

## SAFETY DATA SHEET

DOW EUROPE GMBH

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

Product name: DOW CORNING<sup>™</sup> Siloxane Semiconductor Grade Rinse Solvent

Revision Date: 25.06.2018 Version: 1.0 Date of last issue: -Print Date: 01.07.2018

DOW EUROPE GMBH 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:** DOW CORNING<sup>™</sup> Siloxane Semiconductor Grade Rinse Solvent

Chemical name of the substance: Hexamethyldisiloxane CASRN: 107-46-0 EC-No.: 203-492-7 REACH Registration Number: 01-2119496108-31 01-2119496108-31

01-2119496108-31-0000 01-2119496108-31-0003 01-2119496108-31-0004 01-2119496108-31-0006 01-2119496108-31

**1.2 Relevant identified uses of the substance or mixture and uses advised against Identified uses:** Intermediate

1.3 Details of the supplier of the safety data sheet COMPANY IDENTIFICATION DOW EUROPE GMBH BACHTOBELSTRASSE 3 8810 HORGEN SWITZERLAND

**Customer Information Number:** 

31 115 67 2626 SDSQuestion@dow.com

**1.4 EMERGENCY TELEPHONE NUMBER 24-Hour Emergency Contact:** 00 41 447 28 2820 **Local Emergency Contact:** 0049 4141 3679

## **SECTION 2: HAZARDS IDENTIFICATION**

2.1 Classification of the substance or mixture

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

Flammable liquids - Category 2 - H225 Acute aquatic toxicity - Category 1 - H400 Chronic aquatic toxicity - Category 2 - H411 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 pictograms



#### Signal word: DANGER

#### Hazard statements

H225	Highly flammable liquid and vapour.
H410	Very toxic to aquatic life with long lasting effects.

#### **Precautionary statements**

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
	No smoking.
P233	Keep container tightly closed.
P273	Avoid release to the environment.
P303 + P361	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with
+ P353	water.
P370 + P378	In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide
	to extinguish.
P391	Collect spillage.

#### 2.3 Other hazards

Static-accumulating flammable liquid.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

This product is a substance.

CASRN / EC-No. /	REACH Registration	Concentration	Component	Classification: REGULATION (EC) No
Index-No.	Number			1272/2008

CASRN	01-2119496108-31	>= 99,0 - <= 100,0	Hexamethyldisiloxa	Flam. Liq 2 - H225
107-46-0		%	ne	Aquatic Acute - 1 - H400
EC-No.				Aquatic Chronic - 2 - H411
203-492-7				
Index-No.				
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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.

**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:** Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.

#### 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:** May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids may be of help. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Because rapid absorption may occur through the lungs if aspirated and cause systemic effects, the decision of whether to induce vomiting or not should be made by a physician. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Repeated excessive exposure may aggravate preexisting lung disease.

## **SECTION 5: FIREFIGHTING MEASURES**

#### 5.1 Extinguishing media

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

Unsuitable extinguishing media: High volume water jet Do not use direct water stream.

#### **5.2 Special hazards arising from the substance or mixture Hazardous combustion products:** Carbon oxides Silicon oxides

**Unusual Fire and Explosion Hazards:** Flash back possible over considerable distance. Exposure to combustion products may be a hazard to health. Vapours may form explosive mixtures with air.

#### 5.3 Advice for firefighters

**Fire Fighting Procedures:** 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 water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Do not use a solid water stream as it may scatter and spread fire.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

**Special protective equipment for firefighters:** In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions, protective equipment and emergency procedures:** Remove all sources of ignition. Ventilate the area. Use personal protective equipment. 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:** Non-sparking tools should be used. Soak up with inert absorbent material. Suppress (knock down) gases/vapours/mists with a water spray jet. Clean up remaining materials from spill with suitable absorbant. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, 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:** Avoid inhalation of vapour or mist. Do not swallow. Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Keep container tightly closed. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Take care to prevent spills, waste and minimize release to the environment. Non-sparking tools should be used. Handle in accordance with good industrial hygiene and safety practice. Use with local exhaust ventilation. Use only in an area equipped with explosion proof exhaust ventilation. Ensure all equipment is electrically grounded before beginning transfer operations. This material can accumulate static charge due to its inherent physical properties and can therefore cause an electrical ignition source to vapors. In order to prevent a fire hazard, as bonding and grounding may be insufficient to remove static electricity, it isnecessary to provide an inert gas purge before beginning transfer operations. Restrict flow velocity in order to reduce the accumulation of static electricity. Ground and bond container and receiving equipment.

