SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **Diethylene Glycol**
Commercial Name: Diethylene Glycol; DEG
Other product identifier: 2,2'-Oxydiethanol Bis(2-hydroxyethyl) ether, Diglycol
Chemical Formula: $O(CH_2CH_2OH)_2$
Recommended Use: most commonly used as the chemical Intermediate for the production of unsaturated polyester resins, polyester polyol, Thermoplastic polyurethanes, emulsifiers and Morpholine. Moreover, DEG is used in applications which require hygroscopicity, lubricants, and low volatility such as plasticizer, solvent in printing ink, textile lubricant, humectants and dehydrating agents.

COMPANY IDENTIFICATION

Supplier: **UNION PETROCHEMICAL PUBLIC COMPANY LIMITED**
728 Union House Building, Baromratchonnani Rd.,
Bangbumru, Bangplad, Bangkok 10700
Supplier General Contact: +662 881 8288

This (M)SDS is a generic document with no country specific information included.

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to UN GHS Criteria. Classification includes all GHS hazard classes. For hazard categories with two cut-off/concentration limits, classification was based on the higher limit.

GHS CLASSIFICATION:

Not indicated

GHS LABEL ELEMENTS:
Pictogram:

Signal Word: Warning

Hazard Statements:

Health: H302: Harmful if swallowed.

Precautionary Statements:
None

Supplemental Information:
None

Other hazard information:
N/A

ENVIRONMENTALHAZARDS
N/A

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

This material is defined as a substance.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
DIETHYLENE GLYCOL	111-46-6	100%	

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

SECTION 4 FIRST AID MEASURES

INHALATION

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

SKIN CONTACT

Wash off with soap and plenty of water. Consult a physician.

EYE CONTACT

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician

INGESTION

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

MOST IMPORTANT SYMPTOMS/EFFECTS

Acute effects: The most important know symptoms and effects are described in the labelling (see section 2) and/or in section 11

Delayed effects: The most important know symptoms and effects are described in the labelling (see section 2) and/or in section 11

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide

Inappropriate Extinguishing Media: N/A

FIRE FIGHTING

Fire Fighting Instructions: Wear self-contained breathing apparatus. Wear full protective suit.

Special hazards arising from the chemical: Carbon oxides

Others: Cool containers/tanks with water spray

FLAMMABILITY PROPERTIES

Flash Point : 143°C

Flammable Limits (Approximate volume % in air): LEL: 2 UEL: 12.3

Autoignition Temperature: 372°C

SECTION 6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Use personal protective equipment. Avoid breathing vapor, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

PROTECTIVE EQUIPMENT

Wear full protective suit. Wear safety glasses. Wear safety shoes. Wear safety gloves

EMERGENCY PROCEDURES

Large Spill: -

Small Spill: Absorb with liquid-binding material (sand diatomite, acid binders, universal binders, sawdust)

ENVIRONMENTAL PRECAUTIONS

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal

SECTION 7 HANDLING AND STORAGE

HANDLING

Ensure good ventilation/exhaustion at the workplace.

STORAGE

Store in a cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Storage Area: Process area and truck loading
Incompatible chemicals condition: Hygroscopic store under nitrogen. Heat sensitive. Storage class (TRGS 510): Combustion liquids. Keep ignition sources away- Do not smoke

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute

PERSONAL PROTECTION

Personal Protective Equipment: Wear full protective suit. Wear safety glasses. Wear safety shoes. Wear safety gloves

Personal Hygiene: The usual precautionary measures should be adhered to in handling the chemicals. Keep away from foodstuffs, beverages and food. Instantly remove any soiled and impregnated garments. Wash hands during breaks and at the end of the work.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Viscous Liquid
Color: Colorless
Odour: Slight
Odour Threshold: N/A

