



# SAFETY DATA SHEET

DOW CHEMICAL COMPANY LIMITED

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

**Product name:** DOWSIL™ 3-4155 HV Dielectric Gel Part B

**Revision Date:** 16.11.2018

**Version:** 3.0

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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™ 3-4155 HV Dielectric Gel Part B

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

**Identified uses:** Electrical industry and electronics

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

#### COMPANY IDENTIFICATION

DOW CHEMICAL COMPANY LIMITED  
STATION ROAD, BIRCH VALE, HIGH PEAK  
DERBYSHIRE  
England  
SK22 1BR  
UNITED KINGDOM

**Customer Information Number:**

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+44 (0) 1663 746605

### 1.4 EMERGENCY TELEPHONE NUMBER

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

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

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

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

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

### 2.2 Label elements

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

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

**Precautionary statements**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.  
No smoking.  
P234 Keep only in original packaging.  
P403 Store in a well-ventilated place.

**Supplemental information**

EUH210 Safety data sheet available on request.

**2.3 Other hazards**

May generate flammable hydrogen gas. Avoid contact with water, alcohols, acidic, basic, or oxidizing materials.

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

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

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

**Chemical nature:** Silicone

**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 |
|----------------------------------|---------------------------------|---------------|-----------|----------------------------------------------------|
|----------------------------------|---------------------------------|---------------|-----------|----------------------------------------------------|

PBT and vPvB substance

|                                                                                            |   |                     |                              |                                                                          |
|--------------------------------------------------------------------------------------------|---|---------------------|------------------------------|--------------------------------------------------------------------------|
| <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 | — | >= 0.17 - <= 0.23 % | octamethylcyclotetrasiloxane | Flam. Liq. - 3 - H226<br>Repr. - 2 - H361f<br>Aquatic Chronic - 4 - H413 |
| <b>CASRN</b><br>541-02-6<br><b>EC-No.</b><br>208-764-9<br><b>Index-No.</b><br>—            | — | >= 0.09 - <= 0.12 % | Decamethylcyclopentasiloxane | Not classified                                                           |

|                                                                                 |   |                     |                                   |                |
|---------------------------------------------------------------------------------|---|---------------------|-----------------------------------|----------------|
| <b>CASRN</b><br>540-97-6<br><b>EC-No.</b><br>208-762-8<br><b>Index-No.</b><br>— | — | >= 0.09 - <= 0.12 % | Dodecamethyl<br>cyclohexasiloxane | Not classified |
|---------------------------------------------------------------------------------|---|---------------------|-----------------------------------|----------------|

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; if effects occur, consult a physician.

**Skin contact:** Wash off with plenty of water.

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

**Ingestion:** No emergency medical treatment necessary.

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

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

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

**Notes to physician:** 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:** Water spray Alcohol-resistant foam Carbon dioxide (CO<sub>2</sub>)

**Unsuitable extinguishing media:** Dry chemical

### 5.2 Special hazards arising from the substance or mixture

**Hazardous combustion products:** Silicon oxides Carbon oxides

**Unusual Fire and Explosion Hazards:** Applying foam will release significant amounts of hydrogen gas that can be trapped under the foam blanket. Exposure to combustion products may be a hazard to health.

### 5.3 Advice for firefighters

**Fire Fighting Procedures:** Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Do not allow extinguishing medium to contact container contents. Most fire extinguishing media will cause hydrogen evolution, and once the fire is put out, may accumulate in poorly ventilated or confined areas and result in flash fire or explosion if ignited. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

**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:** 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:** Soak up with inert absorbent material. Clean up remaining materials from spill with suitable absorbent. 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, Materials in contact with water, moisture, acids or bases have the potential to generate hydrogen gas. Recovered material should be stored in a vented container. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements. Recovered material should be stored in a vented container. The vent must prevent the ingress of water as further reaction with spilled materials can take place which could lead to overpressurization of the 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:** Avoid inhalation of vapour or mist. Do not swallow. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Keep away from water. Protect from moisture. Take care to prevent spills, waste and minimize release to the environment. Handle in accordance with good industrial hygiene and safety practice. Use only with adequate ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

**7.2 Conditions for safe storage, including any incompatibilities:** Keep in properly labelled containers. Store in original container. Store locked up. Store in accordance with the particular

national regulations. Product may evolve minute quantities of flammable hydrogen gas which can accumulate. Adequately ventilate to maintain vapors well below flammability limits and exposure guidelines. Do not repack. Clogged container vents may increase pressure build up. Store in a closed container.

