



# SAFETY DATA SHEET

DOW CHEMICAL COMPANY LIMITED

Safety Data Sheet according to Reg. (EU) No 453/2010

**Product name:** Propylene Glycol Industrial Grade

**Revision Date:** 18.09.2014

**Version:** 9.2

**Print Date:** 28.07.2016

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.

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## SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

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### 1.1 Product identifiers

**Product name:** Propylene Glycol Industrial Grade

**Chemical name of the substance:** Propanediol

**CASRN:** 57-55-6

**EC-No.:** 200-338-0

**REACH Registration Number:**

01-2119456809-23-0003
01-2119456809-23-0008
01-2119456809-23-0009
01-2119456809-23-0033
01-2119456809-23-0043

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

**Identified uses:** Manufacture of substance, industrial. Distribution of substance, industrial. Formulation & (re)packing of substances and mixtures, industrial. Uses in Coatings, industrial. Uses in Coatings, consumer. Use as binders and release agents: Industrial (SU3) Functional Fluids, industrial. Use in laboratories, industrial. Polymer production: Industrial (SU10) Rubber production and processing, industrial. Water treatment chemicals For industrial use. Mining Chemicals For industrial use. Use in laboratories, professional. Use as binders and release agents, professional. Professional use in cleaning agents. Water treatment chemicals professional use Uses in Coatings, professional. Functional Fluids, professional. De-icing and anti-icing applications, professional. Professional use in agrochemicals. Uses in Coatings, consumer. Use in Cleaning Agents, consumer. Functional Fluids, consumer. Other Consumer Uses Consumer use in agrochemicals. De-icing and anti-icing applications, consumer.

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

#### COMPANY IDENTIFICATION

DOW CHEMICAL COMPANY LIMITED  
DIAMOND HOUSE, LOTUS PARK,  
KINGSBURY CRESCENT,  
STAINES  
England  
TW18 3AG  
UNITED KINGDOM

**Customer Information Number:**

+44 (0) 203 139 4000  
SDSQuestion@dow.com

**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 (EU) 1272/2008 :**

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

**Classification according to EU Directives 67/548/EEC or 1999/45/EC:**

Not a hazardous substance or mixture according to EC-directives 67/548/EEC or 1999/45/EC.

**2.2 Label elements****Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]:**

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

**2.3 Other hazards**

no data available

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS****3.1 Substance**

This product is a substance.

CASRN / EC-No. / Index-No.	REACH Registration Number	Concentration	Component	Classification: REGULATION (EC) No 1272/2008
<b>CASRN</b> 57-55-6 <b>EC-No.</b> 200-338-0 <b>Index-No.</b> —	01-2119456809-23	> 99.5 %	Propylene glycol	Not classified

If present in this product, any not classified components disclosed above for which no country specific OEL value(s) is(are) indicated under Section 8, are being disclosed as voluntarily disclosed components.

CASRN / EC-No. / Index-No.	Concentration	Component	Classification: 67/548/EEC
<b>CASRN</b>	> 99.5 %	Propylene glycol	Not classified

57-55-6 EC-No. 200-338-0 Index-No. —			
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If present in this product, any not classified components disclosed above for which no country specific OEL value(s) is(are) indicated under Section 8, are being disclosed as voluntarily disclosed components.

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## SECTION 4. FIRST AID MEASURES

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### 4.1 Description of first aid measures

**General advice:** If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:** Move person to fresh air; if effects occur, consult a physician.

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

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

**Ingestion:** Never give fluids or induce vomiting if patient is unconscious or is having convulsions.

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

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

**Notes to physician:** No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

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## SECTION 5. FIREFIGHTING MEASURES

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### 5.1 Extinguishing media

**Suitable extinguishing media:** Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

**Unsuitable extinguishing media:** Do not use direct water stream. May spread fire.

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

**Hazardous combustion products:** During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

**Unusual Fire and Explosion Hazards:** Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

### 5.3 Advice for firefighters

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

**Special protective equipment for firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

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## SECTION 6. ACCIDENTAL RELEASE MEASURES

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**6.1 Personal precautions, protective equipment and emergency procedures:** Keep personnel out of low areas. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

**6.2 Environmental precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

**6.3 Methods and materials for containment and cleaning up:** Contain spilled material if possible. Small spills: Any absorbent material. Collect in suitable and properly labeled open containers. Wash the spill site with large quantities of water. Large spills: Dike area to contain spill. Pump into suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

**6.4 Reference to other sections:** References to other sections, if applicable, have been provided in the previous sub-sections.

