



# SAFETY DATA SHEET

DOW CHEMICAL COMPANY LIMITED

Safety Data Sheet according to REACH Regulation (EC) No 1907/2006, as retained and amended in UK law

**Product name: DOWSIL™ 90-714 Semiconductor Protective Coating Base**

**Revision Date: 23.02.2024**

**Version: 5.1**

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

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

### 1.1 Product identifier

**Product name:** DOWSIL™ 90-714 Semiconductor Protective Coating Base

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

**Identified uses:** Semiconductors

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

#### COMPANY IDENTIFICATION

DOW CHEMICAL COMPANY LIMITED  
5 OAKWATER AVENUE  
CHEADLE ROYAL BUSINESS PARK  
CHEADLE  
SK8 3SR  
UNITED KINGDOM

**Customer Information Number:**

+44 (0) 1663 746518

SDSQuestion@dow.com

**Fax:**

+44 (0) 1663 746605

### 1.4 EMERGENCY TELEPHONE NUMBER

**24-Hour Emergency Contact:** 0031 115 694 982

**Local Emergency Contact:** 00 31 115 69 4982

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008, as retained and amended in UK law**

Not a hazardous substance or mixture.

### 2.2 Label elements

**Labelling according to Regulation (EC) No 1272/2008, as retained and amended in UK law**

Not a hazardous substance or mixture.

**Supplemental information**

EUH210 Safety data sheet available on request.

**2.3 Other hazards**

This product contains octamethylcyclotetrasiloxane (D4) that has been identified by the Member State Committee of ECHA as fulfilling the PBT and vPvB criteria laid down in Annex XIII to Regulation (EC) No 1907/2006. See Section 12 for additional information.

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

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

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**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

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**Chemical nature:** Silicone elastomer

**3.2 Mixtures**

This product is a mixture.

| <b>CASRN /<br/>EC-No. /<br/>Index-No.</b>  | <b>UK REACH<br/>Registration<br/>Number</b> | <b>Concentration</b> | <b>Component</b>   | <b>Classification:<br/>REGULATION (EC) No<br/>1272/2008, as retained<br/>and amended in UK law</b>  |
|--|---|----------------------|--|---|
| <b>CASRN</b><br>68909-20-6<br><b>EC-No.</b><br>272-697-1<br><b>Index-No.</b><br>014-052-00-7 | —   | 15.0%                | silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica | STOT RE 2; H373 (Lungs)<br>EUH066<br><br>Acute toxicity estimate<br>Acute oral toxicity:<br>> 2,000 mg/kg<br>Acute dermal toxicity:<br>> 2,000 mg/kg      |
| <b>CASRN</b><br>115-19-5<br><b>EC-No.</b><br>204-070-5<br><b>Index-No.</b><br>—              | —   | 0.4%                 | Methyl-3-butyn-2-ol  | Flam. Liq. 2; H225<br>Acute Tox. 4; H302<br>Eye Dam. 1; H318<br>Repr. 2; H361f<br>STOT SE 3; H336 (Central nervous system)<br><br>Acute toxicity estimate |

