



# SAFETY DATA SHEET

DOW FRANCE S.A.S.

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

**Product name:** SILASTIC™ RTV-3081-R Mould-Making Curing Agent

**Revision Date:** 22.04.2021

**Version:** 2.0

**Date of last issue:** 19.02.2021

**Print Date:** 23.04.2021

DOW FRANCE S.A.S. 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:** SILASTIC™ RTV-3081-R Mould-Making Curing Agent

**UFI:** D0JE-M00H-W00Q-P1T6

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Identified uses:** Polymer Vulcanising agents Curing agent

### 1.3 Details of the supplier of the safety data sheet

#### COMPANY IDENTIFICATION

DOW FRANCE S.A.S.

23 AVENUE JULES RIMET

93210 LA PLAINE SAINT-DENIS

FRANCE

**Customer Information Number:**

(31) 115 67 2626

SDSQuestion@dow.com

### 1.4 EMERGENCY TELEPHONE NUMBER

**24-Hour Emergency Contact:** 00 33 388 736 000

**Local Emergency Contact:** 00 33 388 736 000

**ORFILA:** + 33 (0)1 45 42 59 59

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008:

Skin sensitisation - Category 1 - H317

Specific target organ toxicity - repeated exposure - Category 2 - Oral - H373

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: **WARNING**

### Hazard statements

- H317 May cause an allergic skin reaction.  
H373 May cause damage to organs (Bladder, Kidney) through prolonged or repeated exposure if swallowed.

### Precautionary statements

- P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
P280 Wear protective gloves.  
P314 Get medical advice/ attention if you feel unwell.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P362 + P364 Take off contaminated clothing and wash it before reuse.  
P501 Dispose of contents and/or container to an approved waste disposal plant.

**Contains** Trimethoxyphenylsilane; Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane

### 2.3 Other hazards

This product contains no substances assessed to be PBT or vPvB at levels of 0.1% or higher.

#### 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:** Organotin compound

### 3.2 Mixtures

This product is a mixture.

| CASRN /<br>EC-No. /<br>Index-No. | REACH<br>Registration<br>Number | Concentration | Component | Classification:<br>REGULATION (EC) No<br>1272/2008 |
|----------------------------------|---------------------------------|---------------|-----------|----------------------------------------------------|
|----------------------------------|---------------------------------|---------------|-----------|----------------------------------------------------|

|                                                                                           |                  |                     |                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------------------------------------------------------|------------------|---------------------|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CASRN</b><br>2996-92-1<br><b>EC-No.</b><br>221-066-9<br><b>Index-No.</b><br>—          | 01-2119964479-19 | >= 10,0 - <= 13,0 % | Trimethoxyphenylsilane                                   | Flam. Liq. 3; H226<br>Acute Tox. 4; H302<br>STOT RE 2; H373<br>(Bladder, Kidney)<br><br>Acute toxicity estimate<br>Acute oral toxicity:<br>1 049 mg/kg<br>Acute dermal toxicity:<br>2 471 mg/kg                                                                                                                                                                                                                                     |
| <b>CASRN</b><br>68928-76-7<br><b>EC-No.</b><br>273-028-6<br><b>Index-No.</b><br>—         | 01-2120770324-57 | >= 1,3 - <= 2,7 %   | Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane | Acute Tox. 4; H302<br>Skin Irrit. 2; H315<br>Skin Sens. 1A; H317<br>Aquatic Chronic 3; H412<br><br>Acute toxicity estimate<br>Acute oral toxicity:<br>892 mg/kg<br>Acute dermal toxicity:<br>> 2 000 mg/kg                                                                                                                                                                                                                          |
| <b>CASRN</b><br>67-56-1<br><b>EC-No.</b><br>200-659-6<br><b>Index-No.</b><br>603-001-00-X | —                | >= 0,09 - <= 0,41 % | methanol                                                 | Flam. Liq. 2; H225<br>Acute Tox. 3; H301<br>Acute Tox. 3; H331<br>Acute Tox. 3; H311<br>STOT SE 1; H370<br>(Eyes, Central nervous system)<br><br>specific concentration limit<br>STOT SE 1; H370<br>>= 10 %<br>STOT SE 2; H371<br>3 - < 10 %<br><br>Acute toxicity estimate<br>Acute oral toxicity:<br>> 5 000 mg/kg<br>340 mg/kg<br>Acute inhalation toxicity:<br>3 mg/l, 4 Hour, vapour<br>Acute dermal toxicity:<br>15 800 mg/kg |
| <b>CASRN</b><br>681-84-5<br><b>EC-No.</b><br>211-656-4<br><b>Index-No.</b><br>—           | —                | <= 0,14 %           | Tetramethyl orthosilicate                                | Flam. Liq. 3; H226<br>Acute Tox. 1; H330<br>Skin Irrit. 2; H315<br>Eye Dam. 1; H318<br>STOT RE 1; H372<br>(Respiratory system)<br><br>Acute toxicity estimate<br>Acute oral toxicity:<br>> 2 500 mg/kg                                                                                                                                                                                                                              |