**7.2 Conditions for safe storage, including any incompatibilities:** Keep in properly labelled containers. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.

Do not store with the following product types: Strong oxidizing agents. Organic peroxides. Flammable solids. Pyrophoric liquids. Pyrophoric solids. Self-heating substances and mixtures. Substances and mixtures, which in contact with water, emit flammable gases. Explosives. Gases. Unsuitable materials for containers: None known.

#### Storage class according to TRGS 510: Flammable liquids

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

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### 8.1 Control parameters

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

Component	Regulation	Type of listing	Value/Notation
Hexamethyldisiloxane	Dow IHG	TWA	50 ppm

#### Derived No Effect Level

Hexamethyldisiloxane

#### Workers

Acute syste	emic effects	Acute local effects		fects Acute local effects Long-term systemic effects			Long-term local effects	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	
333 mg/kg	53,4	n.a.	n.a.	333 mg/kg	53,4	n.a.	n.a.	
bw/day	mg/m3			bw/day	mg/m3			

#### Consumers

Acute	e systemic e	effects	Acute local effects		Long-term systemic effects			Long-term local effects	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation

167	13,3	0,27	n.a.	n.a.	167	13,3	0,27	n.a.	n.a.
mg/kg	mg/m3	mg/kg			mg/kg	mg/m3	mg/kg		
bw/day		bw/day			bw/day		bw/day		

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

Hexamethyldisiloxane

Compartment	PNEC
Fresh water	0,002 mg/l
Marine water	0,0002 mg/l
Fresh water sediment	0,37 mg/kg
Marine sediment	0,037 mg/kg
Soil	0,073 mg/kg
Sewage treatment plant	>= 10 mg/l

#### 8.2 Exposure controls

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

#### Individual protection measures

**Eye/face protection:** Use safety glasses (with side shields). Safety glasses (with side shields) should be consistent with EN 166 or equivalent. If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent. If exposure causes eye discomfort, use a full-face respirator.

#### Skin protection

Hand protection: 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 4 or higher (breakthrough time greater than 120 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 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:** Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

**Respiratory protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2.

#### 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

Appearance	
Physical state	liquid
Color	colourless
Odor	slight
Odor Threshold	No data available
рН	No data available
Melting point/range	-67,99 °C
Freezing point	No data available
Boiling point (760 mmHg)	100 °C
Flash point	Pensky-Martens closed cup -2,99 °C
Evaporation Rate (Butyl Acetate	No data available
= 1)	
Flammability (solid, gas)	Not applicable
Lower explosion limit	1,25 % vol
Upper explosion limit	18,6 % vol
Vapor Pressure	56,247958 hPa
Relative Vapor Density (air = 1)	1,25
Relative Density (water = 1)	0,76
Water solubility	No data available
Partition coefficient: n-	log Pow: 4,20 Measured
octanol/water	
Auto-ignition temperature	341 °C
Decomposition temperature	No data available
Kinematic Viscosity	0,65 cSt
Explosive properties	Not explosive

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

9.2 Other informationMolecular weightNo data available

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. Vapours may form explosive mixture with air. Highly flammable liquid and vapour.

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

**10.5 Incompatible materials:** Oxidizing agents

#### **10.6 Hazardous decomposition products**

No hazardous decomposition products are known.

## 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.

LD50, Rat, > 5 000 mg/kg

#### Acute dermal toxicity

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

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

#### Acute inhalation toxicity

No adverse effects are anticipated from single exposure to vapor. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. Vapor concentrations of volatile silicones are likely to become uncomfortable to humans before they result in toxicologically significant effects.

LC50, Rat, male and female, 4 Hour, vapour, 106 mg/l OECD Test Guideline 403

#### Skin corrosion/irritation

Brief contact is essentially nonirritating to skin. Prolonged contact may cause skin irritation with local redness. May cause more severe response on covered skin (under clothing, gloves).

