

DIPROPYLENE GLYCOL INDUSTRIAL

Gen. Variant: SDS_US_GHS

Version 1.0

Revision Date 07/23/2014

Print Date 02/20/2015

SDS No.: BE111

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : DIPROPYLENE GLYCOL INDUSTRIAL
CAS Number: 25265-71-8
Chemical characterization : Glycols
Chemical Name : 1,1-Oxydi-2-Propanol
Synonyms : Dipropylene Glycol, DPG, 2,2-Dihydroxyisopropyl Ether,
Methyl-2(Methyl-2) Oxybispropanol

Use of the Substance/Mixture : Manufacture of substances, Formulation & (re)packing of substance and mixtures, Uses in Coatings, Use in Cleaning Agents, Lubricants, Use as binders and release agents, Functional Fluids, Other consumer uses, Use in laboratories, Polymer production, Polymer processing

Company : Lyondell Chemical Company
LyondellBasell Tower, Suite 300
1221 McKinney St.
P.O. Box 2583
Houston Texas 77252-2583

Telephone : Customer Service 888 777-0232
Product Safety 800 700-0946

Emergency telephone : CHEMTREC USA 800-424-9300
LYONDELL 800-245-4532

E-mail address : product.safety@lyondellbasell.com

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Not classified as hazardous according to OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012).

Label elements

Not classified as hazardous according to OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012).

Other hazards

No additional information available.

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3. Composition/information on ingredients**Substances**

Chemical nature : Substance

Ingredients

Chemical Name	CAS-No. EC-No.	Weight %	Component Type
Dipropylene Glycol	25265-71-8	>= 99.5 %	A

Key:
(A) Substance

SECTION 4. FIRST AID MEASURES**First aid procedures**

- General advice : May cause irritation of the eyes, skin and mucous membranes.
Always observe self-protection methods
Move out of dangerous area.
Remove contaminated shoes and clothing.
Show this material safety data sheet to the doctor in attendance.
- If inhaled : Not expected to present a significant inhalation hazard under anticipated conditions of normal use.
Avoid inhalation of hot vapors or extremely high concentrations of aerosols.

Remove to fresh air.
In the case of inhalation of aerosol/mist consult a physician if necessary.
- In case of skin contact : Wash skin thoroughly with mild soap and water.
- In case of eye contact : Flush eyes with water thoroughly and continuously for 15 minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists, consult a specialist.
- If swallowed : Not expected to present a significant ingestion hazard under anticipated conditions of normal use.

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	: This product is of low acute toxicity. May cause irritation of the eyes, skin and mucous membranes. Hot vapors may cause lung damage.
Treatment	: Treat symptomatically. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5. FIRE-FIGHTING MEASURES**Flammable properties**

Flash point	: 262 - 270 °F (128 - 132 °C) at 988.80 hPa (741.66 mm Hg)
Autoignition temperature	: 630 °F (332 °C) at 989.60 - 1001.80 hPa (742.26 - 751.41 mm Hg)
Lower explosion limit	: No Data Available.
Upper explosion limit	: No Data Available.

Fire fighting

Suitable extinguishing media	: SMALL FIRE: Use dry chemicals, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Use water spray, water fog or alcohol-resistant foam.
Unsuitable extinguishing media	: Do not use solid water stream.

Protective equipment and precautions for firefighters

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. Vapors may be heavier than air. May 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. Fight fire from a safe distance/protected location. Heat may build enough pressure to rupture closed containers/spreading fire/increasing risk of burns/injuries. Use water spray/fog for cooling. Avoid frothing/steam explosion. Burning liquid may float on water. Although water soluble, may not be practical to extinguish fire
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by water dilution.

Notify authorities immediately if liquid enters sewer/public waters.

Special protective equipment for fire-fighters : Wear positive pressure self-contained breathing apparatus (SCBA).
Structural firefighter's protective clothing will only provide limited protection.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions : Use personal protective equipment.
Clean-up to be performed only by trained and properly equipped personnel.

Environmental precautions : Try to prevent the material from entering drains or water courses.

Methods for containment /
Methods for cleaning up : Extinguish all ignition sources.
Stop release; prevent flow to sewers/public waters.
Notify fire and environmental authorities.
Impound/recover large land spill; soak up small spill with inert solids.
Soak up small spills with inert solids.
Use suitable disposal containers.
On water, material is soluble and may float or sink.
Contain/collect rapidly to minimize dispersion.
Disperse residue to reduce aquatic harm.
Report per regulatory requirements.