|                                                                                   |   |                                |                                        |                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------------------------------|---|--------------------------------|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                   |   |                                |                                        | Acute inhalation toxicity:<br>0,392 mg/l, 4 Hour, vapour                                                                                                                                                                                                                                       |
| <b>CASRN</b><br>18406-41-2<br><b>EC-No.</b><br>242-285-6<br><b>Index-No.</b><br>— | — | $\geq 0,014 - \leq 0,023$<br>% | 1,2-Bis<br>(trimethoxysilyl)<br>ethane | Acute Tox. 4; H302<br>Acute Tox. 1; H330<br>Skin Irrit. 2; H315<br>Eye Irrit. 2; H319<br>STOT RE 1; H372<br>(Nasal inner lining,<br>Respiratory system, Eyes)<br><br>Acute toxicity estimate<br>Acute oral toxicity:<br>1 910 mg/kg<br>Acute inhalation toxicity:<br>0,03 mg/l, 4 Hour, vapour |

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. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

**Skin contact:** Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation or rash occurs. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be available in work area.

**Eye contact:** 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. Suitable emergency eye wash facility should be available in work area.

**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:** May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. 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 sand. Dry chemical.

**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. Nitrogen oxides (NO<sub>x</sub>).

**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.. 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.

**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. Avoid contact with eyes. Do not swallow. 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 even after 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. 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           |
|----------------------------------------------------------|-------------------------------------------------------------------------------------------------------|-----------------|-----------------|
| Trimethoxyphenylsilane                                   | Dow IHG                                                                                               | TWA             | 5 ppm           |
| Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane | ACGIH                                                                                                 | TWA             | 0,1 mg/m3 , Tin |
|                                                          | Further information: A4: Not classifiable as a human carcinogen; Skin: Danger of cutaneous absorption |                 |                 |
|                                                          | ACGIH                                                                                                 | STEL            | 0,2 mg/m3 , Tin |
|                                                          | Further information: A4: Not classifiable as a human carcinogen; Skin: Danger of cutaneous absorption |                 |                 |
|                                                          | FR VLE                                                                                                | VME             | 0,1 mg/m3 , Tin |
|                                                          | Further information: Indicative exposure limits: Indicative exposure limits                           |                 |                 |
|                                                          | FR VLE                                                                                                | VLCT (VLE)      | 0,2 mg/m3 , Tin |
|                                                          | Further information: Indicative exposure limits: Indicative exposure limits                           |                 |                 |
| methanol                                                 | ACGIH                                                                                                 | TWA             | 200 ppm         |

|                                  |                                                                                                                     |            |                        |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------|------------|------------------------|
|                                  | Further information: Skin: Danger of cutaneous absorption                                                           |            |                        |
|                                  | ACGIH                                                                                                               | STEL       | 250 ppm                |
|                                  | Further information: Skin: Danger of cutaneous absorption                                                           |            |                        |
|                                  | 2006/15/EC                                                                                                          | TWA        | 260 mg/m3 200 ppm      |
|                                  | Further information: Indicative; skin: Identifies the possibility of significant uptake through the skin            |            |                        |
|                                  | FR VLE                                                                                                              | VME        | 260 mg/m3 200 ppm      |
|                                  | Further information: Skin: Risk of penetration through skin; REL binding: Regulatory binding exposure limits        |            |                        |
|                                  | FR VLE                                                                                                              | VLCT (VLE) | 1 300 mg/m3 1 000 ppm  |
|                                  | Further information: Skin: Risk of penetration through skin; Indicative exposure limits: Indicative exposure limits |            |                        |
| Tetramethyl orthosilicate        | ACGIH                                                                                                               | TWA        | 1 ppm                  |
|                                  | FR VLE                                                                                                              | VME        | 6 mg/m3 1 ppm          |
|                                  | Further information: Indicative exposure limits: Indicative exposure limits                                         |            |                        |
| 1,2-Bis (trimethoxysilyl) ethane | Dow IHG                                                                                                             | TWA        | 0.15 Parts per billion |
|                                  | Dow IHG                                                                                                             | STEL       | 1 Parts per billion    |

The following substance(s), which have Occupational Exposure Limit(s) (OEL), may be formed during handling or processing: Methanol, Propyl alcohol

#### Biological occupational exposure limits

| Components | CAS-No. | Control parameters | Biological specimen | Sampling time                                            | Permissible concentration | Basis        |
|------------|---------|--------------------|---------------------|----------------------------------------------------------|---------------------------|--------------|
| methanol   | 67-56-1 | Methanol           | Urine               | End of shift (As soon as possible after exposure ceases) | 15 mg/l                   | ACGIH<br>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 Sécurité, (INRS), France.

