

## 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: SYLGARD<sup>™</sup> Q3-3600 Thermally Conductive Encapsulant Part A

Revision Date: 24.03.2023 Version: 7.0 Date of last issue: 07.12.2022 Print Date: 29.02.2024

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<sup>™</sup> Q3-3600 Thermally Conductive Encapsulant Part A

**1.2 Relevant identified uses of the substance or mixture and uses advised against Identified uses:** Adhesive, binding agents

### **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:** 

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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 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 /<br>EC-No. /<br>Index-No. | UK REACH<br>Registration<br>Number | Concentration | Component | Classification:<br>REGULATION (EC) No<br>1272/2008, as retained<br>and amended in UK law |
|----------------------------------|------------------------------------|---------------|-----------|--|
|----------------------------------|------------------------------------|---------------|-----------|--|

Substances with a workplace exposure limit

| CASRN         | _ | >= 67.0 - <= 78.0 % | Methyltrimethoxysil | Not classified             |
|---------------|---|---------------------|---------------------|----------------------------|
| Not available |   |                     | ane treated         |                            |
| EC-No.        |   |                     | aluminum oxide      |                            |
| Not available |   |                     |                     | Acute toxicity estimate    |
| Index-No.     |   |                     |                     | Acute oral toxicity:       |
| _             |   |                     |                     | > 5,000 mg/kg              |
|               |   |                     |                     | Acute inhalation toxicity: |
|               |   |                     |                     | > 2.3 mg/l, dust/mist      |

## **SECTION 4: FIRST AID MEASURES**

### 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 thoroughly 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.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1 Extinguishing media

**Suitable extinguishing media:** Alcohol-resistant foam. Carbon dioxide (CO2). Dry chemical. Water spray.

Unsuitable extinguishing media: None known...

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

**Hazardous combustion products:** Silicon oxides. Metal oxides. Formaldehyde. Carbon oxides.

**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.. 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. 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..

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

**6.1 Personal precautions, protective equipment and emergency procedures:** 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 absorbant. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. For

large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.

### 6.4 Reference to other sections:

See sections: 7, 8, 11, 12 and 13.

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

**7.1 Precautions for safe handling:** 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.

## 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               |
|------------------------|---|---------------------|---------------------|
| Methyltrimethoxysilane | ACGIH   | TWA Respirable      | 1 mg/m3 , Aluminium |
| treated aluminum oxide |   | particulate matter  |                     |
|                        | Further information: A4: Not classifiable as a human carcinogen |                     |                     |
|                        | GB EH40   | TWA inhalable dust  | 10 mg/m3            |
|                        | GB EH40   | TWA Respirable dust | 4 mg/m3             |

### **Recommended monitoring procedures**

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with the Occupational Exposure Limits and the adequacy of exposure controls. For some substances biological monitoring may also be appropriate. Validated exposure measurement methods should be applied by a competent person and samples should be analysed by an accredited laboratory.

Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy); European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents); European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents). Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods.

Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods. Health and Safety Executive (HSE), United Kingdom: Methods for the Determination of Hazardous Substances.

Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany. L'Institut National de Recherche et de Securité, (INRS), France.

### 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).

## **SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

## 9.1 Information on basic physical and chemical properties Appearance

| Appearance                                 |  |
|--|--|
| Physical state                             | viscous liquid   |
| Color                                      | white  |
| Odor                                       | slight   |
| Odor Threshold                             | No data available  |
| рН   | No data available  |
| Melting point/range                        | No data available  |
| Freezing point                             | No data available  |
| Boiling point (760 mmHg)                   | > 100 °C   |
| Flash point                                | closed cup >100 °C                                       |
| Evaporation Rate (Butyl Acetate = 1)       | No data available  |
| Flammability (solid, gas)                  | Not applicable   |
| Flammability (liquids)                     | 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)               | 2.1  |
| Water solubility                           | No data available  |
| Partition coefficient: n-<br>octanol/water | No data available  |
| Auto-ignition temperature                  | No data available  |
| Decomposition temperature                  | No data available  |
| Kinematic Viscosity                        | 4500 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.

## **SECTION 10: STABILITY AND REACTIVITY**

**10.1 Reactivity:** Not classified as a reactivity hazard.

**10.2 Chemical stability:** Stable under normal conditions.

**10.3 Possibility of hazardous reactions:** Can react with strong oxidizing agents. 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:** Avoid contact with oxidizing materials.

### 10.6 Hazardous decomposition products:

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

## SECTION 11: TOXICOLOGICAL INFORMATION

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. Signs and symptoms of excessive exposure may include: Gastrointestinal irritation.

