

Glycol Ether DPM

Gen. Variant: SDS_TW

Version 1.5

Revision Date 2017-04-13

Print Date 2017-05-04

SDS No.: BE640

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

Trade name : Glycol Ether DPM
CAS Number: : 34590-94-8
Chemical characterization : Propylene Glycol Ethers
Chemical name : Dipropylene Glycol Monomethyl Ether
Synonyms : DPM, Dipropylene Glycol Methyl Ether, DPGME

Identified uses : Solvent

The manufacturer, importer or supplier's name, address and telephone number

Company Address

LyondellBasell Taiwan Co., Ltd.
7F-6, #101, Fu Hsiung North Road, Taipei,
Taiwan

Company Telephone

(Tel) 02-7707-9000
(Fax) 02-8770-1122
product.safety@lyb.com

Emergency telephone number

(886) 933 635 556 Taiwan

E-mail address : product.safety@lyb.com
Responsible/issuing person

2. HAZARDS IDENTIFICATION**GHS-Classification**

Flammable liquids	Category 4
Aspiration hazard	Category 2
Specific target organ systemic toxicity - single exposure	Category 3

GHS-Labeling

Symbol(s) :



Signal word : Warning

Hazard Statements	H227	Combustible liquid.
	H305	May be harmful if swallowed and enters airways.
	H335	May cause respiratory irritation.

Precautionary Statements : **Prevention:**

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- P210 Keep away from open flames/hot surfaces. -
No smoking.
- P261 Avoid breathing dust/ fume/ gas/ mist/
vapours/ spray.
- P271 Use only outdoors or in a well-ventilated
area.
- P280 Wear protective gloves/ protective clothing/
eye protection/ face protection.

Response:

- P370 + P378 In case of fire: Use dry sand, dry chemical
or alcohol-resistant foam to extinguish.
- P301 + P310 IF SWALLOWED: Immediately call a
POISON CENTER or doctor/ physician.
- P331 Do NOT induce vomiting.
- P304 + P340 IF INHALED: Remove person to fresh air
and keep comfortable for breathing.
- P312 Call a POISON CENTER/doctor if you feel
unwell.

Storage:

- P403 + P233 Store in a well-ventilated place. Keep
container tightly closed.
- P235 Keep cool.
- P405 Store locked up.

Disposal:

- P501 Dispose of contents/ container to an
approved waste disposal plant.

Other hazards

No additional information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS**Substances****Ingredients**

Chemical name	CAS-No. EC-No.	Weight %	Component Type
Dipropylene Glycol Monomethyl Ether	34590-94-8	> 99.0 %	A

Key:

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(A) Substance

4. FIRST AID MEASURES

- General advice : Consult a physician/doctor if necessary.
Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid.
Show this material safety data sheet to the doctor in attendance.
- If inhaled : Remove to fresh air.
Keep patient warm and at rest.
Give oxygen or artificial respiration as needed.
Obtain emergency medical attention.
Prompt action is essential.
- In case of skin contact : Remove contaminated clothing as needed.
Wash skin thoroughly with mild soap and water.
Flush with lukewarm water for 15 minutes.
If sticky, use waterless cleaner first.
Seek medical attention if discomfort persists.
- In case of eye contact : Flush with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids.
If eye irritation persists, consult a specialist.
- If swallowed : This material may be a slight health hazard if ingested in large quantities.
If large quantity swallowed, give lukewarm water (pint/ 1/2 liter) if victim completely conscious/alert.
Do not induce vomiting. Risk of damage to lungs exceeds poisoning risk.
Obtain emergency medical attention.

Notes to physician

- Symptoms : High doses may cause CNS depression (fatigue, dizziness and possibly loss of concentration, with collapse, coma and death in cases of severe over-exposure).
- Hazards : May be harmful if swallowed and enters airways.
May cause respiratory irritation.

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Treatment : Treat symptomatically.
Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : SMALL FIRE: Use dry chemical, CO₂, water spray or regular foam. LARGE FIRE: Use water spray, water fog or regular foam. Do not use straight streams.

Unsuitable extinguishing media : Do not use solid water stream.

Specific hazards during fire fighting : Heat from fire can generate flammable vapor. When mixed with air and exposed to ignition source, vapors can burn in open or explode if confined. Flammable vapors may be heavier than air and travel long distances along the ground before igniting and flashing back to vapor source. Fine sprays/mists may be combustible at temperatures below normal flash point. Heat may build enough pressure to rupture closed containers/spreading fire/increasing risk of burns/injuries. Cool containers with flooding quantities of water until well after fire is out. Always stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Move containers from fire area if it can be done without risk. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for fire-fighters : Wear an approved positive pressure self-contained breathing apparatus and firefighter turnout gear. Structural firefighter's protective clothing will only provide limited protection.