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

Unsuitable materials for containers: Do not store in or use containers except the original product package.

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

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

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

| Component                    | Regulation | Type of listing | Value/Notation |
|------------------------------|------------|-----------------|----------------|
| octamethylcyclotetrasiloxane | US WEEL    | TWA             | 10 ppm         |
| Decamethylcyclopentasiloxane | US WEEL    | TWA             | 10 ppm         |

### Derived No Effect Level

octamethylcyclotetrasiloxane

#### Workers

| Acute systemic effects |            | Acute local effects |            | Long-term systemic effects |            | Long-term local effects |            |
|------------------------|------------|---------------------|------------|----------------------------|------------|-------------------------|------------|
| Dermal                 | Inhalation | Dermal              | Inhalation | Dermal                     | Inhalation | Dermal                  | Inhalation |
| n.a.                   | 73 mg/m3   | n.a.                | 73 mg/m3   | n.a.                       | 73 mg/m3   | n.a.                    | 73 mg/m3   |

#### Consumers

| Acute systemic effects |            |                  | Acute local effects |            | Long-term systemic effects |            |                  | Long-term local effects |            |
|------------------------|------------|------------------|---------------------|------------|----------------------------|------------|------------------|-------------------------|------------|
| Dermal                 | Inhalation | Oral             | Dermal              | Inhalation | Dermal                     | Inhalation | Oral             | Dermal                  | Inhalation |
| n.a.                   | 13 mg/m3   | 3.7 mg/kg bw/day | n.a.                | 13 mg/m3   | n.a.                       | 13 mg/m3   | 3.7 mg/kg bw/day | n.a.                    | 13 mg/m3   |

Decamethylcyclopentasiloxane

#### Workers

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

#### Consumers

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

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/m3  | n.a.                              | 11 mg/m3   | n.a.                           | 1.22 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.       | 1.7 mg/kg bw/day | n.a.                       | 1.5 mg/m3  | n.a.                              | 2.7 mg/m3  | 1.7 mg/kg bw/day | n.a.                           | 0.3 mg/m3  |

**Predicted No Effect Concentration**

octamethylcyclotetrasiloxane

| Compartment            | PNEC          |
|------------------------|---------------|
| Fresh water            | 0.00044 mg/l  |
| Marine water           | 0.000044 mg/l |
| Fresh water sediment   | 0.64 mg/kg    |
| Marine sediment        | 0.064 mg/kg   |
| Soil                   | 0.13 mg/kg    |
| Sewage treatment plant | > 10 mg/l     |

Decamethylcyclopentasiloxane

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

Dodecamethyl cyclohexasiloxane

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

**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. 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 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:** When prolonged or frequently repeated contact could occur, use protective clothing chemically resistant to this material. Selection of specific items such as faceshield, boots, apron, or full-body suit will depend on the task.

**Respiratory protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, 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).

**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.

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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          | blue              |
| Odor           | none              |
| 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>closed cup</b> >100 °C                                |
| 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)           | 0.97                                                     |
| 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                    | 2000 cSt at 25 °C                                        |
| Explosive properties                   | Not explosive                                            |
| Oxidizing properties                   | The substance or mixture is not classified as oxidizing. |

## 9.2 Other information

**Molecular weight** No data available

**Particle size** Not applicable

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. Product may evolve flammable hydrogen gas on contact with water, alcohols, acidic or basic materials, many metals or metallic compounds and can form explosive mixtures in air. Hazardous decomposition products will be formed at elevated temperatures.

