



# SAFETY DATA SHEET

DOW CHEMICAL COMPANY LIMITED

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

**Product name:** SYLGARD™ 170 Fast Cure Silicone Elastomer  
Part A

**Revision Date:** 02.06.2020

**Version:** 4.0

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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:** SYLGARD™ 170 Fast Cure Silicone Elastomer Part A

### 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:**

+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:**

Long-term (chronic) aquatic hazard - Category 3 - H412

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

### 2.2 Label elements

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

#### Hazard statements

H412 Harmful to aquatic life with long lasting effects.

#### Precautionary statements

P273 Avoid release to the environment.

P501 Dispose of contents/ container to an approved waste disposal plant.

#### 2.3 Other hazards

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

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Silicone

### 3.2 Mixtures

This product is a mixture.

CASRN / EC-No. / Index-No.	REACH Registration Number	Concentration	Component	Classification: REGULATION (EC) No 1272/2008
CASRN 14808-60-7 EC-No. 238-878-4 Index-No. —	—	>= 40.0 - <= 51.0 %	Quartz	STOT RE - 1 - H372
CASRN 1314-13-2 EC-No. 215-222-5 Index-No. 030-013-00-7	01-2119463881-32	>= 0.62 - <= 1.15 %	zinc oxide	Aquatic Acute - 1 - H400 Aquatic Chronic - 1 - H410

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

## SECTION 4: FIRST AID MEASURES

### 4.1 Description of first aid measures

#### General advice:

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:** Move person to fresh air and keep comfortable for breathing; consult a physician.

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

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

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

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

Treat symptomatically and supportively.

**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. Skin contact may aggravate preexisting dermatitis.

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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>). Dry chemical.

**Unsuitable extinguishing media:** None known..

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

**Hazardous combustion products:** Silicon oxides. Carbon oxides. Oxides of zinc..

**Unusual Fire and Explosion Hazards:** Exposure to combustion products may be a hazard to health..

### 5.3 Advice for firefighters

**Fire Fighting Procedures:** Use water spray to cool unopened containers.. Evacuate area.. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage..

Use 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:** Wear self-contained breathing apparatus for firefighting if necessary.. 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:** Follow safe handling advice and personal protective equipment recommendations.

**6.2 Environmental precautions:** Do not release the product to the aquatic environment above defined regulatory levels. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

**6.3 Methods and materials for containment and cleaning up:** 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, 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:** 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 accordance with the particular national regulations.

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

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.

### 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.

**Hygiene measures:** Ensure that eye flushing systems and safety showers are located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

### 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:** 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).

**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	viscous liquid
Color	black
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)	> 35 °C
Flash point	<b>closed cup</b> >101.1 °C
Evaporation Rate (Butyl Acetate = 1)	No data available
Flammability (solid, gas)	Not applicable
Flammability (liquids)	Ignitable (see flash point)
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)	1.33
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	5000 mm <sup>2</sup> /s 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. 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.

**10.4 Conditions to avoid:** None known.

**10.5 Incompatible materials:** Oxidizing agents

**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 is 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 oral toxicity**

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

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

Based on information for component(s):

LD50, > 5,000 mg/kg Estimated.

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

##### **Quartz**

Single dose oral LD50 has not been determined.

##### **zinc oxide**

LD50, Rat, > 5,000 mg/kg

#### **Acute dermal toxicity**

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

As product: The dermal LD50 has not been determined.

Based on information for component(s):

LD50, > 2,000 mg/kg Estimated.

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

##### **Quartz**

The dermal LD50 has not been determined.

##### **zinc oxide**

The dermal LD50 has not been determined.

#### **Acute inhalation toxicity**

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

As product: The LC50 has not been determined.

**Information for components:**

**Quartz**

The LC50 has not been determined.

**zinc oxide**

LC50, Rat, 4 Hour, dust/mist, > 5 mg/l No deaths occurred at this concentration.

**Skin corrosion/irritation**

Based on information for component(s):

Brief contact is essentially nonirritating to skin.

May cause drying and flaking of the skin.

**Information for components:**

**Quartz**

May cause skin irritation due to mechanical abrasion.

May cause drying and flaking of the skin.

**zinc oxide**

Prolonged contact is essentially nonirritating to skin.

**Serious eye damage/eye irritation**

Based on information for component(s):

May cause slight temporary eye irritation.