### Derived No Effect Level

Trimethoxyphenylsilane

#### Workers

| <i>Acute systemic effects</i> |            | <i>Acute local effects</i> |            | <i>Long-term systemic effects</i> |            | <i>Long-term local effects</i> |            |
|-------------------------------|------------|----------------------------|------------|-----------------------------------|------------|--------------------------------|------------|
| Dermal                        | Inhalation | Dermal                     | Inhalation | Dermal                            | Inhalation | Dermal                         | Inhalation |
| 2,5 mg/kg bw/day              | 40,2 mg/m3 | n.a.                       | n.a.       | 2,5 mg/kg bw/day                  | 40,2 mg/m3 | n.a.                           | n.a.       |

#### Consumers

| <i>Acute systemic effects</i> |            |      | <i>Acute local effects</i> |            | <i>Long-term systemic effects</i> |            |                  | <i>Long-term local effects</i> |            |
|-------------------------------|------------|------|----------------------------|------------|-----------------------------------|------------|------------------|--------------------------------|------------|
| Dermal                        | Inhalation | Oral | Dermal                     | Inhalation | Dermal                            | Inhalation | Oral             | Dermal                         | Inhalation |
| 33,3 mg/kg bw/day             | 10 mg/m3   | n.a. | n.a.                       | n.a.       | 1,7 mg/kg bw/day                  | 10 mg/m3   | 0,7 mg/kg bw/day | n.a.                           | n.a.       |

methanol

#### Workers

| <i>Acute systemic effects</i> |            | <i>Acute local effects</i> |            | <i>Long-term systemic effects</i> |            | <i>Long-term local effects</i> |            |
|-------------------------------|------------|----------------------------|------------|-----------------------------------|------------|--------------------------------|------------|
| Dermal                        | Inhalation | Dermal                     | Inhalation | Dermal                            | Inhalation | Dermal                         | Inhalation |
| 40 mg/kg bw/day               | 260 mg/m3  | n.a.                       | 260 mg/m3  | 40 mg/kg bw/day                   | 260 mg/m3  | n.a.                           | 260 mg/m3  |

#### Consumers

| <i>Acute systemic effects</i> |            |                | <i>Acute local effects</i> |            | <i>Long-term systemic effects</i> |            |                | <i>Long-term local effects</i> |            |
|-------------------------------|------------|----------------|----------------------------|------------|-----------------------------------|------------|----------------|--------------------------------|------------|
| Dermal                        | Inhalation | Oral           | Dermal                     | Inhalation | Dermal                            | Inhalation | Oral           | Dermal                         | Inhalation |
| 8 mg/kg bw/day                | 50 mg/m3   | 8 mg/kg bw/day | n.a.                       | 50 mg/m3   | 8 mg/kg bw/day                    | 50 mg/m3   | 8 mg/kg bw/day | n.a.                           | 50 mg/m3   |

Tetramethyl orthosilicate

#### Workers

| <i>Acute systemic effects</i> |            | <i>Acute local effects</i> |            | <i>Long-term systemic effects</i> |            | <i>Long-term local effects</i> |            |
|-------------------------------|------------|----------------------------|------------|-----------------------------------|------------|--------------------------------|------------|
| Dermal                        | Inhalation | Dermal                     | Inhalation | Dermal                            | Inhalation | Dermal                         | Inhalation |
| n.a.                          | n.a.       | n.a.                       | n.a.       | 0,3 mg/kg bw/day                  | n.a.       | n.a.                           | 93 mg/m3   |

#### Consumers

| <i>Acute systemic effects</i> |            |      | <i>Acute local effects</i> |            | <i>Long-term systemic effects</i> |            |      | <i>Long-term local effects</i> |            |
|-------------------------------|------------|------|----------------------------|------------|-----------------------------------|------------|------|--------------------------------|------------|
| Dermal                        | Inhalation | Oral | Dermal                     | Inhalation | Dermal                            | Inhalation | Oral | Dermal                         | Inhalation |
| n.a.                          | n.a.       | n.a. | n.a.                       | n.a.       | n.a.                              | n.a.       | n.a. | n.a.                           | n.a.       |