**10.4 Conditions to avoid:** Exposure to moisture

**10.5 Incompatible materials:** Oxidizing agents



**10.6 Hazardous decomposition products:** Formaldehyde.

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**SECTION 11: TOXICOLOGICAL INFORMATION**

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

**11.1 Information on toxicological effects****Acute toxicity****Acute oral toxicity**

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

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

Based on information for component(s):

LD50, Rat, > 5,000 mg/kg Estimated.

**Acute dermal toxicity**

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

As product: The dermal LD50 has not been determined.

LD50, Rabbit, > 2,000 mg/kg

**Acute inhalation toxicity**

No adverse effects are anticipated from single exposure to vapor.

As product: The LC50 has not been determined.

**Skin corrosion/irritation**

Prolonged contact is essentially nonirritating to skin.

**Serious eye damage/eye irritation**

May cause slight temporary eye irritation.

Corneal injury is unlikely.

**Sensitization**

For the component(s) tested:

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

For respiratory sensitization:

No relevant data found.

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

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

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

Based on available data for the component(s), repeated exposures are not anticipated to cause significant adverse effects.

**Carcinogenicity**

No relevant data found.

**Teratogenicity**

No relevant data found.

**Reproductive toxicity**

Based on information for component(s): 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.

**Mutagenicity**

Based on information for component(s): In vitro genetic toxicity studies were negative.

**Aspiration Hazard**

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

**COMPONENTS INFLUENCING TOXICOLOGY:****octamethylcyclotetrasiloxane****Acute inhalation toxicity**

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

**Decamethylcyclopentasiloxane****Acute inhalation toxicity**

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

**Dodecamethyl cyclohexasiloxane****Acute inhalation toxicity**

The LC50 has not been determined.

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**SECTION 12: ECOLOGICAL INFORMATION**

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

**12.1 Toxicity****octamethylcyclotetrasiloxane****Acute toxicity to fish**

Not expected to be acutely toxic to aquatic organisms.

No toxicity at the limit of solubility

LC50, Oncorhynchus mykiss (rainbow trout), flow-through, 96 Hour, > 0.022 mg/l

No toxicity at the limit of solubility

LC50, Cyprinodon variegatus (sheepshead minnow), flow-through, 14 d, > 0.0063 mg/l

**Acute toxicity to aquatic invertebrates**

No toxicity at the limit of solubility

EC50, Mysidopsis bahia (opossum shrimp), flow-through test, 96 Hour, > 0.0091 mg/l

No toxicity at the limit of solubility

EC50, Daphnia magna (Water flea), flow-through test, 48 Hour, > 0.015 mg/l

**Acute toxicity to algae/aquatic plants**

No toxicity at the limit of solubility

ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate, > 0.022 mg/l

**Chronic toxicity to fish**

No toxicity at the limit of solubility

NOEC, Oncorhynchus mykiss (rainbow trout), 93 d,  $\geq 0.0044$  mg/l

**Chronic toxicity to aquatic invertebrates**

No toxicity at the limit of solubility

NOEC, Daphnia magna (Water flea), 21 d,  $\geq 0.0079$  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,  $\geq 0.017$  mg/l

No toxicity at the limit of solubility

NOEC, Oncorhynchus mykiss (rainbow trout), 90 d,  $\geq 0.014$  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),  $\geq 76$  mg/kg

**Dodecamethyl cyclohexasiloxane****Acute toxicity to algae/aquatic plants**

Not expected to be acutely toxic to aquatic organisms.

No toxicity at the limit of solubility

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

**Chronic toxicity to aquatic invertebrates**

No toxicity at the limit of solubility

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

**12.2 Persistence and degradability**

**octamethylcyclotetrasiloxane**

**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, 69.3 - 144 Hour, pH 7, Half-life Temperature 24.6 °C, OECD Test Guideline 111

**Decamethylcyclopentasiloxane**

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

10-day Window: Not applicable

**Biodegradation:** 0.14 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 310

**Dodecamethyl cyclohexasiloxane**

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

10-day Window: Fail

**Biodegradation:** 57 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301B

**12.3 Bioaccumulative potential****octamethylcyclotetrasiloxane**

**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

**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.

**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

**12.4 Mobility in soil****octamethylcyclotetrasiloxane**

Expected to be relatively immobile in soil (Koc > 5000).