|  |   |       |                                       |  |
|--|---|-------|---------------------------------------|--|
|  |   |       |                                       | Acute oral toxicity:<br>1,420 mg/kg<br>Acute inhalation toxicity:<br>> 21.3 mg/l, 4 Hour, vapour<br>Acute dermal toxicity:<br>> 172 mg/kg  |
| <b>CASRN</b><br>556-67-2<br><b>EC-No.</b><br>209-136-7<br><b>Index-No.</b><br>014-018-00-1 | – | 0.14% | octamethylcyclotetr<br>asiloxane [D4] | Flam. Liq. 3; H226<br>Repr. 2; H361f<br>Aquatic Chronic 1; H410<br><br>M-Factor (Chronic aquatic<br>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 |
| <b>CASRN</b><br>2554-06-5<br><b>EC-No.</b><br>219-863-1<br><b>Index-No.</b><br>–           | – | 0.1%  | Methylvinylcyclosilo<br>xane          | Repr. 1B; H360Fd<br><br>Acute toxicity estimate<br>Acute oral toxicity:<br>> 15,000 mg/kg<br>Acute inhalation toxicity:<br>> 1.32 mg/l, 4 Hour, vapour<br>Acute dermal toxicity:<br>> 2,000 mg/kg  |
| vPvB substance   |   |       |                                       |  |
| <b>CASRN</b><br>540-97-6<br><b>EC-No.</b><br>208-762-8<br><b>Index-No.</b><br>–            | – | 0.3%  | Dodecamethyl<br>cyclohexasiloxane     | Not classified<br><br>Acute toxicity estimate<br>Acute oral toxicity:<br>> 2,000 mg/kg<br>Acute dermal toxicity:<br>> 2,000 mg/kg  |
| <b>CASRN</b><br>541-02-6<br><b>EC-No.</b><br>208-764-9<br><b>Index-No.</b><br>–            | – | 0.12% | Decamethylcyclope<br>ntasiloxane      | Not classified<br><br>Acute toxicity estimate<br>Acute oral toxicity:<br>> 24,134 mg/kg<br>Acute inhalation toxicity:  |

|  |  |  |  |   |
|--|--|--|--|---|
|  |  |  |  | 8.67 mg/l, 4 Hour, dust/mist<br>Acute dermal toxicity:<br>> 2,000 mg/kg |
|--|--|--|--|---|

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

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## SECTION 4: FIRST AID MEASURES

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### 4.1 Description of first aid measures

**General advice:**

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.

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

**Ingestion:** Rinse mouth with water. No emergency medical treatment necessary.

### 4.2 Most important symptoms and effects, both acute and delayed:

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician:** No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

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## SECTION 5: FIREFIGHTING MEASURES

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### 5.1 Extinguishing media

**Suitable extinguishing media:** Alcohol-resistant foam. 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:** Silicon oxides. Carbon oxides.

**Unusual Fire and Explosion Hazards:** Flash back possible over considerable distance.. Exposure to combustion products may be a hazard to health.. Closed containers may rupture via pressure build-up when exposed to fire or extreme heat.. 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.. 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..

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## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

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**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:** Discharge into the environment must be avoided. 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.

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## **SECTION 7: HANDLING AND STORAGE**

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**7.1 Precautions for safe handling:** Do not get on skin or clothing. Do not breathe vapours or spray 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. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.

Do not store with the following product types: Strong oxidizing agents. Organic peroxides. 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.

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## **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

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### **8.1 Control parameters**

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

| <b>Component</b>                  | <b>Regulation</b> | <b>Type of listing</b> | <b>Value</b> |
|-----------------------------------|-------------------|------------------------|--------------|
| Methyl-3-butyn-2-ol               | Dow IHG           | TWA                    | 1 ppm        |
| octamethylcyclotetrasiloxane [D4] | US WEEL           | TWA                    | 10 ppm       |
| Decamethylcyclopentasiloxane      | US WEEL           | TWA                    | 10 ppm       |

Although some of the components of this product may have exposure guidelines, no exposure would be expected under normal handling conditions due to the physical state of the material.

### **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**

Methyl-3-butyn-2-ol

#### **Workers**

| <b>Acute systemic effects</b> |            | <b>Acute local effects</b> |            | <b>Long-term systemic effects</b> |            | <b>Long-term local effects</b> |            |
|-------------------------------|------------|----------------------------|------------|-----------------------------------|------------|--------------------------------|------------|
| Dermal                        | Inhalation | Dermal                     | Inhalation | Dermal                            | Inhalation | Dermal                         | Inhalation |
|                               |            |                            |            |                                   |            |                                |            |

|      |      |      |                       |                   |                       |      |                       |
|------|------|------|-----------------------|-------------------|-----------------------|------|-----------------------|
| n.a. | n.a. | n.a. | 6.4 mg/m <sup>3</sup> | 0.45 mg/kg bw/day | 3.2 mg/m <sup>3</sup> | n.a. | 3.2 mg/m <sup>3</sup> |
|------|------|------|-----------------------|-------------------|-----------------------|------|-----------------------|

