

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

Trade name : DIETHYLENE GLYCOL INDUSTRIAL  
CAS Number: : 111-46-6  
Chemical characterization : Ethylene Glycols  
Chemical name : Ethanol, 2,2'-oxybis-  
Synonyms : All Grades includes: Industrial and Polyester Grades

Identified uses : Monomer; Solvent; Intermediate

Prohibited uses : Aerosol applications such as theater fogs, linen sprays, pepper sprays, air sanitizers

**Company Address**

Equistar Chemicals, LP  
LyondellBasell Tower, Suite 300  
1221 McKinney St.  
P.O. Box 2583  
Houston Texas 77252-2583

**Company Telephone**

Customer Service 888 777-0232  
product.safety@lyb.com

**Emergency telephone**

CHEMTREC USA 800-424-9300  
EQUISTAR 800-245-4532

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

**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**

Acute toxicity; Oral : Category 4  
Specific target organ systemic toxicity - single exposure; : Category 1  
Oral  
Central nervous system, Kidney  
Specific target organ systemic toxicity - repeated exposure; : Category 2  
Oral  
Kidney

GHS Classification Scale (1= severe hazard; 4= slight hazard)

**Label elements**

Hazard symbols :



**DIETHYLENE GLYCOL INDUSTRIAL**

Gen. Variant: SDS\_US\_GHS

Version 1.2

Revision Date 07/25/2016

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SDS No.: 3366

**Signal Word** : Danger

**Hazard Statements** : H302 Harmful if swallowed.  
H370 Causes damage to organs (Central nervous system, Kidney).  
H373 May cause damage to organs (Kidney) through prolonged or repeated exposure.

**Precautionary Statements** : **Prevention**  
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.

**Response**  
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.  
P307 + P311 IF exposed: Call a POISON CENTER or doctor/ physician.

**Storage**  
P405 Store locked up.

**Other hazards**

No additional information available.

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

Chemical name	CAS-No. EC-No.	Weight %	Component Type
Diethylene Glycol	111-46-6	99.0 - 100.0 %	A

Key:  
(A) Substance

**4. FIRST AID MEASURES**

**General advice** : Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid.  
Move out of dangerous area.  
Show this material safety data sheet to the doctor in attendance.

- If inhaled : Move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. When breathing is difficult, properly trained personnel may assist the affected person by administering oxygen. Keep the affected person warm and at rest. Get medical attention immediately.
- In case of skin contact : Immediately remove excess chemical and contaminated clothing; thoroughly wash contaminated skin with mild soap and water. If irritation persists after washing, seek medical attention. Thoroughly clean contaminated clothing before reuse; discard contaminated leather goods (gloves, shoes, belts, wallets, etc.). After contact with skin, wash immediately with plenty of soap and water.
- In case of eye contact : Check for and remove contact lenses. Flush with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately if irritation develops and persists.
- If swallowed : If product is ingested, do not induce vomiting and contact a physician or Poison Control Center. Rinse mouth with water. If unconscious place in recovery position and seek medical advice. Never give anything by mouth to an unconscious person.

**Notes to physician**

- Hazards : Causes damage to organs through prolonged or repeated exposure if swallowed.
- Treatment : Treat symptomatically. There is no specific antidote.

**5. FIRE-FIGHTING MEASURES**

- Suitable extinguishing media : SMALL FIRE: Use dry chemicals, CO<sub>2</sub>, 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.
- Specific hazards during fire fighting : Airborne mists from this substance are a moderate fire and explosion hazard. Thermal decomposition may produce carbon monoxide and other toxic vapors.

- Special protective equipment for fire-fighters : Wear approved positive pressure self-contained breathing apparatus and firefighter protective clothing.
- Further information : Fight fire from a safe distance/protected location. Move containers from fire area if it can be done without risk. Evacuate immediately in the event of opening of storage container pressure relief devices or discoloration of container. Always stay away from tanks engulfed in fire. Do not attempt to get on top of storage containers involved in fire. Cool storage containers with large volumes of water even after fire is out.

## 6. ACCIDENTAL RELEASE MEASURES

- Methods for containment / Methods for cleaning up : Contain spill with dike to prevent entry into sewers or waterways. For large spills, dike and pump into properly labeled containers for reclamation or disposal. For small spills, soak up with absorbent material and place in properly labeled containers for disposal. All recovered material should be packaged, labeled, transported and disposed of or reclaimed in conformance with applicable laws and regulations and in conformance with good engineering practices. Reclaim where possible.