**Predicted No Effect Concentration**

Trimethoxyphenylsilane

| Compartment            | PNEC        |
|------------------------|-------------|
| Fresh water            | 0,24 mg/l   |
| Marine water           | 0,024 mg/l  |
| Fresh water sediment   | 0,24 mg/kg  |
| Marine sediment        | 0,024 mg/kg |
| Soil                   | 0,07 mg/kg  |
| Sewage treatment plant | 74 mg/l     |

methanol

| Compartment              | PNEC      |
|--------------------------|-----------|
| Fresh water              | 20,8 mg/l |
| Marine water             | 2,08 mg/l |
| Intermittent use/release | 1540 mg/l |
| Sewage treatment plant   | 100 mg/l  |
| Fresh water sediment     | 77 mg/kg  |
| Marine sediment          | 7,7 mg/kg |
| Soil                     | 100 mg/kg |

Tetramethyl orthosilicate

| Compartment            | PNEC       |
|------------------------|------------|
| Fresh water            | 5 mg/l     |
| Marine water           | 0,5 mg/l   |
| Fresh water sediment   | 4,44 mg/kg |
| Marine sediment        | 0,44 mg/kg |
| Soil                   | 0,99 mg/kg |
| Sewage treatment plant | > 1 mg/l   |

**8.2 Exposure controls**

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

**Individual protection measures**

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

**Skin protection**

**Hand protection:** Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. Examples of acceptable glove barrier materials include: Natural rubber ("latex"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended. Glove thickness alone is not a good indicator of the level of protection a glove provides against a

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

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

**Respiratory protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. When respiratory protection is required, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply.

#### 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                                                    | Clear to slightly hazy, colourless                          |
| Odor                                                     | slight                                                      |
| pH                                                       | Not applicable, substance/mixture is non-soluble (in water) |
| Melting point/freezing point                             |                                                             |
| Melting point/range                                      | not determined                                              |
| Freezing point                                           | not determined                                              |
| Boiling point or initial boiling point and boiling range |                                                             |
| Boiling point (760 mmHg)                                 | > 65 °C                                                     |
| Flash point                                              | Pensky-Martens closed cup 66 °C                             |
| Flammability (solid, gas)                                | Not applicable, liquid                                      |
| Flammability (liquids)                                   | Not applicable                                              |
| Lower explosion limit                                    |                                                             |
| Upper explosion limit                                    | not determined                                              |
| Vapor Pressure                                           | No data available                                           |
| Relative Vapor Density (air = 1)                         | not determined                                              |
| Relative Density (water = 1)                             | 0,962                                                       |
| Solubility(ies)                                          |                                                             |

|                                        |                                    |
|----------------------------------------|------------------------------------|
| Water solubility                       | insoluble                          |
| Partition coefficient: n-octanol/water | not determined                     |
| Auto-ignition temperature              | No data available                  |
| Decomposition temperature              | No data available                  |
| Kinematic Viscosity                    | > 20,5 mm <sup>2</sup> /s at 40 °C |
| Particle characteristics               |                                    |
| Particle size                          | Not applicable, liquid             |

#### 9.2 Other information

|                      |                                                          |
|----------------------|----------------------------------------------------------|
| Molecular weight     | No data available                                        |
| Dynamic Viscosity    | 40 mPa.s                                                 |
| Explosive properties | Not explosive                                            |
| Oxidizing properties | The substance or mixture is not classified as oxidizing. |
| 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. Combustible liquid.

**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. Propyl alcohol. Methanol. Benzene.

---

## SECTION 11: TOXICOLOGICAL INFORMATION

---

*Toxicological information appears in this section when such data is 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 oral toxicity**

Very low toxicity if swallowed. Swallowing may result in gastrointestinal irritation. May cause nausea and vomiting.

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

Based on information for component(s):  
LD50, > 5 000 mg/kg Estimated.

**Information for components:**

**Trimethoxyphenylsilane**

Based on product testing: LD50, Rat, 1 049 mg/kg

This substance may hydrolyze to release Methanol. Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

LD50, Rat, male and female, 892 mg/kg OECD 401 or equivalent

**methanol**

Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart. Effects may be delayed. LD50, Rat, > 5 000 mg/kg

Lethal Dose, Humans, 340 mg/kg Estimated.

Lethal Dose, Humans, 29 - 237 ml Estimated.

**Tetramethyl orthosilicate**

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.