**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.       |

octamethylcyclotetrasiloxane [D4]

**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.       | n.a.                              | 73 mg/m <sup>3</sup> | n.a.                           | 73 mg/m <sup>3</sup> |

**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.                              | 13 mg/m <sup>3</sup> | 3.7 mg/kg bw/day | n.a.                           | 13 mg/m <sup>3</sup> |

Methylvinylcyclosiloxane

**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.       | 15.6 mg/kg bw/day                 | 1.06 mg/m <sup>3</sup> | 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 |
| n.a.                          | n.a.       | n.a. | n.a.                       | n.a.       | n.a.                              | n.a.       | 0.075 mg/kg bw/day | n.a.                           | n.a.       |

Dodecamethyl cyclohexasiloxane

**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.                       | 6.1 mg/m <sup>3</sup> | n.a.                              | n.a.       | n.a.                           | 1.22 mg/m <sup>3</sup> |

**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.   | 1.5 mg/m3  | n.a.   | n.a.       | n.a. | n.a.   | 0.3 mg/m3  |

Decamethylcyclopentasiloxane

**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 | Oral | Dermal                     | Inhalation | Dermal                            | Inhalation | Dermal                         | Inhalation |
| n.a.                          | n.a.       | n.a. | n.a.                       | n.a.       | n.a.                              | 97.3 mg/m3 | n.a.                           | 24.2 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.                              | 17.3 mg/m3 | 5 mg/kg bw/day | n.a.                           | 4.3 mg/m3  |

**Predicted No Effect Concentration**

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                |

Methylvinylcyclosiloxane

| Compartment          | PNEC                        |
|----------------------|-----------------------------|
| Fresh water sediment | 3 mg/kg dry weight (d.w.)   |
| Marine sediment      | 0.3 mg/kg dry weight (d.w.) |
| Oral                 | 3.33 mg/kg food             |

Dodecamethyl cyclohexasiloxane

| Compartment          | PNEC                         |
|----------------------|------------------------------|
| Fresh water sediment | 13.5 mg/kg dry weight (d.w.) |
| Marine sediment      | 1.35 mg/kg dry weight (d.w.) |
| Oral                 | 66.7 mg/kg food              |

Decamethylcyclopentasiloxane

| Compartment          | PNEC           |
|----------------------|----------------|
| Fresh water          | > 0.0012 mg/l  |
| Marine water         | > 0.00012 mg/l |
| Fresh water sediment | 11 mg/kg       |
| Marine sediment      | 1.1 mg/kg      |
| Soil                 | 2.54 mg/kg     |



|                        |               |
|------------------------|---------------|
| Sewage treatment plant | 10 mg/l       |
| Oral                   | 16 mg/kg food |

## 8.2 Exposure controls

**Engineering controls:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

### Individual protection measures

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

#### Skin protection

**Hand protection:** Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 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:** Wear clean, body-covering clothing.

**Respiratory protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions, no respiratory protection should be needed; however, if handling at elevated temperatures without sufficient ventilation, use an approved air-purifying respirator.

Use the following CE approved air-purifying respirator: Organic vapor cartridge, type A (boiling point >65 °C, meeting standard EN 14387).