Further information : Cool containers with flooding quantities of water until well after fire is out.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Use personal protective equipment. Eliminate all sources of ignition.

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Clean-up to be performed only by trained and properly equipped personnel.

- Methods for containment /
Methods for cleaning up
- : Eliminate all sources of ignition.
All equipment used when handling this product must be grounded.
Do not touch or walk through spilled material.
Stop leak if you can do it without risk.
Prevent entry into waterways, sewers, basements or confined areas.
A vapor suppressing foam may be used to reduce vapors.
Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
Use clean non-sparking tools to collect absorbed material.
- Additional advice
- : Keep non-involved personnel away from the area of spillage.
See section 8 for additional PPE information.
See section 13 for disposal information.

7. Handling and storage**Precautions for safe handling**

- Advice on safe handling
- : Keep container tightly closed when not in use.
The potential for peroxide formation is enhanced when this solvent is used in processes such as distillation.
Use only non-sparking tools.
Properly ground containers before beginning transfer.
When transferring propylene glycol ethers with flash points at or below 60 °C (140 °F) into fixed site vessels, the vessel should be purged and inerted prior to transfer.
Propylene glycol ethers may be transferred into air atmospheres if the temperature of the product and the ambient temperature within the shipping container are both at least 16.7 °C (30 °F) less than the product's flash point. After loading, nitrogen blanketing is required if the contents of the transportation container could exceed a temperature of 16.7 °C (30 °F) less than the product flash point during any subsequent transportation activities.
If the product flash point is less than 16.7 °C (30 °F) above either the ambient temperature of the transportation container or the storage temperature of the product, the container should be purged and inerted with nitrogen prior to loading and nitrogen blanketed after loading.
Handle empty containers with care.
Flammable/combustible residue remains after emptying.
The purging of all empty shipping containers, regardless of the flashpoint, is recommended when received with air

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atmospheres.
Isolate, vent, drain, wash and purge systems or equipment before maintenance or repair.
Use adequate personal protective equipment.
Observe precautions pertaining to confined space entry.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store only in tightly closed, properly vented containers away from heat, sparks, open flame and strong oxidizing agents. Storage under nitrogen atmosphere is recommended to minimize potential for moisture condensation in the vapor space, and the formation of peroxides. Store in properly lined steel/stainless steel to avoid slight discoloration from mild steel/copper. Aluminum (5000 series alloys - U.S. Aluminum Association Standard) showed no corrosion after 30 days contact with PM Acetate, DPM, TPM, PTB, or PM at 71°C (160°F). Some plastics/rubbers are attacked by Glycol Ethers/Ether Esters. This product will absorb water if exposed to air.

Advice on common storage : Carbon steel
Store in properly lined steel/stainless steel to avoid slight discoloration from mild steel/copper. Some plastics/rubbers are attacked by Glycol Ethers/Ether Esters.

Other data : Stable under recommended storage conditions.

Specific end use(s)
: See Section 1.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Ingredients with workplace control parameters****Occupational Exposure Limits**

Ingredients	CAS-No.	Type	Limit Value	Basis Revision Date	Additional Information
Dipropylene Glycol Monomethyl Ether	34590-94-8	STEL	150 ppm	US (ACGIH) 2012	

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Dipropylene Glycol Monomethyl Ether	34590-94-8	TWA	100 ppm	US (ACGIH) 2012	
Dipropylene Glycol Monomethyl Ether	34590-94-8	TWA	100 ppm 606 mg/m ³	OEL (TW) January 26, 2010	
Dipropylene Glycol Monomethyl Ether	34590-94-8	STEL	125 ppm 757.5 mg/m ³	OEL (TW) January 26, 2010	

Consult local authorities for acceptable exposure limits.

Exposure controls**Engineering measures**

Local exhaust in addition to general room ventilation may be required to meet exposure limit(s).

Personal protective equipment

- Hand protection : Wear chemical resistant gloves such as:
Neoprene.
- Eye and face protection : Use splash goggles when eye contact due to splashing or spraying liquid is possible.
- Skin and body protection : Depending on the conditions of use, protective gloves, apron, boots, head and face protection should be worn.
Use PPE that is chemical resistant to the product and prevents skin contact.
- Hygiene measures : Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.
Use good personal hygiene practices.
Wash hands before eating, drinking, smoking, or using toilet facilities.
Take off contaminated clothing and wash before reuse.
Use care in walking on spilled material.
- Protective measures : Wear suitable protective equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Color : Clear, colorless.