## SECTION 7. HANDLING AND STORAGE

### Handling

- Advice on safe handling : Containers, even those that have been emptied, will retain product residue and vapor and should be handled as if they were full. Do not eat, drink or smoke in areas where this material is used. After handling, always wash hands thoroughly with soap and water. Do not handle near heat, sparks, or flame. Avoid contact with incompatible agents. Use only with adequate ventilation/personal protection. Avoid contact with eyes, skin and clothing. Do not enter storage area unless adequately ventilated. Metal containers involved in the transfer of this material should be grounded and bonded.

### Storage

- Requirements for storage : Store containers in a cool, dry, ventilated, fire resistant area

areas and containers

away from sources of ignition and incompatible materials.  
Keep container tightly closed and properly labeled.

## 8. Exposure controls/personal protection

### Control parameters

#### Ingredients with workplace control parameters

Consult local authorities for acceptable exposure limits.

### Exposure controls

#### Engineering measures

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.

Ensure that eyewash stations and safety showers are close to the workstation location.

#### Personal protective equipment

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.  
In an emergency, use supplied air or a self contained breathing apparatus containing air, operated in positive pressure mode which has been recommended or approved by an appropriate agency.

Hand protection : Wear chemical resistant gloves such as rubber, neoprene or vinyl.

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 : Wear suitable protective clothing.

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.  
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.  
Shower after work using plenty of soap and water.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	: liquid
Color	: Clear, colorless.
Odor	: Little or no odor.
Odor Threshold	: Not applicable
Flash point	: 138 °C
Lower explosion limit	: 1.6 vol%
Upper explosion limit	: 10.8 vol%
Flammability (solid, gas)	: Not applicable
Oxidizing properties	: Not considered an oxidizing agent.
Autoignition temperature	: 229 °C at 1,013 hPa
Decomposition temperature	: not determined
Melting point/freezing point	: -8 - -6.5 °C
Boiling point/boiling range	: 244.9 °C at 1,013 hPa
Vapor pressure	: 0.008 hPa at 25 °C
Relative density	: 1.18
Density	: 1.118 g/cm <sup>3</sup> at 20 °C
Water solubility	: Miscible
Partition coefficient: n-octanol/water	: log Pow: 1.47 - 1.98
Viscosity, dynamic	: 38 mPa.s at 20 °C
Viscosity, kinematic	: 30 - 32 mm <sup>2</sup> /s at 20 °C
Relative vapor density	: 3.66 (Air = 1.0)

Explosive properties : Not considered explosive

Other Information : No additional information available.

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity : Not classified as a reactivity hazard.

Chemical stability : Stable under normal conditions.

Hazardous reactions : Will not occur.  
The product is stable.

Conditions to avoid : Avoid contact with strong oxidizers, excessive heat, sparks or open flame.

Materials to avoid : Oxidizers, Acids, Alkalis

Hazardous decomposition products : Carbon Monoxide and Carbon dioxide.

Thermal decomposition : Burning or excessive heating may produce smoke, carbon monoxide, carbon dioxide, and possibly other harmful gases/vapors.

**SECTION 11. TOXICOLOGICAL INFORMATION**

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

**Acute toxicity****Acute oral toxicity**

: Classified  
Harmful if swallowed.  
May cause CNS effects, blood disturbances and damage to kidney and other organs.  
Death is generally due to renal failure.

: LD50: 16,500 mg/kg  
Species: Rat

: Mean lethal dose (estimated): 1,000 mg/kg  
Species: Humans

**Acute inhalation toxicity**

: Based on acute toxicity values, not classified.  
May cause irritation of the mucous membranes.  
May cause central nervous system depression.

**DIETHYLENE GLYCOL INDUSTRIAL**

Version 1.2

Revision Date 07/25/2016

Print Date 01/30/2017

SDS No.: 3366

- : LC50: > 5.0 mg/l  
Exposure time: 4 HOURS  
Species: Rat
- Acute dermal toxicity** : Based on acute toxicity values, not classified.
- : LD50: > 5,000 mg/kg  
Species: Rat
- 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.  
May cause slight transient eye irritation.
- Respiratory or skin sensitization** : Skin sensitization  
Not classified  
No adverse effect observed.
- : Respiratory sensitization  
Not classified  
no data available
- Chronic toxicity**
- Carcinogenicity : Not classified  
Contains a substance that has a positive carcinogenicity study.  
The weight of evidence for the carcinogenicity of this substance does not meet the criteria for classification.
- Germ cell mutagenicity : Not classified  
No adverse effect observed.
- Reproductive toxicity**
- Effects on fertility /  
Effects on or via lactation : Not classified  
May cause toxicity to reproduction at high oral doses.
- Effects on Development : Not classified  
May be toxic to embryo/fetal development and teratogenic at high exposure levels.



