the potential for contact allergy in mice.

For respiratory sensitization:
No relevant data found.

**Ethylene glycol monobutyl ether**
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.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

**Information for the Product:**

Product test data not available.

**Information for components:**

**Tetrakis(2-butoxyethyl) orthosilicate**
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Tetra n-Butyl titanate**
May cause respiratory irritation.
Route of Exposure: Inhalation
Target Organs: Respiratory Tract
May cause drowsiness or dizziness.
Route of Exposure: Inhalation
Target Organs: Nervous system

**Ethylene glycol monobutyl ether**
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.

**Aspiration Hazard**

**Information for the Product:**

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

**Information for components:**

**Tetrakis(2-butoxyethyl) orthosilicate**
Based on physical properties, not likely to be an aspiration hazard.

**Tetra n-Butyl titanate**
Based on available information, aspiration hazard could not be determined.

**Ethylene glycol monobutyl ether**
Based on physical properties, not likely to be an aspiration hazard.

**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.

**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:**

**Tetrakis(2-butoxyethyl) orthosilicate**
In animals, effects have been reported on the following organs:
Blood.

**Tetra n-Butyl titanate**
No relevant data found.

**Ethylene glycol monobutyl ether**

In animals, effects have been reported on the following organs: blood (hemolysis) and secondary effects on the kidney and liver.
Human red blood cells have been shown to be significantly less sensitive to hemolysis than those of rodents and rabbits.

**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.

**Carcinogenicity**

**Information for the Product:**

Product test data not available.

**Information for components:**

**Tetrakis(2-butoxyethyl) orthosilicate**
No relevant data found.

**Tetra n-Butyl titanate**
No relevant data found.

**Ethylene glycol monobutyl ether**
In long-term animal studies with ethylene glycol butyl ether, small but statistically significant increases in tumors were observed in mice but not rats. The effects are not believed to be relevant to humans. If the material is handled in accordance with proper industrial handling procedures, exposures should not pose a carcinogenic risk to man.

**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.

**Teratogenicity**

**Information for the Product:**

Product test data not available.

**Information for components:**

**Tetrakis(2-butoxyethyl) orthosilicate**
Did not cause birth defects in laboratory animals.

**Tetra n-Butyl titanate**
No relevant data found.

**Ethylene glycol monobutyl ether**
Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects 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.

**Reproductive toxicity**

**Information for the Product:**

Product test data not available.

**Information for components:**

**Tetrakis(2-butoxyethyl) orthosilicate**
In laboratory animals, excessive doses toxic to the parent animals caused decreased weight and survival of offspring.

**Tetra n-Butyl titanate**
No relevant data found.

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

**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.

**Mutagenicity**

**Information for the Product:**

Product test data not available.

**Information for components:**

**Tetrakis(2-butoxyethyl) orthosilicate**
No relevant data found.

**Tetra n-Butyl titanate**
No relevant data found.

**Ethylene glycol monobutyl ether**
In vitro genetic toxicity studies were predominantly 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.

**11.2 Information on other hazards**
**Endocrine disrupting properties**

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 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**Information for components:**

**Tetrakis(2-butoxyethyl) orthosilicate**
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

**Tetra n-Butyl titanate**
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

**Ethylene glycol monobutyl ether**
The substance is not considered to have endocrine disrupting properties according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

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

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

## SECTION 12: ECOLOGICAL INFORMATION

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

**12.1 Toxicity**

**Tetrakis(2-butoxyethyl) orthosilicate**

**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), 96 Hour, > 201 mg/l, OECD Test Guideline 203

**Acute toxicity to aquatic invertebrates**
No toxicity at the limit of solubility
EC50, Daphnia sp. (water flea), 48 Hour, > 90 mg/l, EG 84/449

**Acute toxicity to algae/aquatic plants**
ErC50, Scenedesmus subspicatus, 72 Hour, > 161 mg/l, 88/302/EC

**Tetra n-Butyl titanate**

**Acute toxicity to fish**
No relevant data found.

**Ethylene glycol monobutyl ether**

**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, 1 464 mg/l, OECD Test Guideline 203

**Acute toxicity to aquatic invertebrates**
EC50, Daphnia magna (Water flea), static test, 48 Hour, 1 550 mg/l, OECD Test Guideline 202

**Acute toxicity to algae/aquatic plants**
EbC50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, Biomass, 911 mg/l, OECD Test Guideline 201

**Toxicity to bacteria**
IC50, Bacteria, Growth inhibition, > 1 000 mg/l

**Chronic toxicity to fish**
NOEC, Danio rerio (zebra fish), semi-static test, 21 d, > 100 mg/l

**Chronic toxicity to aquatic invertebrates**

NOEC, Daphnia magna (Water flea), semi-static test, 21 d, Other, 100 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

**12.2 Persistence and degradability**

**Tetrakis(2-butoxyethyl) orthosilicate**
**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Pass
**Biodegradation:** 83 %
**Method:** OECD Test Guideline 301B

**Tetra n-Butyl titanate**
**Biodegradability:** No relevant data found.

**Ethylene glycol monobutyl ether**
**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material has inherent, ultimate biodegradability according to OECD test (s) guidelines (reaches > 60 or 70% biodegradation in OECD test(s).
10-day Window: Pass
**Biodegradation:** 90,4 %
**Exposure time:** 28 d
**Method:** OECD Test Guideline 301B or Equivalent

**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

**12.3 Bioaccumulative potential**

**Tetrakis(2-butoxyethyl) orthosilicate**
**Bioaccumulation:** No relevant data found.

**Tetra n-Butyl titanate**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
**Partition coefficient: n-octanol/water(log Pow):** 0,88 Estimated.