**Information for components:**

**Quartz**

Solid or dust may cause irritation or corneal injury due to mechanical action.

**zinc oxide**

May cause slight temporary eye irritation.

Corneal injury is unlikely.

**Sensitization**

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:**

**Quartz**

For skin sensitization:

No relevant data found.

For respiratory sensitization:

No relevant data found.

**zinc oxide**

For skin sensitization:



No relevant data found.

For respiratory sensitization:  
No relevant data found.

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

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

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

##### **Quartz**

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

##### **zinc oxide**

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

#### **Aspiration Hazard**

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

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

##### **Quartz**

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

##### **zinc oxide**

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)**

Contains a component(s) that is/are not expected to be bioavailable due to the physical state of the material under normal handling and processing conditions.

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

##### **Quartz**

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

Kidney.

Repeated excessive exposure to crystalline silica may cause silicosis, a progressive and disabling disease of the lungs.

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

##### **zinc oxide**

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

Respiratory tract.

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.

#### **Carcinogenicity**

Contains a component(s) that is/are not expected to be bioavailable due to the physical state of the material under normal handling and processing conditions.

**Information for components:**

**Quartz**

Has caused cancer in humans. Has caused cancer in laboratory animals. Due to the physical state of the material, this component is not expected to be bioavailable under normal handling and processing conditions.

**zinc oxide**

Available data are inadequate to evaluate carcinogenicity.

**Teratogenicity**

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

**Information for components:**

**Quartz**

For similar material(s): Did not cause birth defects or any other fetal effects in laboratory animals.

**zinc oxide**

No relevant data found.

**Reproductive toxicity**

No relevant data found.

**Information for components:**

**Quartz**

No relevant data found.

**zinc oxide**

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

**Mutagenicity**

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

**Information for components:**

**Quartz**

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

**zinc oxide**

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

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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

### Quartz

#### **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).

### zinc oxide

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

Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).

LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 Hour, 0.14 - 1.1 mg/l

LC50, Danio rerio (zebra fish), 96 Hour, 1 - 10 mg/l

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

EC50, Daphnia magna (Water flea), 48 Hour, 1 - 10 mg/l

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

IC50, Selenastrum capricornutum (green algae), 72 Hour, Growth rate, 0.136 mg/l

#### **Toxicity to bacteria**

Based on data from similar materials

EC50, 3 Hour, 5.2 mg/l, OECD Test Guideline 209

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

NOEC, Danio rerio (zebra fish), 32 d, mortality,  $\geq 0.540$  mg/l

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

NOEC, Daphnia magna (Water flea), 21 d, number of offspring, 0.04 mg/l

## 12.2 Persistence and degradability

### Quartz

**Biodegradability:** Biodegradation is not applicable.

### zinc oxide

**Biodegradability:** Biodegradability is not applicable to inorganic substances.

## 12.3 Bioaccumulative potential

### Quartz

**Bioaccumulation:** Partitioning from water to n-octanol is not applicable.

### zinc oxide

**Bioaccumulation:** Partitioning from water to n-octanol is not applicable.

## 12.4 Mobility in soil

### Quartz

No relevant data found.

**zinc oxide**

No relevant data found.

**12.5 Results of PBT and vPvB assessment**

**Quartz**

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

**zinc oxide**

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

**12.6 Other adverse effects**

**Quartz**

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

**zinc oxide**

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):**

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

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

- |                                     |                             |
|-------------------------------------|-----------------------------|
| <b>14.1 UN number</b>               | Not applicable              |
| <b>14.2 UN proper shipping name</b> | 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.

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 registered, are exempt from registration, are regarded as registered or are not subject to registration according to Regulation (EC) No. 1907/2006 (REACH). The aforementioned indications of the REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. It is the buyer's/user's responsibility to ensure that his/her understanding of the regulatory status of this product is correct.

#### REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)

Conditions of restriction for the following entries should be considered:  
Number on list 3

#### 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

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.

H372	Causes damage to organs through prolonged or repeated exposure if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

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

Aquatic Chronic - 3 - H412 - Calculation method

### Revision

Identification Number: 4025224 / A279 / Issue Date: 02.06.2020 / Version: 4.0

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

### Legend

Aquatic Acute	Short-term (acute) aquatic hazard
Aquatic Chronic	Long-term (chronic) aquatic hazard
STOT RE	Specific target organ toxicity - repeated exposure

### Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; 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.

GB