

## **SAFETY DATA SHEET**

### **DOW CHEMICAL COMPANY LIMITED**

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

Product name: SILASTIC™ RTV-4136-M Base Revision Date: 04.09.2018

Version: 2.0

Date of last issue: 07.02.2018

Print Date: 05.09.2018

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: SILASTIC™ RTV-4136-M Base

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

Identified uses: Polymer

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:

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.

Version: 2.0

## Supplemental information

EUH210 Safety data sheet available on request.

#### 2.3 Other hazards

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: Liquid Silicone Rubber

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 |
|---|---------------------------------|---------------------|--------------------------------|--|
|   |                                 |                     |                                |  |
| CASRN<br>14808-60-7<br>EC-No.<br>238-878-4<br>Index-No. | _                               | >= 29.0 - <= 43.0 % | Quartz                         | STOT RE - 1 - H372                                 |
| PBT and vPvB  | substance                       |                     |                                |  |
| CASRN<br>540-97-6<br>EC-No.<br>208-762-8<br>Index-No.   | _                               | >= 0.36 - <= 0.48 % | Dodecamethyl cyclohexasiloxane | Not classified                                     |

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; if effects occur, consult a physician.

**Skin contact:** Wash off with plenty of water. Suitable emergency safety shower facility should be immediately available.

**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:** If burn is present, treat as any thermal burn, after decontamination. 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: Water spray Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical

Unsuitable extinguishing media: None known.

## **5.2 Special hazards arising from the substance or mixture Hazardous combustion products:** Silicon oxides 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 extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

**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.

Page 3 of 13

**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, Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

#### 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.

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.

#### **Derived No Effect Level**

Dodecamethyl cyclohexasiloxane

#### **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.                   | n.a.       | n.a.                | 6.1 mg/m3  | n.a.                       | 11 mg/m3   | n.a.                    | 1.22 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 |

Version: 2.0

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

#### **Predicted No Effect Concentration**

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 quidelines. If there are no applicable exposure limit requirements or quidelines, 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. When handling hot material: Use chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent. Wear a faceshield which allows use of chemical goggles, or wear a full-face respirator (meeting standard EN 136), to protect face and eyes when there is any likelihood of splashes.

## 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. Use gloves with insulation for thermal protection (EN 407), when needed. 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 multilaver 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. When handling hot material, protect skin from thermal burns. Selection of specific items will depend on the operation.

**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. Use an approved air-purifying respirator when vapors are generated at increased temperatures or when dust or mist is present.

Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2 (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.

#### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

## 9.1 Information on basic physical and chemical properties

**Appearance** 

Physical state viscous liquid

ColorbeigeOdorOdorless

Odor ThresholdNo data availablepHNo data availableMelting point/rangeNo data availableFreezing pointNo data available

Boiling point (760 mmHg) > 35 °C

Flash point closed cup >100.0 °C

**Evaporation Rate (Butyl Acetate** 

= 1)

Flammability (solid, gas)

Lower explosion limit

Upper explosion limit

Vapor Pressure

Relative Vapor Density (air = 1)

Not applicable

No data available

No data available

No data available

Relative Density (water = 1) 1.29

Water solubility No data available Partition coefficient: n- No data available

octanol/water

Auto-ignition temperatureNo data availableDecomposition temperatureNo data available

Kinematic Viscosity 130000 mm2/s at 25 °C

**Explosive properties** Not explosive

Oxidizing properties The substance or mixture is not classified as oxidizing.

No data available

Version: 2.0

9.2 Other information

No data available Molecular weight 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: Oxidizing agents

**10.6 Hazardous decomposition products:** Formaldehyde.

#### SECTION 11: TOXICOLOGICAL INFORMATION

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): Estimated.

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): Estimated.

LD50, Rabbit, > 2,000 mg/kg

#### **Acute inhalation toxicity**

At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous. Vapors/fumes released during thermal processing may cause respiratory irritation.

As product: The LC50 has not been determined.

Page 7 of 13

Version: 2.0

#### Skin corrosion/irritation

Brief contact is essentially nonirritating to skin.

Material may be handled at elevated temperatures; contact with heated material may cause thermal burns.

## Serious eye damage/eye irritation

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.

### **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.

Contains an additional component(s) that is/are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency.

#### Carcinogenicity

Contains a component(s) that is/are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency

## **Teratogenicity**

No relevant data found.

#### Reproductive toxicity

No relevant data found.

#### Mutagenicity

Contains a component(s) which were negative in in vitro genetic toxicity studies.

Contains an additional component(s) that is/are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency.

## **Aspiration Hazard**

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

#### COMPONENTS INFLUENCING TOXICOLOGY:

#### Quartz

### Acute inhalation toxicity

The LC50 has not been determined.

#### Dodecamethyl cyclohexasiloxane

#### Acute inhalation toxicity

The LC50 has not been determined.

## **SECTION 12: ECOLOGICAL INFORMATION**

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).

#### 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

#### Quartz

Biodegradability: Biodegradation is not applicable.

## 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

### Quartz

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

#### 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

Page 9 of 13

#### 12.4 Mobility in soil

#### Quartz

No relevant data found.

#### Dodecamethyl cyclohexasiloxane

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

#### 12.5 Results of PBT and vPvB assessment

## Quartz

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

#### 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

#### Quartz

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.

#### **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** Not applicable

**14.2 UN proper shipping name** Not regulated for transport

14.3 Transport hazard class(es) Not applicable

Page 10 of 13

**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 applicable14.4 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.

#### **SECTION 15: REGULATORY INFORMATION**

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

#### REACh Regulation (EC) No 1907/2006

This product contains only components that have been either 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

Page 11 of 13

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.

#### 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.: 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

#### **Further information**

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

## 15.2 Chemical safety assessment

Not applicable

## **SECTION 16: OTHER INFORMATION**

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

H372

Causes damage to organs through prolonged or repeated exposure if inhaled.

## 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: 6023820 / A279 / Issue Date: 04.09.2018 / Version: 2.0 Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

## Legend

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);

Page 12 of 13

**Revision Date: 04.09.2018** Version: 2.0

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 manufacturerspecific (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

Page 13 of 13