**Ethylene glycol monobutyl ether**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
**Partition coefficient: n-octanol/water(log Pow):** 0,81 Measured
**Bioconcentration factor (BCF):** 3,2 Fish

**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

**12.4 Mobility in soil**

**Tetrakis(2-butoxyethyl) orthosilicate**

No relevant data found.

**Tetra n-Butyl titanate**

No relevant data found.

**Ethylene glycol monobutyl ether**

**Partition coefficient (Koc):** 67 Estimated.

**octamethylcyclotetrasiloxane [D4]**

**Partition coefficient (Koc):** 16596 OECD Test Guideline 106

**Octamethyltrisiloxane**

**Partition coefficient (Koc):** 3179 Estimated.

**12.5 Results of PBT and vPvB assessment**

**Tetrakis(2-butoxyethyl) orthosilicate**

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

**Tetra n-Butyl titanate**

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

**Ethylene glycol monobutyl ether**

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

**Octamethyltrisiloxane**

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

**12.6 Endocrine disrupting properties**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 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

**Tetrakis(2-butoxyethyl) orthosilicate**

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

**Tetra n-Butyl titanate**

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

**Ethylene glycol monobutyl ether**

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

**octamethylcyclotetrasiloxane [D4]**

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

**Octamethyltrisiloxane**

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

**12.7 Other adverse effects**

**Tetrakis(2-butoxyethyl) orthosilicate**

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

**Tetra n-Butyl titanate**

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

**Ethylene glycol monobutyl ether**

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.

## 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 ECDirective 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** | UN 1993 |
| **14.2** | **UN proper shipping name** | FLAMMABLE LIQUID, N.O.S.(Octamethyltrisiloxane, Organo titanate) |
| **14.3** | **Transport hazard class(es)** | 3 |
| **14.4** | **Packing group** | III |
| **14.5** | **Environmental hazards** | Not considered environmentally hazardous based on available data. |
| **14.6** | **Special precautions for user** | Hazard Identification Number: 30 |

**Classification for SEA transport (IMO-IMDG):**

| | | |
|---|---|---|
| **14.1** | **UN number or ID number** | UN 1993 |
| **14.2** | **UN proper shipping name** | FLAMMABLE LIQUID, N.O.S.(Octamethyltrisiloxane, Organo titanate) |
| **14.3** | **Transport hazard class(es)** | 3 |
| **14.4** | **Packing group** | III |
| **14.5** | **Environmental hazards** | Not considered as marine pollutant based on available data. |
| **14.6** | **Special precautions for user** | EmS: F-E, S-E |
| **14.7** | **Maritime transport in bulk** | Consult IMO regulations before transporting ocean bulk |

**according to IMO instruments**

**Classification for AIR transport (IATA/ICAO):**

| | | |
|---|---|---|
| **14.1** | **UN number or ID number** | UN 1993 |
| **14.2** | **UN proper shipping name** | Flammable liquid, n.o.s.(Octamethyltrisiloxane, Organo titanate) |
| **14.3** | **Transport hazard class(es)** | 3 |
| **14.4** | **Packing group** | III |
| **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)., 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, 75 octamethylcyclotetrasiloxane [D4] (Number on 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.: 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

**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: FLAMMABLE LIQUIDS
Number in Regulation: P5c
5 000 t
50 000 t

**Further information**
Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

**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.**

| | |
|---|---|
| H226 | Flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H331 | Toxic if inhaled. |
| H335 | May cause respiratory irritation. |
| H336 | May cause drowsiness or dizziness. |
| H361f | Suspected of damaging fertility. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H410 | Very 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**
Flam. Liq. - 3 - H226 - Based on product data or assessment
Skin Irrit. - 2 - H315 - Calculation method
Eye Dam. - 1 - H318 - Calculation method
Aquatic Chronic - 3 - H412 - Calculation method

**Revision**
Identification Number: 6017430 / A282 / Issue Date: 27.03.2024 / Version: 6.1
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

**Legend**

| | |
|---|---|
| 2000/39/EC | Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values |

| | |
|---|---|
| ACGIH | USA. ACGIH Threshold Limit Values (TLV) |
| ACGIH BEI | ACGIH - Biological Exposure Indices (BEI) |
| Dow IHG | Dow Industrial Hygiene Guideline |
| ES VLA | Spain. Environmental Limits for exposure to Chemical agents - Table 1: Occupational Exposure Values |
| ES VLB | Occupational Exposure Limits for Chemical Agents in Spain - Biological Exposure Values |
| STEL | Short term exposure limit |
| TWA | Time weighted average |
| US WEEL | USA. Workplace Environmental Exposure Levels (WEEL) |
| VLA-EC | Environmental Short Term Value |
| VLA-ED | Environmental Daily Limit Value |
| Acute Tox. | Acute toxicity |
| Aquatic Chronic | Long-term (chronic) aquatic hazard |
| Eye Dam. | Serious eye damage |
| Eye Irrit. | Eye irritation |
| Flam. Liq. | Flammable liquids |
| Repr. | Reproductive toxicity |
| Skin Irrit. | Skin irritation |
| STOT RE | Specific target organ toxicity - repeated exposure |
| STOT SE | Specific target organ toxicity - single exposure |

**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 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; 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 CHEMICAL IBERICA S.L. 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.
ES