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Odor	: Ether-like odor.
Odor Threshold	: No Data Available.
Flash point	: 75 °C at 1,013 hPa (760 mm Hg)
Ignition temperature	: 206.5 °C at 1,013 hPa
Lower explosion limit	: 1.1 vol%
Upper explosion limit	: 14 vol%
Flammability (solid, gas)	: Not applicable
Oxidizing properties	: Not considered an oxidizing agent.
Autoignition temperature	: 206.5 °C at 1,013 hPa
Molecular weight	: 148.2 g/mol
Decomposition temperature	: not determined
Melting point/freezing point	: -83 °C at 1,013 hPa
Boiling point/boiling range	: 189.6 °C at 1,013 hPa
Vapor pressure	: ~ 0.37 hPa at 20 °C
Density	: 0.95 g/cm ³ at 20 °C
Water solubility	: 25 °C completely miscible
Partition coefficient: n-octanol/water	: log Pow: 0.004 at 25 °C
Viscosity, dynamic	: 4 mPa.s at 25 °C (Brookfield).
Viscosity, kinematic	: 4.55 mm ² /s at 20 °C (static)
Relative vapor density	: ~ 5.1 at 16 - 32 °C

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	(Air = 1.0)
Evaporation rate	: 0.02 (butyl acetate = 1)
Explosive properties	: Not explosive
Other Information	: Hygroscopic.

10. STABILITY AND REACTIVITY

Reactivity	: Will not occur.
Chemical stability	: Stable under recommended storage conditions.
Hazardous reactions	: Will not occur.
Conditions to avoid	: Extended contact with air or oxygen. The potential for peroxide formation is enhanced when this solvent is used in processes such as distillation. Heat, sparks, open flame, other ignition sources, and oxidizing conditions. Ignition may occur at temperatures below those published in the literature as autoignition or ignition temperatures.
Materials to avoid	: Air or oxygen. Moisture and humidity. Strong oxidizing agents. May react with oxygen to form peroxides.
Hazardous decomposition products	: Not expected to decompose under normal conditions.
Thermal decomposition	: Carbon Monoxide and other toxic vapors.

11. TOXICOLOGICAL INFORMATION

Product Summary	: The below given information is based on the assessment of the product including impurities.
Acute toxicity	
Acute oral toxicity	: Based on acute toxicity values, not classified. Ingestion of very large amounts may cause CNS depression, respiratory failure, and death in cases of severe over-exposure.
	: LD50: > 5,000 mg/kg Species: Rat

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- Acute inhalation toxicity** : Based on acute toxicity values, not classified.
May cause mild CNS depression.
Exposure to vapor may cause irritation of the eyes, nose, or throat.
- : LC50: > 275 ppm
Exposure time: 7 HOURS
Species: Rat
- Acute dermal toxicity** : Based on acute toxicity values, not classified.
- : LD50: > 9,500 mg/kg
Species: Rat
- Skin corrosion/irritation** : Based on skin irritation values, not classified.
- Serious eye damage/eye irritation** : Based on eye irritation values, not classified.
- Respiratory or skin sensitization** : Respiratory sensitization
no data available
No study available.
- : Skin sensitization
no data available
No adverse effect observed.
- Chronic toxicity**
- Carcinogenicity** : Not classified
No adverse effect observed.
- Germ cell mutagenicity** : Not classified
No adverse effect observed.
- Reproductive toxicity**
- Effects on fertility /
Effects on or via lactation : Not classified
No adverse effect observed.
- Effects on Development : Not classified
No adverse effect observed.
- Target Organ Systemic** : Classified

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Toxicant - Single exposure

: May cause respiratory irritation.

: Exposure routes: Inhalation

**Target Organ Systemic
Toxicant - Repeated
exposure**

: Based on repeated exposure toxicity values, not classified.

Aspiration hazard

: Classified

May be harmful if swallowed and enters airways.

12. ECOLOGICAL INFORMATION**Ecotoxicity effects****Toxicity to fish**

: Low acute toxicity to fish

**Toxicity to daphnia and
other aquatic invertebrates**

: Low acute toxicity to aquatic invertebrates.

Toxicity to algae

: Low toxicity to algae.

Toxicity to bacteria

: Low toxicity to sewage microbes.

**Toxicity to fish (Chronic
toxicity)**

: no data available

**Toxicity to daphnia and
other aquatic invertebrates
(Chronic toxicity)**

: Low chronic toxicity to aquatic invertebrates.

Elimination information (persistence and degradability)**Bioaccumulation**

: This material is not expected to bioaccumulate.

**Distribution among
environmental
compartments**: Stability in water
no data available: Stability in soil
no data available

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Low absorption to soil particulates predicted

Additional advice
Environmental fate and pathways : No additional information available.

Biodegradability : 76 - 92 %
Rapidly degradable.
(After 28 days in a ready biodegradability test)

Further information on ecology**Ecotoxicology Assessment**

Acute aquatic toxicity : Based on acute aquatic toxicity values, not classified.

Chronic aquatic toxicity : Not classified, based on readily biodegradability and low acute toxicity.

Results of PBT assessment

Not applicable.

Additional ecological information : No additional information available.

