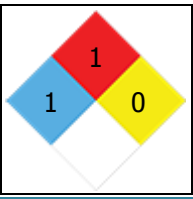


1 Identification of the substance or mixture and of the supplier

1.1. Product name or GHS product identifier

1.1.1. Common name :	Monoethylene glycol
1.1.2. Chemical formula :	$C_2H_6O_2$ or $HOCH_2CH_2OH$
1.1.3. Commercial name :	Monoethylene glycol
1.1.4. CAS number :	107-21-1
1.1.5. Molecular weight :	62.07 g/mol
1.2. Other product identifier :	1,2-Ethanediol
1.2.1. UN Number :	-
1.2.2. Annex I, EU directive 67/948/EC :	
1.2.3. EC number :	203-473-3

1.3. Recommendation for use and other prohibitions for use

1.4. Manufacturer or Supplier Details

1.4.1. Manufacturer or Supplier	1.4.2. Address
PTT Global Chemical Public Company Limited	9-9/1 Soi G 12 WHA Eastern Industrial Estate (Map Ta Phut), Pakornsongkrohraj Road, Map Ta Phut, Muang Rayong, Rayong 21150
1.4.3. Telephone number :	(+66) 38-994-000
1.5. Emergency telephone number :	**+66(0)38994000 Ext. 7095**

1.6. Other information

1.6.1. Hazardous substance

	Yes	X	No

1.6.2. Max quantity storage	22400	cubic meter

1.6.3. Uses

Most commonly used as chemical intermediate in the manufacture of polyester resins and textile fibers. Used as automotive antifreeze and used as heat transfer fluids for ventilation and air-conditioning systems.

1.6.4. Other

2 Hazards identification

2.1. GHS classification of the substance/mixture and any national or regional information

2.1.1. Hazard classification according to the GHS

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Acute Toxicity, Oral (Category 5)
Specific target organ toxicity (repeated exposure) - Category 2

2.2. GHS label elements, including precautionary statements

2.2.1. Chemical name :	Monoethylene glycol
2.2.2. Product name or GHS product identifier :	Monoethylene glycol

2.2.3. Symbol and Hazard pictograms

2.2.4. Signal words :	Warning

2.2.5. Hazard statement

H303 May be harmful if swallowed
H373 May cause damage to organs through prolonged or repeated exposure.

2 Hazards identification

2.2.6. Precautionary information

Prevention

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

Response

P312: Call a POISON CENTER/doctor/ physician if you feel unwell.

P314 Get medical advice/ attention if you feel unwell.

Disposal

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

2.2.7. Supplemental information

IF SWALLOWED : Call for doctor/ Physician if you feel unwell. Rinse Mouth. Dispose container in accordance with regulations.

2.3. Other hazards which do not result in classification or are not covered by the GHS

2.3.1. Potential Chronic Health Effects

2.3.1.1. Carcinogen effects

○	Maybe-Carcinogen	○	Carcinogen	○	Non-Carcinogen	◉	N/A

No

2.3.1.2. Mutagenic effects

○	Mutagenic	○	Non-Mutagenic	◉	N/A		

No

2.3.1.3. Other information

Irritate to eye and skin

2.4. Environmental Hazards

Evaluation number (FRG) (mammal): 1.0 ; Evaluation number (FRG) (bacteria): 2.0 ; Evaluation number (FRG) (fish): 2.0

3 Composition / information on ingredients

3.1. Homogeneous substance	
3.1.1. Chemical identity :	Ethylene Glycol
3.1.2. Common name :	Monoethylene glycol
3.1.3. Synonym :	1,2-Ethanediol; Glycol; MEG; 1,2-Dihydroxyethane;
3.1.4. CAS number and other unique identifiers :	107-21-1
3.1.5. Impurities and stabilizing additives	

Composition:

Composition name:	Ethylene glycol
General name:	Ethylene glycol
Symnonym:	MEG
UN number:	-
CAS number:	107-21-1
EC number:	203-473-3
% weight:	100
OSHA-PEL:	50 ppm
ACGIH-TLV:	100 mg/m3
LD/LC:	oral,rat;
Carcinogen:	n/a

4 First-aid measures

4.1. First-aid

4.1.1. Inhalation

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

4.1.2. Skin contact

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used.Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

4.1.3. Eyes contact

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

4.1.4. Ingestion

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms/effects

4.2.1. Acute Effects

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

4.2.2. Delayed effects

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

4.3. Indication of immediate medical attention

No further relevant information available.

4.4. Special treatment needed, if necessary.

No further relevant information available.

4.5. Other

General advice, Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

5 Firefighting measures

5.1. Unsuitable extinguishing media :	-
5.2. Suitable extinguishing media :	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.3. Specific hazards arising from the chemical.

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. Nitrogen oxides.

5.4. Special protective equipment and precautions for fire-fighters.

SCBA and fire protetcion suit.