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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### 9.1 Information on basic physical and chemical properties

#### Appearance

|  |  |
|--|--|
| Physical state                         | liquid   |
| Color                                  | Colorless  |
| Odor                                   | slight   |
| Odor Threshold                         | No data available  |
| pH                                     | No data available  |
| Melting point/range                    | No data available  |
| Freezing point                         | No data available  |
| Boiling point (760 mmHg)               | > 100 °C   |
| Flash point                            | <b>Pensky-Martens closed cup 62.7 °C</b>                 |
| Evaporation Rate (Butyl Acetate = 1)   | No data available  |
| Flammability (solid, gas)              | Not applicable   |
| Lower explosion limit                  | No data available  |
| Upper explosion limit                  | No data available  |
| Vapor Pressure                         | No data available  |
| Relative Vapor Density (air = 1)       | No data available  |
| Relative Density (water = 1)           | 1.05   |
| Water solubility                       | No data available  |
| Partition coefficient: n-octanol/water | No data available  |
| Auto-ignition temperature              | No data available  |
| Decomposition temperature              | No data available  |
| Kinematic Viscosity                    | 6000 cSt   |
| Explosive properties                   | Not explosive  |
| Oxidizing properties                   | The substance or mixture is not classified as oxidizing. |
| <b>9.2 Other information</b>           |  |
| Molecular weight                       | No data available  |

NOTE: The physical data presented above are typical values and should not be construed as a specification.

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## SECTION 10: STABILITY AND REACTIVITY

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**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. When heated to temperatures above 180 °C (356 °F) in the presence of air, trace quantities of formaldehyde may be released. Adequate ventilation is required. Vapours may form explosive mixture with air.

**10.4 Conditions to avoid:** Heat, flames and sparks.

**10.5 Incompatible materials:** Avoid contact with oxidizing materials.

#### 10.6 Hazardous decomposition products:

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

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## SECTION 11: TOXICOLOGICAL INFORMATION

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

### 11.1 Information on toxicological effects

#### 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:

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

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

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

###### Information for components:

###### **silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica**

Based on testing for product(s) in this family of materials: LD50, Rat, > 2,000 mg/kg OECD 401 or equivalent No deaths occurred at this concentration.

###### **Methyl-3-butyn-2-ol**

LD50, Rat, male and female, 1,420 mg/kg OECD 401 or equivalent

###### **octamethylcyclotetrasiloxane [D4]**

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

###### **Methylvinylcyclosiloxane**

LD50, Rat, > 15,000 mg/kg

###### **Dodecamethyl cyclohexasiloxane**

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

###### **Decamethylcyclopentasiloxane**

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

### Acute dermal toxicity

#### Information for the Product:

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

As product: The dermal LD50 has not been determined.

Based on information for component(s):

LD50, > 2,000 mg/kg

#### Information for components:

##### silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica

The dermal LD50 has not been determined.

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

##### Methyl-3-butyn-2-ol

LD0, Rabbit, male, > 172 mg/kg OECD 402 or equivalent No deaths occurred at this concentration.

##### octamethylcyclotetrasiloxane [D4]

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

##### Methylvinylcyclosiloxane

The dermal LD50 has not been determined.

Based on testing for product(s) in this family of materials: LD50, > 2,000 mg/kg Estimated.

##### Dodecamethyl cyclohexasiloxane

LD50, Rabbit, male and female, > 2,000 mg/kg

##### Decamethylcyclopentasiloxane

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

### Acute inhalation toxicity

#### Information for the Product:

At room temperature, exposure to vapor is minimal due to low volatility; vapor from heated material may cause respiratory irritation.

As product: The LC50 has not been determined.

#### Information for components:

##### silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica

The LC50 has not been determined.

**Methyl-3-butyn-2-ol**

LC50, Rat, male and female, 4 Hour, vapour, > 21.3 mg/l OECD Test Guideline 403  
No deaths occurred at this concentration.

**octamethylcyclotetrasiloxane [D4]**

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

**Methylvinylcyclosiloxane**

LC50, Rat, male and female, 4 Hour, vapour, > 1.32 mg/l No deaths occurred at this concentration.

**Dodecamethyl cyclohexasiloxane**

The LC50 has not been determined.

**Decamethylcyclopentasiloxane**

LC50, Rat, male and female, 4 Hour, dust/mist, 8.67 mg/l

**Skin corrosion/irritation**

**Information for the Product:**

Based on information for component(s):  
Brief contact is essentially nonirritating to skin.