**Decamethylcyclopentasiloxane**

Expected to be relatively immobile in soil (Koc > 5000).

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

**Dodecamethyl cyclohexasiloxane**

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

**12.5 Results of PBT and vPvB assessment****octamethylcyclotetrasiloxane**

Octamethylcyclotetrasiloxane (D4) meets the current REACH Annex XIII criteria for PBT and vPvB. In Canada, D4 has been assessed and deemed to meet the PiT 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.

**Decamethylcyclopentasiloxane**

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

**Dodecamethyl cyclohexasiloxane**

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

**12.6 Other adverse effects****octamethylcyclotetrasiloxane**

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

**Decamethylcyclopentasiloxane**

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

**Dodecamethyl cyclohexasiloxane**

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

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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 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.

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## SECTION 14: TRANSPORT INFORMATION

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

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

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

- |                                                                                           |                                                             |
|-------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| 14.1 UN number                                                                            | Not applicable                                              |
| 14.2 UN proper shipping name                                                              | Not regulated for transport                                 |
| 14.3 Transport hazard class(es)                                                           | Not applicable                                              |
| 14.4 Packing group                                                                        | Not applicable                                              |
| 14.5 Environmental hazards                                                                | Not considered as marine pollutant based on available data. |
| 14.6 Special precautions for user                                                         | No data available.                                          |
| 14.7 Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code | Consult IMO regulations before transporting ocean bulk      |

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

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

**Further information:**

VENTED PACKAGES ARE FORBIDDEN FOR AIR TRANSPORT.

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****REACH Regulation (EC) No 1907/2006**

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

**Restrictions on the manufacture, placing on the market and use:**

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

|                   |                                    |
|-------------------|------------------------------------|
| CAS-No.: 556-67-2 | Name: octamethylcyclotetrasiloxane |
|-------------------|------------------------------------|

Restriction status: listed in REACH Annex XVII

Restricted uses: See Commission Regulation (EU) No 2018/35 for Conditions of restriction  
Number on the list: 70

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

Restriction status: listed in REACH Annex XVII

Restricted uses: See Commission Regulation (EU) No 2018/35 for Conditions of restriction  
Number on the list: 70

**Authorisation status under REACH:**

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

|                   |                                    |
|-------------------|------------------------------------|
| CAS-No.: 556-67-2 | Name: octamethylcyclotetrasiloxane |
|-------------------|------------------------------------|

Authorisation status: listed in the Candidate List of Substances of Very High Concern for Authorisation

Authorisation number: Not available

Sunset date: Not available

Exempted (Categories of) Uses: Not available

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

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

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

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

**Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.**

Listed in Regulation: Not applicable

**15.2 Chemical safety assessment**

Not applicable

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## SECTION 16: OTHER INFORMATION

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

|       |                                                         |
|-------|---------------------------------------------------------|
| H226  | Flammable liquid and vapour.                            |
| H361f | Suspected of damaging fertility.                        |
| H413  | May cause long lasting harmful effects to aquatic life. |

**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: 4059675 / A279 / Issue Date: 16.11.2018 / Version: 3.0

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

**Legend**

|                 |                                                     |
|-----------------|-----------------------------------------------------|
| TWA             | 8-hr TWA                                            |
| US WEEL         | USA. Workplace Environmental Exposure Levels (WEEL) |
| Aquatic Chronic | Long-term (chronic) aquatic hazard                  |
| Flam. Liq.      | Flammable liquids                                   |
| Repr.           | Reproductive toxicity                               |

**Full text of other abbreviations**

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS -



Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

#### Information Source and References

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

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

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