For similar material(s): LD50, Rat, male and female, > 2 500 mg/kg OECD Test Guideline 423 No deaths occurred at this concentration.

**1,2-Bis (trimethoxysilyl) ethane**

LD50, Rat, 1 910 mg/kg

This substance may hydrolyze to release Methanol. Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart.

**Acute dermal toxicity**

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

As product: The dermal LD50 has not been determined.

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

**Information for components:**

**Trimethoxyphenylsilane**

For similar material(s): LD50, Rabbit, male, 2 471 mg/kg OECD 402 or equivalent

This substance may hydrolyze to release Methanol. Effects of methanol are the same as observed via oral and inhalation exposure and include central nervous system (CNS) depression, visual impairment up to blindness, metabolic acidosis, with effects on organ systems such as liver, kidneys and heart, even death.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

LD50, Rat, > 2 000 mg/kg

**methanol**

Effects of methanol are the same as observed via oral and inhalation exposure and include central nervous system (CNS) depression, visual impairment up to blindness, metabolic acidosis, with effects on organ systems such as liver, kidneys and heart, even death. LD50, Rabbit, 15 800 mg/kg

**Tetramethyl orthosilicate**

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

The dermal LD50 has not been determined.

**1,2-Bis (trimethoxysilyl) ethane**

The dermal LD50 has not been determined.

This substance may hydrolyze to release Methanol. Effects of methanol are the same as observed via oral and inhalation exposure and include central nervous system (CNS) depression, visual impairment up to blindness, metabolic acidosis, with effects on organ systems such as liver, kidneys and heart, even death.

**Acute inhalation toxicity**

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

As product: The LC50 has not been determined.

**Information for components:**

**Trimethoxyphenylsilane**

The LC50 has not been determined.

This substance may hydrolyze to release Methanol. Inhalation of methanol may cause effects ranging from headache, narcosis and visual impairment to metabolic acidosis, blindness, and even death.

**Bis(2-ethyl-2,5-dimethylhexanoyl)oxy(dimethyl)stannane**

As product: The LC50 has not been determined.

**methanol**

Easily attainable vapor concentrations may cause serious adverse effects, even death. At lower concentrations: May cause respiratory irritation and central nervous system depression. Symptoms may include headache, dizziness and drowsiness, progressing to incoordination and unconsciousness. Inhalation of methanol may cause effects ranging from headache, narcosis and visual impairment to metabolic acidosis, blindness, and even death. Effects may be delayed.

LC50, Rat, 4 Hour, vapour, 3 mg/l

**Tetramethyl orthosilicate**

Vapor concentrations are attainable which may be fatal with single exposure. May cause lung injury.

LC50, Rat, male, 4 Hour, vapour, 0,392 mg/l OECD Test Guideline 403

**1,2-Bis (trimethoxysilyl) ethane**

LC50, Rat, 4 Hour, vapour, 0,03 mg/l

This substance may hydrolyze to release Methanol. Inhalation of methanol may cause effects ranging from headache, narcosis and visual impairment to metabolic acidosis, blindness, and even death.

**Skin corrosion/irritation**

Based on information for component(s):

Brief contact may cause slight skin irritation with local redness.

**Information for components:**

**Trimethoxyphenylsilane**

Brief contact is essentially nonirritating to skin.

**Bis(2-ethyl-2,5-dimethylhexanoyl)oxy(dimethyl)stannane**

Brief contact may cause skin irritation with local redness.

**methanol**

Prolonged contact may cause slight skin irritation with local redness.

**Tetramethyl orthosilicate**

Brief contact may cause slight skin irritation with local redness.

**1,2-Bis (trimethoxysilyl) ethane**

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

**Serious eye damage/eye irritation**

Based on information for component(s):

May cause slight temporary eye irritation.

May cause slight temporary corneal injury.

May cause mild eye discomfort.

**Information for components:**

**Trimethoxyphenylsilane**

Essentially nonirritating to eyes.  
Corneal injury is unlikely.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

May cause slight eye irritation.  
May cause slight temporary corneal injury.

**methanol**

May cause eye irritation.

**Tetramethyl orthosilicate**

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

**1,2-Bis (trimethoxysilyl) ethane**

May cause severe eye irritation.

**Sensitization**

For skin sensitization:

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

For respiratory sensitization:

No relevant data found.

**Information for components:**

**Trimethoxyphenylsilane**

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

For respiratory sensitization:  
No relevant data found.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

Has caused allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:  
No relevant data found.

**methanol**

For skin sensitization:  
No relevant data found.

For respiratory sensitization:  
No relevant data found.