- Target Organ Systemic Toxicant - Single exposure** : Classified, Causes damage to organs., May cause CNS effects, blood disturbances and damage to kidney and other organs.
- : Routes of exposure: Ingestion  
Target Organs: Central nervous system, Kidney
- Target Organ Systemic Toxicant - Repeated exposure** : Classified, May cause damage to organs through prolonged or repeated exposure., Kidney and bladder effects due to the formation of oxalate crystals may occur following prolonged exposure to high oral doses.
- : Routes of exposure: Ingestion  
Target Organs: Kidney
- 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
- 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)** : Low chronic toxicity to fish.
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)** : Low chronic toxicity to aquatic invertebrates.

**Persistence and degradability**

- Biodegradability** : Inherently biodegradable.  
: 45 - 100 %  
(After 28 days in a ready biodegradability test)

**Bioaccumulative potential**

- Bioaccumulation** : This material is not expected to bioaccumulate.  
: Species: Leuciscus idus (Golden orfe)  
Bioconcentration factor (BCF): 100

**Mobility in soil**

- Distribution among environmental compartments** : Stability in soil  
Low potential for soil adsorption expected  
(QSAR calculated value)  
: Stability in water  
Not expected to hydrolyze readily.

**Results of PBT and vPvB assessment**

Not applicable.

**Other adverse effects**

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

**SECTION 13. DISPOSAL CONSIDERATIONS**

- Further information : Dispose of all waste and contaminated equipment in accordance with all applicable federal, state and local health and environmental regulations. Recovery and reuse, rather than disposal, should be the ultimate goal of handling efforts. The materials resulting from clean-up operations may be hazardous wastes and therefore, subject to specific regulations.

**SECTION 14. TRANSPORT INFORMATION**

Not regulated for transport

**DIETHYLENE GLYCOL INDUSTRIAL**

Gen. Variant: SDS\_US\_GHS

Version 1.2

Revision Date 07/25/2016

Print Date 01/30/2017

SDS No.: 3366

**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**

<u>Component</u>	<u>TPQ</u>	<u>RQ</u>
Ethylene glycol		5000 lbs

**SARA 311/312**

Based upon available information, this material is classified as the following health and/or physical hazards according to Section 311 & 312:

Immediate (Acute) Health Hazard.  
Fire Hazard.

**SARA 313**

This product contains the following chemicals subject to the reporting requirements of SARA Title III, Section 313 and 40 CFR 372:

<u>Component</u>	<u>Reporting Threshold</u>
Ethylene glycol	1.0%

**State Reporting**

This material may contain trace levels of the following chemical substance(s) regulated under California Proposition 65. However, LyondellBasell has not tested for the presence of listed chemical substances. It is the responsibility of the California business owner to develop his or her own regulatory compliance plan. Contact Product Safety for further information at [product.safety@lyb.com](mailto:product.safety@lyb.com).

Substance	CASRN	Type of Toxicity			
		Carcinogen	Developmental	Repro-Male	Repro-Female
Ethylene glycol	107-21-1		X		

This product contains the following chemicals regulated by New Jersey's Worker and Community Right to Know Act:

107-21-1 Ethylene glycol

This product contains the following chemicals regulated by Massachusetts' Right to Know Law:

107-21-1 Ethylene glycol

This product contains the following chemicals regulated by Pennsylvania's Right to Know Act:

111-46-6 Diethylene Glycol

107-21-1 Ethylene glycol

**Other international regulations**

**DIETHYLENE GLYCOL INDUSTRIAL**

Gen. Variant: SDS\_US\_GHS

Version 1.2

Revision Date 07/25/2016

Print Date 01/30/2017

SDS No.: 3366

**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

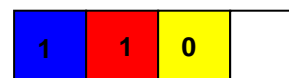
**REACH status**

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)

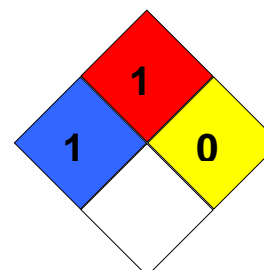
Contact [product.safety@lyb.com](mailto:product.safety@lyb.com) for additional global inventory information.

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

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

**NFPA Classification**

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

**Other Information**

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

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

**Material safety datasheet sections which have been updated:**

Revised Section(s): 15 July 14 2016

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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.

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**Language Translations**

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**DIETHYLENE GLYCOL INDUSTRIAL**

Gen. Variant: SDS\_US\_GHS

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