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## SECTION 7. HANDLING AND STORAGE

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**7.1 Precautions for safe handling:** Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

**7.2 Conditions for safe storage, including any incompatibilities:** Store away from direct sunlight or ultraviolet light. Keep container tightly closed when not in use. Protect from atmospheric moisture. Store in the following material(s): Stainless steel. Aluminum. Container lined with phenolic or epoxy-phenolic FDA food contact approved coating. 316 stainless steel. Opaque HDPE plastic container.

### Storage stability

**Shelf life: Use within** 12 Month

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

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Propylene glycol	US WEEL	TWA	10 mg/m <sup>3</sup>
	GB EH40	TWA	474 mg/m <sup>3</sup> 150 ppm
	GB EH40	TWA	10 mg/m <sup>3</sup>

### Derived No Effect Level Workers

<i>Acute - systemic effects</i>		<i>Acute – local effects</i>		<i>Long-term – systemic effects</i>		<i>Long-term – local effects</i>	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	168 mg/m <sup>3</sup>	n.a.	10 mg/m <sup>3</sup>

### Consumers

<i>Acute - systemic effects</i>			<i>Acute – local effects</i>		<i>Long-term – systemic effects</i>			<i>Long-term – local effects</i>	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	50 mg/m <sup>3</sup>	n.a.	n.a.	10 mg/m <sup>3</sup>

### Predicted No Effect Concentration

Compartment	PNEC	Remarks
Fresh water	260 mg/l	
Marine water	26 mg/l	
Intermittent releases	183 mg/l	
STP	20000 mg/l	
Fresh water sediment	572 mg/kg d.w.	
Marine sediment	57.2 mg/kg d.w.	
Soil	50 mg/kg d.w.	

### 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.

### Skin protection

**Hand protection:** Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized.

**Other protection:** No precautions other than clean body-covering clothing should be needed.

**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. In misty atmospheres, use an approved particulate 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.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

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### 9.1 Information on basic physical and chemical properties

#### Appearance

Physical state	Liquid.
Color	Colorless
Odor	Odorless
Odor Threshold	No test data available
pH	Not applicable
Melting point/range	< -20 °C <i>EU Method A.1 (Melting / Freezing Temperature)</i>
Freezing point	< -20 °C <i>EC Method A1</i>
Boiling point (760 mmHg)	184 °C at 752.46 mmHg <i>Literature</i>
Flash point	<b>closed cup</b> 104 °C at 1,000.1 hPa <i>EC Method A9 (PMCC)</i>
Evaporation Rate (Butyl Acetate = 1)	0.01 <i>Estimated.</i>
Flammability (solid, gas)	Not applicable to liquids
Lower explosion limit	2.6 % vol <i>Estimated.</i>
Upper explosion limit	12.5 % vol <i>Estimated.</i>
Vapor Pressure	20 Pa at 25 °C <i>EC Method A4</i>
Relative Vapor Density (air = 1)	2.62 <i>Literature</i>
Relative Density (water = 1)	1.03 at 20 °C / 20 °C <i>EU Method A.3 (Relative Density)</i>
Water solubility	100 % at 20 °C <i>EU Method A.6 (Water Solubility)</i>
Partition coefficient: n-octanol/water	log Pow: -1.07 <i>Measured</i>
Auto-ignition temperature	> 400 °C at 100.01 kPa <i>EC Method A15</i>
Decomposition temperature	No test data available
Dynamic Viscosity	43.4 mPa.s at 25 °C <i>Literature</i>
Kinematic Viscosity	No test data available
Explosive properties	Not explosive
Oxidizing properties	No

### 9.2 Other information

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<b>Liquid Density</b>	1.03 g/cm <sup>3</sup> at 20 °C <i>Literature</i>
<b>Molecular weight</b>	no data available
<b>pour point</b>	< -57 °C <i>Literature</i>

NOTE: The physical data presented above are typical values and should not be construed as a specification.

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## SECTION 10. STABILITY AND REACTIVITY

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**10.1 Reactivity:** no data available

**10.2 Chemical stability:** Stable under recommended storage conditions. See Storage, Section 7.  
Hygroscopic

**10.3 Possibility of hazardous reactions:** Polymerization will not occur.

**10.4 Conditions to avoid:** Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Avoid direct sunlight or ultraviolet sources.