**Information for components:**

**silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica**

Based on testing for product(s) in this family of materials:  
Brief contact is essentially nonirritating to skin.  
Repeated exposure may cause skin dryness or cracking.

**Methyl-3-butyn-2-ol**

Essentially nonirritating to skin.  
May cause drying and flaking of the skin.

**octamethylcyclotetrasiloxane [D4]**

Brief contact is essentially nonirritating to skin.

**Methylvinylcyclosiloxane**

Brief contact may cause slight skin irritation with local redness.

**Dodecamethyl cyclohexasiloxane**

Essentially nonirritating to skin.

**Decamethylcyclopentasiloxane**

Prolonged contact is essentially nonirritating to skin.

**Serious eye damage/eye irritation**

**Information for the Product:**

Based on information for component(s):  
May cause slight temporary eye irritation.  
Corneal injury is unlikely.

**Information for components:**

**silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica**

Based on testing for product(s) in this family of materials:  
May cause irritation or corneal injury due to mechanical action.

**Methyl-3-butyn-2-ol**

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

**octamethylcyclotetrasiloxane [D4]**

Essentially nonirritating to eyes.

**Methylvinylcyclosiloxane**

May cause slight eye irritation.

**Dodecamethyl cyclohexasiloxane**

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

**Decamethylcyclopentasiloxane**

Essentially nonirritating to eyes.

**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:**

**silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica**

For skin sensitization:  
Based on testing for product(s) in this family of materials:  
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:  
No relevant data found.

**Methyl-3-butyn-2-ol**

For skin sensitization:  
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.

**Methylvinylcyclosiloxane**

For skin sensitization:  
No relevant data found.

For respiratory sensitization:  
No relevant data found.

**Dodecamethyl cyclohexasiloxane**

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

For respiratory sensitization:  
No relevant data found.

**Decamethylcyclopentasiloxane**

Did not demonstrate the potential for contact allergy in mice.

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:**

**silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica**

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

**Methyl-3-butyn-2-ol**

May cause drowsiness or dizziness.  
Route of Exposure: Inhalation  
Target Organs: Central nervous system

**octamethylcyclotetrasiloxane [D4]**

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

**Methylvinylcyclosiloxane**

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

**Dodecamethyl cyclohexasiloxane**

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

**Decamethylcyclopentasiloxane**

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

**Aspiration Hazard**

**Information for the Product:**

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

**Information for components:**

**silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica**

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

**Methyl-3-butyn-2-ol**

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.

**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.

**Methylvinylcyclosiloxane**

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

**Dodecamethyl cyclohexasiloxane**

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

**Decamethylcyclopentasiloxane**

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

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

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

**Information for the Product:**

Product test data not available.

**Information for components:**

**silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica**

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

lung

Due to the physical state of the material, this component is not expected to be bioavailable under normal handling and processing conditions.

**Methyl-3-butyn-2-ol**



In animals, effects have been reported on the following organs:  
Kidney.  
Liver.  
Blood  
Central nervous system.

**octamethylcyclotetrasiloxane [D4]**

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

**Methylvinylcyclosiloxane**

No relevant data found.

**Dodecamethyl cyclohexasiloxane**

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

**Decamethylcyclopentasiloxane**

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

**Carcinogenicity**

**Information for the Product:**

Product test data not available.

**Information for components:**

**silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica**

No relevant data found.

**Methyl-3-butyn-2-ol**

No relevant data found.

**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.

**Methylvinylcyclosiloxane**

No relevant data found.

**Dodecamethyl cyclohexasiloxane**

No relevant data found.

**Decamethylcyclopentasiloxane**

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

**Teratogenicity**

**Information for the Product:**

Product test data not available.

**Information for components:**

**silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica**

Based on testing for product(s) in this family of materials: Did not cause birth defects or any other fetal effects in laboratory animals.