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 20ºC): 1.12 [With respect to water] [Calculated]
Density : N/A
Flammability (Solid, Gas): N/A
Flash Point: 143°C (Close cup)
Flammable Limits (Approximate volume % in air): LEL: 2 UEL: 12.3
Autoignition Temperature: 372°C
Boiling Point / Range: 245°C
Decomposition Temperature: 240°C
Vapour Density (Air = 1): 3.66
Vapour Pressure: 0.04 hPa
Evaporation Rate (n-butyl acetate = 1): < 0.01
pH: 5.0 – 8 at 500 g/L at 20°C
Log Pow (n-Octanol/Water Partition Coefficient): -1.999
Solubility in Water: Fully miscible
Viscosity: 35.7 mPs at 20°C

OTHER INFORMATION

Freezing Point: -10°C
Melting Point: -10°C
Molecular Weight: 106.12 G/MOLE
Hygroscopic: N/A
Coefficient of Thermal Expansion: N/A

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: No dangerous reactions known

STABILITY: N/A

CONDITIONS TO AVOID: Heating in air. Exposure to moisture.

MATERIALS TO AVOID: Strong oxidizing agents, Strong acids, Zinc

HAZARDOUS DECOMPOSITION PRODUCTS: Other decomposition product – no data available in the event of fire: see section 5

POSSIBILITY OF HAZARDOUS REACTIONS: N/A

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Route of Exposure	Conclusion/Remarks
Ingestion	
Toxicity (Rat): LD50 > 12565 mg/kg	
Toxicity (Human): LD50 > 1000 mg/kg	
Skin	
Toxicity (Rabbit): LD50 > 11890 mg/kg	

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

MOBILITY IN SOIL

No further relevant information available

ECOLOGICAL DATA

Ecotoxicity

Test	Duration	Organism Type	Test Results
Aquatic – Acute Toxicity	96 hour(s)	Pimephales promelas	LC50 75200 mg/l

Persistence, Degradability and Bioaccumulation Potential

Media	Test Type	Duration	Test Results
-	Readily Biodegradability	28 day(s)	Percent Degraded 90 - 100
Leuciscus idus melanotus	Bioaccumulation potential	3 day(s)	0.05 mg/L

SECTION 13 DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

Dispose of as unused product. Disposal.

PACKAGE CONTAMINATED DISPOSAL

Dispose of contaminated material as waste according to item 13. Clean up affected area.

SECTION 14 TRANSPORT INFORMATION

UN Number: Not applicable (Not dangerous goods)
UN Proper Shipping Number: Not applicable (Not dangerous goods)
Transport Class/Division: Not applicable
Package Group: Not applicable
Marine Pollution: No
Special precautionary for user: no data available

SECTION 15 REGULATORY INFORMATION

This material is considered hazardous according to the Classification of Chemicals based on Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Safety, health and environmental regulation/ legislation specific for the substance or mixture labelling according to Regulation (EC) No 1272/2008: The substance is classified and labelled to the CLP regulation

SECTION 16 OTHER INFORMATION

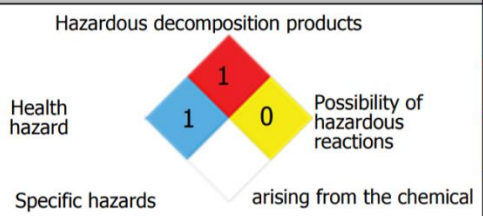
N/A = Not available

Date of latest issue: 3/1/2019

Description of point of Safety Data Sheet changing: Hazards identification

Abbreviation explanation:

EINECS: European Inventory of Existing Commercial Chemical Substances CAS: Chemical Abstracts Service The CLP Regulation [1] (for "Classification, Labelling and Packaging" [2]) is a European Union regulation

NFPA Hazard Code	HMIS Hazard	Rating System
	1 Health 1 Flammability 0 Reactivity	0 = No hazard 1 = Slight hazard 2 = Moderate hazard 3 = Serious hazard 4 = Severe hazard

Information Safety Data Sheet files:

Primary Reference: -

Secondary Reference: Diethylene-glycol Sigma (2)_139.pdf