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

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

### Information for components:

<u>Methyltrimethoxysilane treated aluminum oxide</u> LD50, Rat, > 5,000 mg/kg OECD Test Guideline 401

### 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, Rabbit, > 2,000 mg/kg Estimated.

### Information for components:

### Methyltrimethoxysilane treated aluminum oxide

The dermal LD50 has not been determined.

### Acute inhalation toxicity

### Information for the Product:

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:

### Methyltrimethoxysilane treated aluminum oxide

For similar material(s): LC50, Rat, male and female, dust/mist, > 2.3 mg/l No deaths occurred at this concentration.

### Skin corrosion/irritation

### Information for the Product:

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

### Information for components:

Methyltrimethoxysilane treated aluminum oxide Brief contact is essentially nonirritating to skin. Mechanical injury only.

### 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:

### Methyltrimethoxysilane treated aluminum oxide

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

### 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:

<u>Methyltrimethoxysilane treated aluminum oxide</u> Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization: No relevant data found.

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

### Information for the Product:

Product test data not available.

### Information for components:

### <u>Methyltrimethoxysilane treated aluminum oxide</u> 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:

<u>Methyltrimethoxysilane treated aluminum oxide</u> 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:

### Methyltrimethoxysilane treated aluminum oxide

Repeated excessive exposures to alumina (aluminium oxide) dust or fumes may cause respiratory effects.

Exposure to alumina alone has not been shown to cause chronic lung disease. Some forms of alumina, when injected directly into the lungs of animals, caused fibrosis, but this is an abnormal route of exposure.

### Carcinogenicity

### Information for the Product:

Product test data not available.

### Information for components:

### Methyltrimethoxysilane treated aluminum oxide

Although certain forms of alumina have been reported to induce tumors when injected directly into the lungs of laboratory animals, there is no evidence that alumina is carcinogenic under normal routes of exposure.

### Teratogenicity

### Information for the Product:

Product test data not available.

### Information for components:

### Methyltrimethoxysilane treated aluminum oxide

High doses of aluminium and aluminium salts given to laboratory animals during pregnancy have caused developmental toxicity in thefetus at doses mildly toxic to the mother. The relevance of these data to alumina is unknown.

### **Reproductive toxicity**

### Information for the Product:

Product test data not available.

### Information for components:

## Methyltrimethoxysilane treated aluminum oxide

No relevant data found.

### Mutagenicity

### Information for the Product:

Product test data not available.

### Information for components:

### Methyltrimethoxysilane treated aluminum oxide

For similar material(s): In vitro genetic toxicity studies were predominantly negative. Animal genetic toxicity studies were predominantly negative.

## **SECTION 12: ECOLOGICAL INFORMATION**

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

### 12.1 Toxicity

### Methyltrimethoxysilane treated aluminum oxide

### 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). EC50, Fish, 96 Hour, > 100 mg/l, OECD Test Guideline 203 or Equivalent

### Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants ErC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate inhibition, > 100 mg/l, OECD Test Guideline 201 or Equivalent

### 12.2 Persistence and degradability

### Methyltrimethoxysilane treated aluminum oxide Biodegradability: Biodegradation is not applicable.

### 12.3 Bioaccumulative potential

### Methyltrimethoxysilane treated aluminum oxide

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

### 12.4 Mobility in soil

### Methyltrimethoxysilane treated aluminum oxide

No relevant data found.

### 12.5 Results of PBT and vPvB assessment

### Methyltrimethoxysilane treated aluminum oxide

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

### 12.6 Other adverse effects

### Methyltrimethoxysilane treated aluminum oxide

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

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

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

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

## SECTION 14: TRANSPORT INFORMATION

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

- **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 groupNot 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 Consult IMO regulations before transporting ocean bulk instruments

### 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 groupNot 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.

## **SECTION 15: REGULATORY INFORMATION**

# 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)., 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.

### 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.

### SECTION 16: OTHER INFORMATION

## 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: 4060338 / A279 / Issue Date: 24.03.2023 / Version: 7.0 Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

| ======= |  |
|---------|--|
| ACGIH   | USA. ACGIH Threshold Limit Values (TLV)  |
| GB EH40 | UK. EH40 WEL - Workplace Exposure Limits |
| TWA     | 8-hour, time-weighted average            |

### Full text of other abbreviations

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways: ADR - Agreement concerning the International Carriage of Dangerous Goods by Road: AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS -Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO -International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO -International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 -Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL -No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR -(Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI -Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA -Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very **Bioaccumulative** 

### Information Source and References

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

DOW CHEMICAL 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.