**Methyl-3-butyn-2-ol**

Has been toxic to the fetus in laboratory animals at doses toxic to the mother.

**octamethylcyclotetrasiloxane [D4]**

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

**Methylvinylcyclosiloxane**

Has been toxic to the fetus in lab animals at doses nontoxic to the mother.

**Dodecamethyl cyclohexasiloxane**

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

**Decamethylcyclopentasiloxane**

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

**Reproductive toxicity**

**Information for the Product:**

Product test data not available.

**Information for components:**

**silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica**

Based on testing for product(s) in this family of materials: In animal studies, did not interfere with reproduction.

**Methyl-3-butyn-2-ol**

In animal studies, has been shown to interfere with fertility.

**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.

**Methylvinylcyclosiloxane**

In animal studies, has been shown to interfere with fertility.

**Dodecamethyl cyclohexasiloxane**

In animal studies, did not interfere with reproduction.

**Decamethylcyclopentasiloxane**

In animal studies, did not interfere with reproduction.

**Mutagenicity**

**Information for the Product:**

Product test data not available.

**Information for components:**

**silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica**

Based on testing for product(s) in this family of materials: In vitro genetic toxicity studies were negative.

**Methyl-3-butyn-2-ol**

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

**octamethylcyclotetrasiloxane [D4]**

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

**Methylvinylcyclosiloxane**

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

**Dodecamethyl cyclohexasiloxane**

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

**Decamethylcyclopentasiloxane**

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

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## SECTION 12: ECOLOGICAL INFORMATION

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

### 12.1 Toxicity

**silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica**

**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).

Based on testing for product(s) in this family of materials:  
LC50, Danio rerio (zebra fish), 96 Hour, > 1,000 mg/l, OECD Test Guideline 203

**Acute toxicity to aquatic invertebrates**

Based on testing for product(s) in this family of materials:  
EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l, OECD Test Guideline 202

**Acute toxicity to algae/aquatic plants**

ErC50, Scenedesmus quadricauda (Green algae), 72 Hour, > 10,000 mg/l, OECD Test Guideline 201

**Toxicity to bacteria**

Based on testing for product(s) in this family of materials:  
EC50, activated sludge, 3 Hour, Respiration rates., > 1,000 mg/l, OECD Test Guideline 209

**Methyl-3-butyn-2-ol**

**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, Fathead minnow (Pimephales promelas), static test, 96 Hour, 4,503 mg/l

**Acute toxicity to aquatic invertebrates**

LC50, Daphnia magna (Water flea), static test, 48 Hour, 3,962 mg/l

**Acute toxicity to algae/aquatic plants**

EC50, Algae (Desmodesmus subspicatus), static test, 72 Hour, Growth rate, > 500 mg/l, DIN 38412

**Toxicity to bacteria**

EC50, 30 min, > 1,000 mg/l

**octamethylcyclotetrasiloxane [D4]**

**Acute toxicity to fish**

Based on testing of comparable products: The estimated maximum aqueous concentration of Octamethyl Cyclotetrasiloxane (D4) from migration to water from the product as supplied is below the D4 established no-effect threshold (< 0.0079 mg/L) for aquatic organisms.

**Chronic toxicity to aquatic invertebrates**

Based on testing for product(s) in this family of materials:  
Not classified due to data which are conclusive although insufficient for classification.

**Methylvinylcyclsiloxane**

**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, Cyprinodon variegatus (sheepshead minnow), 96 Hour, > 1,000 mg/l

**Acute toxicity to aquatic invertebrates**

EL50, Acartia tonsa, 48 Hour, 221 mg/l, ISO 14669 and PARCOM method

**Acute toxicity to algae/aquatic plants**

ErC50, Skeletonema sp., 72 Hour, > 988 mg/l, ISO 10253

### Dodecamethyl cyclohexasiloxane

#### **Acute toxicity to algae/aquatic plants**

Not expected to be acutely toxic to aquatic organisms.