SECTION 7. HANDLING AND STORAGE**Handling**

Advice on safe handling : Handle empty containers with care - residue can burn if heated.
Empty containers should be thoroughly rinsed with copious amounts of clean water.
The rinse water can be used for makeup water for any necessary dilution of the concentrated product before use, or it can be properly discarded.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Storage

Requirements for storage areas and containers : Keep container tightly closed when not in use.
Protect from moisture.
Store away from heat.
Material can attack some forms of plastics.

Do not store together with oxidizing and self-igniting products.

Advice on common storage : Carbon/Mild steel with suitable internal coating, or stainless steel

Other data : No decomposition if stored and applied as directed.

8. Exposure controls/personal protection

Control parameters

Ingredients with workplace control parameters

Consult local authorities for acceptable exposure limits.

Exposure controls

Engineering measures

No special ventilation is recommended under anticipated conditions of normal use beyond that needed for normal comfort control.

Personal protective equipment

Respiratory protection : No special respiratory protection is recommended under anticipated conditions of normal use with adequate ventilation. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection : Not normally considered a skin hazard. Use chemical resistant gloves appropriate to conditions of use. Wear chemical resistant gloves such as:
Nitrile rubber
Latex

Eye and face protection : Safety glasses with side-shields
Use splash goggles when eye contact due to splashing or spraying liquid is possible.

Skin and body protection : No special clothing/skin protection equipment is recommended under normal conditions of anticipated use. Where use can result in skin contact, practice good personal hygiene.

Hygiene measures : Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use.

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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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Physical state : liquid at 68 °F (20 °C)

Color : Clear, colorless.

Odor : odorless

Safety data

Flash point : 262 - 270 °F (128 - 132 °C)
at 988.80 hPa (741.66 mm Hg)

Lower explosion limit : No Data Available.

Upper explosion limit : No Data Available.

Flammability (solid, gas) : not applicable

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

Autoignition temperature : 630 °F (332 °C)
at 989.60 - 1001.80 hPa (742.26 - 751.41 mm Hg)

Molecular weight : 134.17 g/mol

Decomposition temperature : not determined

pH : 7.4 (as aqueous solution)

Melting point/range : < -4 °F (-20 °C)

Boiling point/boiling range : 441 °F (227 °C)
at 983.60 hPa (737.76 mm Hg)

Vapor pressure : 0.013 hPa (0.010 mm Hg)
at 77 °F (25 °C)

Density : 1.02 g/cm³
at 68 °F (20 °C)

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Water solubility	: Miscible in water.
Partition coefficient: n-octanol/water	: log Pow: -0.462 at 71.1 °F (21.7 °C)
Viscosity, kinematic	: 118 mm ² /s at 68 °F (20 °C) 32 mm ² /s at 104 °F (40 °C)
Relative vapor density	: ~4.6 (Air = 1.0 at 15 - 20°C/59 - 68°F)
Surface tension	: 71.4 mN/m 1.01g/l at 72 °F (22 °C)
Explosive properties	: Not explosive

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Stable under recommended storage conditions.
Chemical stability	: Stable under recommended storage conditions.
Conditions to avoid	: High temperatures, oxidizing conditions.
Materials to avoid	: Strong acids Isocyanates. Strong oxidizing agents.
Hazardous decomposition products	: Carbon Monoxide and other toxic vapors.
Thermal decomposition	: Thermal decomposition may produce carbon monoxide and other toxic vapors.
Hazardous reactions	: Not expected to occur. This material is stable when properly handled and stored.

SECTION 11. TOXICOLOGICAL INFORMATION

Product Summary	: The below given information is based on the assessment of the product including impurities.
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Acute toxicity**Acute oral toxicity**

: Based on acute toxicity values, not classified.
Ingestion of high doses may cause discomfort and irritation of the gastrointestinal tract and CNS depression (fatigue, dizziness and possibly loss of concentration, with collapse, coma and death in cases of severe over-exposure).

: LD50 Oral: > 5,000 mg/kg
Species: rat

Acute inhalation toxicity

: Based on acute toxicity values, not classified.

: LC50 (Inhl): > 2.34 mg/l
Exposure time: 4 HOURS
Species: rat

Acute dermal toxicity

: Based on acute toxicity values, not classified.

