



# SAFETY DATA SHEET

## THE DOW CHEMICAL COMPANY

Product name: PROPYLENE GLYCOL USP/EP

Issue Date: 03/30/2015

Print Date: 04/25/2015

THE DOW CHEMICAL COMPANY 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.

## 1. IDENTIFICATION

Product name: PROPYLENE GLYCOL USP/EP

### Recommended use of the chemical and restrictions on use

**Identified uses:** We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative. Uses in Coatings, consumer. Use in Cleaning Agents, consumer. Functional Fluids, consumer. Consumer use in agrochemicals. Other Consumer Uses Humectant and solvent for: Foodstuffs. Flavours. Fragrances. Cosmetics. Pharmaceuticals. Personal care applications. Manufacture of substance, industrial. Distribution of substance, industrial. Formulation & (re)packing of substances and mixtures, industrial. Use in laboratories, industrial. Use as binders and release agents, professional. Not for use in cat food.

### COMPANY IDENTIFICATION

THE DOW CHEMICAL COMPANY  
2030 WILLARD H DOW CENTER  
MIDLAND MI 48674-0000  
UNITED STATES

Customer Information Number:

800-258-2436

SDSQuestion@dow.com

### EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: 800-424-9300

Local Emergency Contact: 800-424-9300

## 2. HAZARDS IDENTIFICATION

### Hazard classification

This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

### Other hazards

no data available

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

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**Synonyms:** Methyl Ethylene Glycol

This product is a substance.

| Component        | CASRN   | Concentration |
|------------------|---------|---------------|
| Propylene glycol | 57-55-6 | > 99.8 %      |

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### 4. FIRST AID MEASURES

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**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:** No emergency medical treatment necessary.

**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.

**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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### 5. FIREFIGHTING MEASURES

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**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.

**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.

**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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## **6. ACCIDENTAL RELEASE MEASURES**

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

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

**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.

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## **7. HANDLING AND STORAGE**

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**Precautions for safe handling:** Product handled hot may require additional ventilation or local exhaust. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

**Conditions for safe storage:** Store away from direct sunlight or ultraviolet light. Keep container tightly closed when not in use. Store in a dry place. 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 24 Month

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 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> |

### 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). If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

#### 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. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

## 9. 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 ( < -4 °F) <i>EC Method A1</i>                                      |
| Freezing point                       | < -20 °C ( < -4 °F) <i>EC Method A1</i>                                      |
| Boiling point (760 mmHg)             | 184 °C ( 363 °F) at 752.46 mmHg <i>EC Method A2</i>                          |
| Flash point                          | <b>closed cup</b> 104 °C ( 219 °F) at 1,000.1 hPa <i>EC Method A9</i> (PMCC) |
| 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>  |

|   |   |
|---|---|
| <b>Upper explosion limit</b>                  | 12.5 % vol <i>Estimated.</i>                              |
| <b>Vapor Pressure</b>                         | 20 Pa at 25 °C (77 °F) <i>EC Method A4</i>                |
| <b>Relative Vapor Density (air = 1)</b>       | 2.62 <i>Literature</i>                                    |
| <b>Relative Density (water = 1)</b>           | 1.03 at 20 °C (68 °F) / 20 °C <i>EC Method A3</i>         |
| <b>Water solubility</b>                       | 100 % at 20 °C (68 °F) <i>EC Method A6</i>                |
| <b>Partition coefficient: n-octanol/water</b> | log Pow: -1.07 <i>Measured</i>                            |
| <b>Auto-ignition temperature</b>              | > 400 °C (> 752 °F) at 100.01 kPa <i>EC Method A15</i>    |
| <b>Decomposition temperature</b>              | No test data available                                    |
| <b>Dynamic Viscosity</b>                      | 43.4 mPa.s at 25 °C (77 °F) <i>Literature</i>             |
| <b>Kinematic Viscosity</b>                    | No test data available                                    |
| <b>Explosive properties</b>                   | Not explosive   |
| <b>Oxidizing properties</b>                   | No  |
| <b>Liquid Density</b>                         | 1.03 g/cm <sup>3</sup> at 20 °C (68 °F) <i>Literature</i> |
| <b>Molecular weight</b>                       | no data available   |
| <b>Percent volatility</b>                     | no data available   |
| <b>pour point</b>                             | < -57 °C (< -71 °F) <i>Literature</i>                     |

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

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## 10. STABILITY AND REACTIVITY

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**Reactivity:** no data available

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

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

**Conditions to avoid:** no data available

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

**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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## 11. TOXICOLOGICAL INFORMATION

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

**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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## 12. ECOLOGICAL INFORMATION

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

### Toxicity

#### Acute toxicity to fish

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

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

### 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

**Theoretical Oxygen Demand:** 1.68 mg/mg

**Chemical Oxygen Demand:** 1.53 mg/mg

#### Biological oxygen demand (BOD)

| Incubation Time | BOD      |
|-----------------|----------|
| 5 d             | 69.000 % |
| 10 d            | 70.000 % |

|      |          |
|------|----------|
| 20 d | 86.000 % |
|------|----------|

**Photodegradation****Atmospheric half-life:** 10 Hour**Method:** Estimated.**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.**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.

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**13. DISPOSAL CONSIDERATIONS**

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**Disposal methods:** DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler. Reclaimer. Incinerator or other thermal destruction device. As a service to its customers, Dow can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums. Telephone Dow's Customer Information Group at 1-800-258-2436 or 1-989-832-1556 (U.S.), or 1-800-331-6451 (Canada) for further details.

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**14. TRANSPORT INFORMATION**

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**DOT**

Not regulated for transport

**Classification for SEA transport (IMO-IMDG):****Transport in bulk  
according to Annex I or II  
of MARPOL 73/78 and the  
IBC or IGC Code**Not regulated for transport  
Consult IMO regulations before transporting ocean bulk**Classification for AIR transport (IATA/ICAO):**

Not regulated for transport



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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## 15. REGULATORY INFORMATION

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### **OSHA Hazard Communication Standard**

This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

### **Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312**

This product is not a hazardous chemical under 29CFR 1910.1200, and therefore is not covered by Title III of SARA.

### **Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### **Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103**

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

### **Pennsylvania Worker and Community Right-To-Know Act:**

The following chemicals are listed because of the additional requirements of Pennsylvania law:

| <b>Components</b> | <b>CASRN</b> |
|-------------------|--------------|
| Propylene glycol  | 57-55-6      |

### **California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)**

This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

### **United States TSCA Inventory (TSCA)**

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

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**16. OTHER INFORMATION**

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**Product Literature**

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

**Hazard Rating System****NFPA**

| Health | Fire | Reactivity |
|--------|------|------------|
| 1      | 1    | 0          |

**Revision**

Identification Number: 101201352 / A001 / Issue Date: 03/30/2015 / Version: 9.0

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

**Legend**

|         |   |
|---------|---|
| TWA     | 8-hr TWA  |
| 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.

THE DOW CHEMICAL COMPANY 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.