No toxicity at the limit of solubility

ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 0.002 mg/l

#### **Chronic toxicity to aquatic invertebrates**

No toxicity at the limit of solubility

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

### Decamethylcyclopentasiloxane

#### **Acute toxicity to fish**

Not expected to be acutely toxic to aquatic organisms.

No toxicity at the limit of solubility

LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 16 µg/l, OECD Test Guideline 204 or Equivalent

#### **Acute toxicity to aquatic invertebrates**

No toxicity at the limit of solubility

EC50, Daphnia magna, 48 Hour, > 2.9 mg/l, OECD Test Guideline 202 or Equivalent

#### **Acute toxicity to algae/aquatic plants**

No toxicity at the limit of solubility

ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate, > 0.012 mg/l

No toxicity at the limit of solubility

NOEC, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate, 0.012 mg/l

#### **Chronic toxicity to fish**

No toxicity at the limit of solubility

LC50, Oncorhynchus mykiss (rainbow trout), 14 d, > 16 mg/l

No toxicity at the limit of solubility

NOEC, Oncorhynchus mykiss (rainbow trout), 45 d, >= 0.017 mg/l

No toxicity at the limit of solubility

NOEC, Oncorhynchus mykiss (rainbow trout), 90 d, >= 0.014 mg/l

#### **Chronic toxicity to aquatic invertebrates**

NOEC, Daphnia magna, 21 d, 0.015 mg/l

#### **Toxicity to soil-dwelling organisms**

This product does not have any known adverse effect on the soil organisms tested.

NOEC, Eisenia fetida (earthworms), >= 76 mg/kg

## **12.2 Persistence and degradability**

### silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica

**Biodegradability:** Biodegradation is not applicable.

### Methyl-3-butyn-2-ol

**Biodegradability:** Material is not readily biodegradable according to OECD/EEC guidelines.

**Biodegradation:** 0 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301F 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

**Methylvinylcyclosiloxane**

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

10-day Window: Fail

**Biodegradation:** 3.7 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 310

**Dodecamethyl cyclohexasiloxane**

**Biodegradability:** Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

10-day Window: Fail

**Biodegradation:** 4.5 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301B

**Decamethylcyclopentasiloxane**

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

10-day Window: Not applicable

**Biodegradation:** 0.14 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 310

**12.3 Bioaccumulative potential**

**silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica**

**Bioaccumulation:** No relevant data found.

**Methyl-3-butyn-2-ol**

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

**Partition coefficient: n-octanol/water(log Pow):** 0.32 Measured

**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

**Methylvinylcyclosiloxane**

**Bioaccumulation:** Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

**Partition coefficient: n-octanol/water(log Pow):** 6.49

**Dodecamethyl cyclohexasiloxane**

**Bioaccumulation:** Bioconcentration potential is low (BCF less than 100 or log Pow greater than 7).

**Partition coefficient: n-octanol/water(log Pow):** 8.87

**Decamethylcyclopentasiloxane**

**Bioaccumulation:** Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

**Partition coefficient: n-octanol/water(log Pow):** 5.2 Measured

**Bioconcentration factor (BCF):** 2,010 Fish Estimated.

**12.4 Mobility in soil**

**silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica**

No relevant data found.

**Methyl-3-butyn-2-ol**

No relevant data found.

**octamethylcyclotetrasiloxane [D4]**

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

**Methylvinylcyclosiloxane**

No relevant data found.

**Dodecamethyl cyclohexasiloxane**

**Partition coefficient (Koc):** > 5000

**Decamethylcyclopentasiloxane**

**Partition coefficient (Koc):** > 5000 Estimated.

**12.5 Results of PBT and vPvB assessment**

**silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica**

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

**Methyl-3-butyn-2-ol**

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).