13. Disposal considerations**Waste treatment methods**

Product : Contaminated product, soil, or water may be hazardous waste.
Dispose of contents/ container to an approved landfill.
Use registered transporters.
Burn concentrated liquids.
Assure emissions comply with applicable regulations.
Dilute aqueous waste may biodegrade.
Avoid overloading/poisoning plant biomass.
Assure effluent complies with applicable regulations.

Contaminated packaging : Do not burn, or use a cutting torch on, the empty drum.
Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION**BLG (MARPOL Annex II)**

Description of the goods : POLY(2-8)ALKYLENE GLYCOL MONOALKYL(C1-

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C6)ETHER (CONTAINS DIPROPYLENE GLYCOL METHYL ETHER)

Pollution category : Z

Ship type : 3

15. REGULATORY INFORMATION**Toxic Chemical Substances Control Act**

Not relevant

Taiwan - Labor Safety & Health Law**Taiwan - Traffic Regulation****Other international regulations****Global Inventory Status**

The ingredients of this product are compliant with the following chemical inventory requirements or exemptions.

*Additional Explanatory Status Statements follow the table, as necessary.

Country/Region	Inventory	Status Description
Australia	AICS	Compliant
Canada	DSL	Compliant
China	IECSC	Compliant
Europe	REACH	See REACH Compliance Statement
Japan	ENCS	Compliant
Korea	KECI	Compliant
New Zealand	NZIoC	Compliant
Philippines	PICCS	Compliant
United States of America	TSCA	Compliant
Taiwan	TCSCA	Compliant

REACH status

If the product has been purchased from any company of the LyondellBasell group of companies registered in the European Union, we confirm that the chemical substance in this product has been pre-registered or, where required under REACH, registered, and that we have the intention to proceed with any required registration in accordance with the deadlines set forth in REACH. (Regulation (EU) No. 1907/2006)

Contact product.safety@lyb.com for additional global inventory information.

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16. OTHER INFORMATION
Material safety datasheet sections which have been updated:

Revised Section(s): 1 Revision Date April 13 2017

SDS Preparation Date: 2017-04-13

SDS Prepared by: LyondellBasell Taiwan Co., Ltd., HSE Department, 7F-6, #101, Fu Hsiung North Road, Taipei, Taiwan, (Tel) 02-7707-9000, (Fax) 02-8770-1122,

SDS Prepared by: Kevin Kung, Manger Quality Management and Product Stewardship

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Disclaimer

This document is generated for the purpose of distributing health, safety, and environmental data.

Information is correct to the best of our knowledge at the date of the SDS publication.

It is not a specification sheet nor should any displayed data be construed as a specification.

Before using a product sold by a company of the LyondellBasell family of companies, users should make their own independent determination that the product is suitable for the intended use and can be used safely and legally.

SELLER MAKES NO WARRANTY; EXPRESS OR IMPLIED (INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY WARRANTY) OTHER THAN AS SEPARATELY AGREED TO BY THE PARTIES IN A CONTRACT.

Users should review the applicable Safety Data Sheet before handling the product.

This product(s) may not be used in the manufacture of any of the following, without prior written approval by Seller for each specific product and application:

- (i) U.S. FDA Class I or II Medical Devices; Health Canada Class I, II or III Medical Devices; European Union Class I or II Medical Devices;
- (ii) film, overwrap and/or product packaging that is considered a part or component of one of the aforementioned medical devices;
- (iii) packaging in direct contact with a pharmaceutical active ingredient and/or dosage form that is intended for inhalation, injection, intravenous, nasal, ophthalmic (eye), digestive, or topical (skin) administration;
- (iv) tobacco related products and applications, electronic cigarettes and similar devices.

The product(s) may not be used in:

- (i) U.S. FDA Class III Medical Devices; Health Canada Class IV Medical Devices; European Class III Medical Devices;
- (ii) applications involving permanent implantation into the body;
- (iii) life-sustaining medical applications.

All references to U.S. FDA, Health Canada, and European Union regulations include another country's equivalent regulatory classification.

In addition to the above, LyondellBasell may further prohibit or restrict the use of its products in certain applications. For further information, please contact a LyondellBasell representative.

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Numerical Data Presentation

The presentation of numerical data, such as that used for physical and chemical properties and toxicological values, is expressed using a comma (,) to separate digits into groups of three and a period (.) as the decimal marker. For example, 1,234.56 mg/kg = 1 234,56 mg/kg.

Language Translations

The information presented in this document has been translated from English by a vendor LyondellBasell believes to be reliable. LyondellBasell and its vendor have made a good-faith effort to verify the accuracy of the translation, but assume no liability or other responsibility for any errors that may have occurred. Please refer to our web site (www.lyondellbasell.com) for the original document written in English.

End of Material Safety Data Sheet