**Tetramethyl orthosilicate**

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

For respiratory sensitization:  
No relevant data found.

**1,2-Bis (trimethoxysilyl) ethane**

For skin sensitization:  
No relevant data found.

For respiratory sensitization:  
No relevant data found.

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

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

**Information for components:**

**Trimethoxyphenylsilane**

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

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

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

**methanol**

Causes damage to organs.  
Route of Exposure: Oral  
Target Organs: Eyes, Central nervous system

**Tetramethyl orthosilicate**

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

**1,2-Bis (trimethoxysilyl) ethane**

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

**Aspiration Hazard**

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

**Information for components:**

**Trimethoxyphenylsilane**

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

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

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

**methanol**

May be harmful if swallowed and enters airways.

**Tetramethyl orthosilicate**

May be harmful if swallowed and enters airways.

**1,2-Bis (trimethoxysilyl) ethane**

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

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

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

Contains component(s) which have been reported to cause effects on the following organs in animals:

Blood

Liver

kidney

Bladder

Immune system.

**Information for components:**

**Trimethoxyphenylsilane**

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

Bladder.

Kidney.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

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

Blood

Kidney

Liver

Immune system.

**methanol**

Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart.

**Tetramethyl orthosilicate**

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

Respiratory effects.

**1,2-Bis (trimethoxysilyl) ethane**

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

Nasal Cavity

Respiratory tract.

Eye.

**Carcinogenicity**

Contains a component(s) which did not cause cancer in long-term animal studies which used routes of exposure considered relevant to industrial handling.

**Information for components:**

**Trimethoxyphenylsilane**

No relevant data found.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

No relevant data found.

**methanol**

Did not cause cancer in laboratory animals.

**Tetramethyl orthosilicate**

No relevant data found.

**1,2-Bis (trimethoxysilyl) ethane**

No relevant data found.

**Teratogenicity**

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

**Information for components:**

**Trimethoxyphenylsilane**

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

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

No relevant data found.

**methanol**

Methanol has caused birth defects in mice at doses nontoxic to the mother as well as slight behavioral effects in offspring of rats.

**Tetramethyl orthosilicate**

For similar material(s): Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

**1,2-Bis (trimethoxysilyl) ethane**

No relevant data found.

**Reproductive toxicity**

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

**Information for components:**

**Trimethoxyphenylsilane**

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

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

No relevant data found.

**methanol**

In animal studies, did not interfere with reproduction.

**Tetramethyl orthosilicate**

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

**1,2-Bis (trimethoxysilyl) ethane**

No relevant data found.

### **Mutagenicity**

Contains component(s) which were negative in some in vitro genetic toxicity studies and positive in others. Genetic toxicity studies in animals were negative for component(s) tested.

#### **Information for components:**

##### **Trimethoxyphenylsilane**

In vitro genetic toxicity studies were negative.

##### **Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

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

##### **methanol**

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

##### **Tetramethyl orthosilicate**

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

##### **1,2-Bis (trimethoxysilyl) ethane**

No relevant data found.

### **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:**

##### **Trimethoxyphenylsilane**

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.

##### **Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

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.

##### **methanol**

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.

##### **Tetramethyl 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.

**1,2-Bis (trimethoxysilyl) ethane**

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 is available.*

### **12.1 Toxicity**

**Trimethoxyphenylsilane**

**Acute toxicity to fish**

Based on data from similar materials

No toxicity at the limit of solubility

LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 100 mg/l, OECD Test Guideline 203  
On basis of test data.

No toxicity at the limit of solubility

LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 0,20 mg/l, OECD Test Guideline 203

**Acute toxicity to aquatic invertebrates**

On basis of test data.

No toxicity at the limit of solubility

EC50, Daphnia magna (Water flea), 48 Hour, > 0,0029 mg/l, OECD Test Guideline 202

**Acute toxicity to algae/aquatic plants**

On basis of test data.

No toxicity at the limit of solubility

ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 0,17 mg/l, OECD Test Guideline 201

**Toxicity to bacteria**

Based on data from similar materials

EC50, 3 Hour, > 1 000 mg/l, OECD Test Guideline 209

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

**Acute toxicity to fish**

Material is harmful to aquatic organisms (LC50/EC50/IC50 between 10 and 100 mg/L in the most sensitive species).