#### Serious eye damage/eye irritation

May cause slight temporary eye irritation. Corneal injury is unlikely. Vapor or mist may cause eye irritation.

#### Sensitization

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

For respiratory sensitization: No relevant data found.

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

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

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

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

Liver.

Testes.

Kidney.

However, the effects are species specific and are not relevant to humans.

This material contains hexamethyldisiloxane (HMDS). Repeated inhalation exposure in rats to HMDS resulted in protoporphyrin accumulation in the liver. Without knowledge of the specific mechanism leading to the protoporphyrin accumulation the relevance of this finding to humans is unknown.

#### Carcinogenicity

Kidney effects and/or tumors have been observed in male rats. These effects are believed to be species specific and unlikely to occur in humans. Early onset of testicular cell tumors has been observed that are spontaneous and common in rats. These effects are believed to be species specific and unlikely to occur in humans.

#### Teratogenicity

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

#### **Reproductive toxicity**

In animal studies, did not interfere with reproduction.

#### Mutagenicity

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

#### Aspiration Hazard

May be harmful if swallowed and enters airways.

## **SECTION 12: ECOLOGICAL INFORMATION**

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

#### 12.1 Toxicity

#### 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), flow-through test, 96 Hour, 0,46 mg/l

#### Acute toxicity to algae/aquatic plants

ErC50, Selenastrum capricornutum (green algae), 72 Hour, Growth rate, > 0,55 mg/l, OECD Test Guideline 201

Chronic aquatic toxicity Chronic toxicity to aquatic invertebrates NOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 0,1 mg/l

#### 12.2 Persistence and degradability

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
10-day Window: Not applicable
Biodegradation: 2 %
Exposure time: 28 d
Method: OECD Test Guideline 301C

**Stability in Water (1/2-life)** Hydrolyses on contact with water.

#### 12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water(log Pow): 4,20 Measured Bioconcentration factor (BCF): 1 300 Fish Measured

#### **Hexamethyldisiloxane**

**Bioaccumulation:** Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5). Reacts with water. **Partition coefficient: n-octanol/water(log Pow):** 4,20 Measured **Bioconcentration factor (BCF):** 1 300 Fish Measured

#### 12.4 Mobility in soil

Potential for mobility in soil is medium (Koc between 150 and 500). **Partition coefficient (Koc):** 390 - 4600 Estimated.

#### 12.5 Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

#### 12.6 Other adverse effects

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	UN 1993
14.2	UN proper shipping name	FLAMMABLE LIQUID, N.O.S.(Hexamethyldisiloxane)
14.3	Transport hazard class(es)	3
14.4	Packing group	II
14.5	Environmental hazards	Hexamethyldisiloxane
14.6	Special precautions for user	Special Provision 640D Hazard Identification Number: 33
Class	sification for SEA transport (IM	O-IMDG):
14.1	UN number	UN 1993
14.2	UN proper shipping name	FLAMMABLE LIQUID, N.O.S.(Hexamethyldisiloxane)
14.3	Transport hazard class(es)	3

14.4	Packing group	II
14.5	Environmental hazards	Hexamethyldisiloxane

- 14.6 Special precautions for user EmS: F-E, S-E
- 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	UN 1993
14.2	UN proper shipping name	Flammable liquid, n.o.s.(Hexamethyldisiloxane)
14.3	Transport hazard class(es)	3
14.4	Packing group	II
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, are exempt from registration 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.

## 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: FLAMMABLE LIQUIDS Number in Regulation: P5c 5 000 t 50 000 t Listed in Regulation: ENVIRONMENTAL HAZARDS Number in Regulation: E1 100 t 200 t

### Wassergefährdungsklasse (Deutschland)

WGK 2: significantly water endangering

#### 15.2 Chemical safety assessment

Not applicable

## **SECTION 16: OTHER INFORMATION**

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

H225	Highly flammable liquid and vapour.
H400	Very toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

#### Revision

Identification Number: 4071032 / A305 / Issue Date: 25.06.2018 / Version: 1.0 Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

#### Legend

Dow IHG	Dow Industrial Hygiene Guideline
TWA	Time weighted average
Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
Flam. Liq.	Flammable liquids

#### 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 EUROPE GMBH 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.