**10.5 Incompatible materials:** Avoid contact with: Strong acids. Strong bases. Strong oxidizers.

**10.6 Hazardous decomposition products:** Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes. Alcohols. Ethers. Organic acids.

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## SECTION 11. TOXICOLOGICAL INFORMATION

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*Toxicological information on this product or its components appear 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, > 20,000 mg/kg

##### Acute dermal toxicity

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

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

##### Acute inhalation toxicity

At room temperature, exposure to vapor is minimal due to low volatility. Mist may cause irritation of upper respiratory tract (nose and throat).

LC50, rabbit, 2 Hour, Aerosol, 317.042 mg/l No deaths occurred at this concentration.

**Skin corrosion/irritation**

Prolonged contact is essentially nonirritating to skin.  
Repeated contact may cause flaking and softening of skin.

**Serious eye damage/eye irritation**

May cause slight temporary eye irritation.  
Corneal injury is unlikely.  
Mist may cause eye irritation.

**Sensitization**

Did not cause allergic skin reactions when tested in humans.

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 rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

**Carcinogenicity**

Did not cause cancer in laboratory animals.

**Teratogenicity**

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

**Reproductive toxicity**

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

**Mutagenicity**

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

**Aspiration Hazard**

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

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**SECTION 12. ECOLOGICAL INFORMATION**

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*Ecotoxicological information on this product or its components appear in this section when such data is available.*

**12.1 Toxicity**

**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).

LC50, *Oncorhynchus mykiss* (rainbow trout), static test, 96 Hour, 40,613 mg/l, OECD Test Guideline 203



**Acute toxicity to aquatic invertebrates**

LC50, Ceriodaphnia Dubia (water flea), static test, 48 Hour, 18,340 mg/l, OECD Test Guideline 202

**Acute toxicity to algae/aquatic plants**

ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate inhibition, 19,000 mg/l, OECD Test Guideline 201

**Toxicity to bacteria**

NOEC, Pseudomonas putida, 18 Hour, > 20,000 mg/l, Method Not Specified.

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

NOEC, Ceriodaphnia Dubia (water flea), semi-static test, 7 d, number of offspring, 13,020 mg/l

**12.2 Persistence and degradability**

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation may occur under anaerobic conditions (in the absence of oxygen).

10-day Window: Pass

**Biodegradation:** 81 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301F or Equivalent

10-day Window: Not applicable

**Biodegradation:** 96 %

**Exposure time:** 64 d

**Method:** OECD Test Guideline 306 or Equivalent

**12.3 Bioaccumulative potential**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** -1.07 Measured

**Bioconcentration factor (BCF):** 0.09 Estimated.

**12.4 Mobility in soil**

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

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

**Partition coefficient(Koc):** < 1 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 in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

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**SECTION 13. DISPOSAL CONSIDERATIONS**

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**13.1 Waste treatment methods**

Any disposal practice must be in compliance with all local and national laws and regulations. Do not dump into any sewers, on the ground, or into any body of water.

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

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## SECTION 14. TRANSPORT INFORMATION

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

- |                                   |   |
|-----------------------------------|---|
| 14.1 UN number                    | Not applicable  |
| 14.2 Proper shipping name         | Not regulated for transport                                       |
| 14.3 Class                        | Not applicable  |
| 14.4 Packing group                | Not applicable  |
| 14.5 Environmental hazards        | Not considered environmentally hazardous based on available data. |
| 14.6 Special precautions for user | No data available.  |

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

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

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

- |                                   |                             |
|-----------------------------------|-----------------------------|
| 14.1 UN number                    | Not applicable              |
| 14.2 Proper shipping name         | Not regulated for transport |
| 14.3 Class                        | Not applicable              |
| 14.4 Packing group                | Not applicable              |
| 14.5 Environmental hazards        | Not applicable              |
| 14.6 Special precautions for user | No data available.          |

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

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## SECTION 15. REGULATORY INFORMATION

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

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

This product has been registered, 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 II - Directive 96/82/EC and its amendments:

Listed in Regulation: Directive 96/82/EC does not apply

### 15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this substance.

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## SECTION 16. OTHER INFORMATION

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### Product Literature

Additional information on this and other products may be obtained by visiting our web page.

### Revision

Identification Number: 101201408 / A279 / Issue Date: 18.09.2014 / Version: 9.2

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

### Legend

GB EH40	UK. EH40 WEL - Workplace Exposure Limits
TWA	Long-term exposure limit (8-hour TWA reference period)
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

### 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.