For similar material(s):

LC50, Zebra fish (Danio/Brachydanio rerio), semi-static test, 96 Hour, > 100 mg/l, OECD Test Guideline 203 or Equivalent

**Acute toxicity to aquatic invertebrates**

EC50, Daphnia magna, static test, 48 Hour, 39 mg/l, OECD Test Guideline 202 or Equivalent

**Acute toxicity to algae/aquatic plants**

ErC50, Algae (Scenedesmus subspicatus), Growth rate, 72 Hour, Growth rate, 7,6 mg/l, OECD Test Guideline 201 or Equivalent

For similar material(s):

NOEC, Algae (*Scenedesmus subspicatus*), Growth rate, 72 Hour, Growth rate, 1,1 mg/l, OECD Test Guideline 201 or Equivalent

**Toxicity to bacteria**

For similar material(s):

EC50, Bacteria, 3 Hour, Respiration rates., 14 mg/l

**methanol**

**Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

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

LC50, Bluegill sunfish (*Lepomis macrochirus*), flow-through test, 96 Hour, 15 400 mg/l

**Acute toxicity to aquatic invertebrates**

LC50, *Daphnia magna* (Water flea), 48 Hour, > 10 000 mg/l

**Acute toxicity to algae/aquatic plants**

ErC50, *Pseudokirchneriella subcapitata* (green algae), 96 Hour, Growth rate, 22 000 mg/l, OECD Test Guideline 201 or Equivalent

**Toxicity to bacteria**

IC50, activated sludge, 3 Hour, Respiration rates., > 1 000 mg/l, OECD Test Guideline 209

**Chronic toxicity to fish**

NOEC, *Oryzias latipes* (Orange-red killifish), 200 Hour, 15 800 mg/l

**Tetramethyl orthosilicate**

**Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

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

For similar material(s):

LC50, Zebra fish (*Danio/Brachydanio rerio*), 96 Hour, > 245 mg/l

**Acute toxicity to aquatic invertebrates**

For similar material(s):

EC50, *Daphnia magna* (Water flea), 48 Hour, > 500 mg/l

**Acute toxicity to algae/aquatic plants**

For similar material(s):

ErC50, *Pseudokirchneriella subcapitata* (green algae), 72 Hour, Growth rate inhibition, > 100 mg/l

**1,2-Bis (trimethoxysilyl) ethane**

**Acute toxicity to aquatic invertebrates**

Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).

Material is harmful to aquatic organisms (LC50/EC50/IC50 between 10 and 100 mg/L in the most sensitive species).

For similar material(s):

EL50, Daphnia magna (Water flea), 48 Hour, 92,2 mg/l, OECD Test Guideline 202 or Equivalent

**Acute toxicity to algae/aquatic plants**

For similar material(s):

EL50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate, 671 mg/l, OECD Test Guideline 201 or Equivalent

**12.2 Persistence and degradability**

**Trimethoxyphenylsilane**

**Biodegradability:**

Based on data from similar materials

**Biodegradation:** 1 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 310

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

**Biodegradability:** For similar material(s): Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

For similar material(s): 10-day Window: Fail

**Biodegradation:** 3 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301F or Equivalent

**methanol**

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

**Tetramethyl orthosilicate**

**Biodegradability:** For similar material(s): Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

For similar material(s): 10-day Window: Pass

**Biodegradation:** 98 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301A or Equivalent

**Stability in Water (1/2-life)**

Hydrolysis, DT50, < 3 min, pH 7

**1,2-Bis (trimethoxysilyl) ethane**

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

**Biodegradation:** 64 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301B or Equivalent

**12.3 Bioaccumulative potential**

**Trimethoxyphenylsilane**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** 0,55 Estimated.

Bioconcentration factor (BCF): 3 Fish Estimated.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

Bioaccumulation: No relevant data found.

**methanol**

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): -0,77 Measured

Bioconcentration factor (BCF): < 10 Leuciscus idus (Golden orfe) Measured

**Tetramethyl orthosilicate**

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): -0,5 estimated

**1,2-Bis (trimethoxysilyl) ethane**

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): -1,68 at 25 °C

**12.4 Mobility in soil**

**Trimethoxyphenylsilane**

Partition coefficient (Koc): 7500 Estimated.

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

No relevant data found.

**methanol**

Partition coefficient (Koc): 0,44 Estimated.

**Tetramethyl orthosilicate**

No relevant data found.

**1,2-Bis (trimethoxysilyl) ethane**

No relevant data found.

**12.5 Results of PBT and vPvB assessment**

**Trimethoxyphenylsilane**

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

**Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

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

**methanol**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**Tetramethyl orthosilicate**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

**1,2-Bis (trimethoxysilyl) ethane**

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

## **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.

### **Trimethoxyphenylsilane**

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.

### **Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

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.

### **methanol**

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.