: LD50 Dermal: > 5,010 mg/kg
Species: rabbit

Skin corrosion/irritation

: Based on skin irritation values, not classified.
May cause slight transient skin irritation.

Serious eye damage/eye irritation

: Based on eye irritation values, not classified.

Respiratory or skin sensitization

: Not classified
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
Male rats and female mice ingesting multi-gram quantities of

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dipropylene glycol for 90-days exhibited changes in testis and estrous cycle that appeared secondary to clinical- and systemic toxicity, debilitation and death. Data available on related homologues suggest it is unlikely to affect fertility or reproduction at lower exposures that do not cause morbidity or mortality.

- Effects on Development : Not classified
No adverse effect observed.
- Target Organ Systemic Toxicant - Single exposure** : Based on single exposure toxicity values, not classified.
- Target Organ Systemic Toxicant - Repeated exposure** : Based on repeated exposure toxicity values, not classified.
- Aspiration hazard** : Based on physico-chemical values or lack of human evidence, not classified.

12. ECOLOGICAL INFORMATION**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.
- Toxicity to fish** :
Low acute toxicity to fish
Data for close chemical analog.
- 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)** : QSAR (Quantitative structure-activity relationship) based calculation predicts low chronic toxicity.
- Toxicity to daphnia and other aquatic invertebrates** : QSAR (Quantitative structure-activity relationship) based calculation predicts low chronic toxicity.

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(Chronic toxicity)**Persistence and degradability**

- Biodegradability** : Rapidly degradable.
- : 64.5 - 93.4 %
(After 28 days in a ready biodegradability test)
(freshwater)
- : Partially biodegradable.
- : 17.3 - 23.6 %
(62 - 64 day ready biodegradability test)
(seawater)

Bioaccumulative potential

- Bioaccumulation** : This material is not expected to bioaccumulate.
- : Bioconcentration factor (BCF): 0.3 - 4.6
(QSAR calculated value)

Mobility in soil

- Surface tension** : 71.4 mN/m
1.01g/l
at 22 °C
- Distribution among environmental compartments** : Stability in soil
no data available
- : Stability in water
no data available

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

Results of PBT and vPvB assessment

Not applicable.

Other adverse effects

- Additional ecological information** : No additional information available.

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SECTION 13. DISPOSAL CONSIDERATIONS

Further information : Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Comply with federal, state, or local regulations for disposal.

SECTION 14. TRANSPORT INFORMATION

Not regulated for transport

SECTION 15. REGULATORY INFORMATION

If identified components of this product are listed under the TSCA 12(b) Export Notification rule, they will be listed below.

SARA 302/304

This product contains no known chemicals regulated under SARA 302/304.

SARA 311/312

Based upon available information, this material is not classified as a health and/or physical hazard according to Section 311 & 312.

SARA 313

This product contains no known chemicals regulated under SARA 313.

State Reporting

This material is not known to contain a chemical substance known to the State of California to cause cancer, reproductive, or developmental toxicity under California Proposition 65. However, LyondellBasell has not tested for the presence of listed chemical substances.

This product contains no known chemicals regulated by New Jersey's Worker and Community Right to Know Act.

No components are subject to the Massachusetts Right to Know Act.

This product contains no known chemicals regulated by Pennsylvania's Right to Know Act.

Other international regulations**Global Inventory Status**

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

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*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

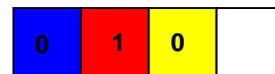
REACH status

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)

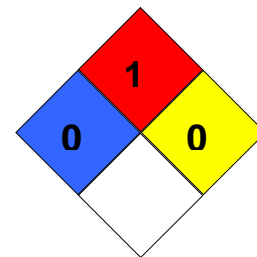
Contact product.safety@lyondellbasell.com for additional global inventory information.

SECTION 16. OTHER INFORMATION**Further information****HMIS Classification**

: Health Hazard: 0
Flammability: 1
Physical hazards: 0

**NFPA Classification**

: Health Hazard: 0
Fire Hazard: 1
Instability: 0

**Other Information**

NFPA rating scale (0 = minimal hazard; 4 = severe hazard)

HMIS rating scale (0 = minimal hazard; 4 = severe hazard)

Material safety datasheet sections which have been updated:

Updated format ; Revised Section(s): 2 , 11 and 12 May 27 2014

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

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