#### **Methylvinylcyclosiloxane**

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

#### **Dodecamethyl cyclohexasiloxane**

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

#### **Decamethylcyclopentasiloxane**

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

Substance is persistent, bioaccumulative, and toxic (PBT).

Substance is very persistent and very bioaccumulative (vPvB).

### **12.6 Other adverse effects**

#### **silanamine, 1,1,1-trimethyl-N-(trimethylsilyl)-, hydrolysis products with silica**

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

#### **Methyl-3-butyn-2-ol**

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.

#### **Methylvinylcyclosiloxane**

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

#### **Dodecamethyl cyclohexasiloxane**

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

#### **Decamethylcyclopentasiloxane**

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



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## SECTION 13: DISPOSAL CONSIDERATIONS

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### 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.

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## SECTION 14: TRANSPORT INFORMATION

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

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

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

Consult your Dow contact before transporting by inland waterway

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

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

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

- |                                 |                             |
|---------------------------------|-----------------------------|
| 14.1 UN number or ID number     | Not applicable              |
| 14.2 UN proper shipping name    | Not regulated for transport |
| 14.3 Transport hazard class(es) | Not applicable              |

- 14.4 **Packing group** Not applicable  
14.5 **Environmental hazards** Not applicable  
14.6 **Special precautions for user** No data available.

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

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## SECTION 15: REGULATORY INFORMATION

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

#### UK REACH - UK Statutory Instruments 2019 No.758 as amended

This product contains only components that have been either registered, notified for downstream user import (DUIN), are exempt from registration, are regarded as registered or are not subject to registration according to UK Statutory Instruments 2019 No.758 as amended (UK REACH)., Polymers are exempted from registration under REACH. All relevant starting materials and additives have been registered, notified for downstream user import (DUIN) or are exempt from registration according to UK Statutory Instruments 2019 No.758 as amended (UK REACH)., The aforementioned indications of the UK REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, expressed 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.

#### UK REACH List of restrictions (Annex 17)

Conditions of restriction for the following entries should be considered:  
octamethylcyclotetrasiloxane [D4] (Number on list 70)  
Decamethylcyclopentasiloxane (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

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

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

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

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

**Control of Major Accident Hazards Regulations 2015 (COMAH)**

Listed in Regulation: Not applicable

**Further information**

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to new and expectant mothers at work contained in Regulation 16 to 18) and of the Pregnant Workers Directive 92/85/EEC.

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to protection of young people at work contained in Regulation 19) and of Directive 94/33/EC on the protection of young people at work.

**15.2 Chemical safety assessment**

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

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**SECTION 16: OTHER INFORMATION**

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

|        |   |
|--------|---|
| H225   | Highly flammable liquid and vapour.   |
| H226   | Flammable liquid and vapour.  |
| H302   | Harmful if swallowed.   |
| H318   | Causes serious eye damage.  |
| H336   | May cause drowsiness or dizziness.  |
| H360Fd | May damage fertility. Suspected of damaging the unborn child.                 |
| H361f  | Suspected of damaging fertility.  |
| H373   | May cause damage to organs through prolonged or repeated exposure if inhaled. |
| H410   | Very toxic to aquatic life with long lasting effects.                         |

**Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008**

This product is not classified as dangerous according to EC criteria.

**Revision**

Identification Number: 3130371 / A279 / Issue Date: 23.02.2024 / Version: 5.1

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

**Legend**

|         |                                  |
|---------|----------------------------------|
| Dow IHG | Dow Industrial Hygiene Guideline |
|---------|----------------------------------|

|                 |   |
|-----------------|---|
| TWA             | Time weighted average                               |
| US WEEL         | USA. Workplace Environmental Exposure Levels (WEEL) |
| Acute Tox.      | Acute toxicity                                      |
| Aquatic Chronic | Long-term (chronic) aquatic hazard                  |
| Eye Dam.        | Serious eye damage                                  |
| Flam. Liq.      | Flammable liquids                                   |
| Repr.           | Reproductive toxicity                               |
| 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.

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