### **Tetramethyl 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.

### **1,2-Bis (trimethoxysilyl) ethane**

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**

### **Trimethoxyphenylsilane**

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

### **Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane**

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

### **methanol**

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

### **Tetramethyl orthosilicate**

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

### **1,2-Bis (trimethoxysilyl) ethane**

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

---

## **SECTION 13: DISPOSAL CONSIDERATIONS**

---

### **13.1 Waste treatment methods**

Do not dump into any sewers, on the ground, or into any body of water. This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 2008/98/EC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required.

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

---

## **SECTION 14: TRANSPORT INFORMATION**

---

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

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

### **Classification for INLAND waterways (ADNR/ADN):**

**Consult your Dow contact before transporting by inland waterway**

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

- |                                                                     |                                                             |
|---------------------------------------------------------------------|-------------------------------------------------------------|
| <b>14.1 UN number or ID number</b>                                  | Not applicable                                              |
| <b>14.2 UN proper shipping name</b>                                 | Not regulated for transport                                 |
| <b>14.3 Transport hazard class(es)</b>                              | Not applicable                                              |
| <b>14.4 Packing group</b>                                           | Not applicable                                              |
| <b>14.5 Environmental hazards</b>                                   | Not considered as marine pollutant based on available data. |
| <b>14.6 Special precautions for user</b>                            | No data available.                                          |
| <b>14.7 Maritime transport in bulk according to IMO instruments</b> | Consult IMO regulations before transporting ocean bulk      |

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

- |                                          |                             |
|------------------------------------------|-----------------------------|
| <b>14.1 UN number or ID number</b>       | Not applicable              |
| <b>14.2 UN proper shipping name</b>      | Not regulated for transport |
| <b>14.3 Transport hazard class(es)</b>   | Not applicable              |
| <b>14.4 Packing group</b>                | Not applicable              |
| <b>14.5 Environmental hazards</b>        | Not applicable              |
| <b>14.6 Special precautions for user</b> | 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, preparations and articles (Annex XVII)**

Conditions of restriction for the following entries should be considered:

Number on list 3

Bis[(2-ethyl-2,5-dimethylhexanoyl)oxy](dimethyl)stannane (Number on list 20)

methanol (Number on list 69)

#### **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

#### **Installations classified for the protection of the environment (Environment Code R511-9)**

1436: Storage or use of combustible liquids with flash points between 60°C and 93°C.

4722: Methanol (CAS No 67-56-1).

#### **Occupational Illnesses (R-461-3, France):**

(Not applicable)

#### **Further information**

Take note of Directive 94/33/EC on the protection of young people at work 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.

|      |                                                                                 |
|------|---------------------------------------------------------------------------------|
| H225 | Highly flammable liquid and vapour.                                             |
| H226 | Flammable liquid and vapour.                                                    |
| H301 | Toxic if swallowed.                                                             |
| H302 | Harmful if swallowed.                                                           |
| H311 | Toxic in contact with skin.                                                     |
| H315 | Causes skin irritation.                                                         |
| H317 | May cause an allergic skin reaction.                                            |
| H318 | Causes serious eye damage.                                                      |
| H319 | Causes serious eye irritation.                                                  |
| H330 | Fatal if inhaled.                                                               |
| H331 | Toxic if inhaled.                                                               |
| H370 | Causes damage to organs if swallowed.                                           |
| H372 | Causes damage to organs through prolonged or repeated exposure if inhaled.      |
| H373 | May cause damage to organs through prolonged or repeated exposure if swallowed. |
| 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

Skin Sens. - 1 - H317 - Calculation method  
STOT RE - 2 - H373 - Calculation method

### Revision

Identification Number: 4107683 / A560 / Issue Date: 22.04.2021 / Version: 2.0

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

### Legend

|                 |                                                       |
|-----------------|-------------------------------------------------------|
| 2006/15/EC      | Europe. 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                      |
| FR VLE          | France. Occupational Exposure Limits (INRS)           |
| STEL            | Short term exposure limit                             |
| TWA             | Time weighted average                                 |
| VLCT (VLE)      | Short Term Exposure Limit                             |
| VME             | Time Weighted Average                                 |
| Acute Tox.      | Acute toxicity                                        |
| Aquatic Chronic | Long-term (chronic) aquatic hazard                    |
| Eye Dam.        | Serious eye damage                                    |
| Eye Irrit.      | Eye irritation                                        |
| Flam. Liq.      | Flammable liquids                                     |
| Skin Irrit.     | Skin irritation                                       |
| Skin Sens.      | Skin sensitisation                                    |
| 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 - European 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; 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 FRANCE S.A.S. 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.

FR