5.5. Precautions for fire fighters.

Keep away from ignition source.
Wear self contained breathing apparatus for fire fighting if necessary.

5.6. Other.

6 Accidental release measures

6.1. Personal precautions

Do not breathe fume/aerosol. Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation.

6.2. Protective equipment



6.3. Emergency procedures

6.3.1. Large Spill	6.3.2. Small Spill
-	Absorb with liquid-binding material (sand, Diatomite, acid bind, universal binders, sawdust).

6.4. Environmental precautions

Do not allow to enter drainage system, surface or ground water. Do not allow to enter the ground/soil.

6.5. Methods and materials for containment and cleaning up.

Dispose of contaminated material as waste according to item 13.

7 Handling and storage

7.1. Precautions for safe handling.

Keep containers tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation/exhaustion at the workplace

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.For precautions see section 2.

7.2. Incompatibility.

7.2.1. Safe storage condition.

Keep container tightly closed in a dry and well-ventilated place.

7.2.2. Incompatible chemicals condition.

No special requirement

7.3. Storage area :	GC Glycol Co., Ltd.

7.4. Incompatible chemicals condition.

Keep container tightly closed in a dry and well-ventilated place.

7.5. Hazard Class by UN :	-
7.6. Classification :	-

8 Exposure controls/personal protection

8.1. Occupational exposure limit values or biological limit values

Name	TLV-TWA	TLV-STEL	TLV-C	PEL	IDLH	Thai	biological limit values
	100 mg/m3	-	-	-		-	-

8.2. Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3. Personal protective equipment

8.4. Personal hygiene

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

8.5. Other protection

Wash hands during breaks and at the end of work.

9 Physical and chemical properties

9.1. Appearance :	Colorless Liquid		
9.2. Odour :	odorless		
9.3. Odour threshold limit :	- ppm		
9.4. pH-value :	5-8		
9.5. Melting point &Freezing point :	Melting point	-12 °C	
	Freezing point	-12 °C	
9.6. Initial boiling point/Boiling range	Boiling/condensation point	198 °C	
	Evaporation rate	1	
9.7. Flash point :	111 °C (Close cup)		
9.8. Evaporation rate :	1		
9.9. Flammability (solid, gas) :	Burning time	sec	
	Burning Rate	mm/sec	
9.10. Upper/lower flammability or explosive limits :	1.8 % LEL and/or 12.8 %UEL		
9.11. Vapour pressure :	0.08 mmHg (0.01 kPa) at 20 °C		
9.12. Vapour density :	2.14 - (Air = 1.0)		
9.13. Specific gravity :	1.1154 at 20/20 °C		
9.14. Solubility(ies) :	completely miscible soluble		
9.15. Partition coefficient : n-octanol/water :	log Pow: -1.36		
9.16. Auto-ignition temperature :	410 deg °C		
9.17. Decomposition temperature :	- °C		
9.18. Viscosity :	-		
9.19. Heat of Combustion :	°C		
9.20. The ignition distance test :			
9.21. The enclosed space ignition test	s/m^3		
9.22. The foam test :	Vapor density	-	cm
	Flames burning up	-	sec

Detail	Type of Substance		Unit
	Other substance	Powders or dusts	
Use water spray to blanket fire, cool fire exposed containers, to stop leak, and burn			minute
Burning time			sec
Burning rate			mm/s

10 Stability and reactivity

10.1. Reactivity

Stable. Reacts with strong oxidizing agents.

10.2. Chemical Stability :

○	Stability	○	Instability and emit gas	◉	N/A

10.3. Possibility of Hazardous reaction :

10.4. Conditions to avoid :

Heat and humidity

10.5. Incompatible materials :

Aluminium, chromyl chloride, alkali hydroxides, perchloric acid, strong oxidizing agents, strong acids, strong bases, aldehydes.

10.6. Hazardous decomposition products :	Carbon monoxide and carbon dioxide
10.7. Corrosively :	-

11 Toxicological information

11.1. Route of Exposure	☑	Inhalation	☑	Ingestion	☑	Skin contact	☑	Eye contact

11.2. Symptoms related to the physical, chemical and toxicological characteristics

11.2.1. Symptom related with physical characteristic

Irritation

11.2.2. Symptom rerated with chemical characteristic

Fatigue, abnormal movements, unconsciousness, kidney damage.

11.2.3. Symptom related with toxicology

Target organs: Nervous system, kidney, eye, cardiovascular system, liver

11. The impact of acute and delayed (delayed and immediate effects) including chronic (chronic effects) exposure (Contact delayed, immediate and chronic effects)

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

11.4. Numerical measures of toxicity

11.4.1. Acute oral toxicity :	LD50 Oral - Rat - 4,700 mg/kg
11.4.2. Acute dermal toxicity :	LD50 Dermal - Rabbit - 10,626 mg/kg
11.4.3. Acute toxic of the vapour :	-

12 Ecological information

12.1. Eco toxicity (aquatic and terrestrial, where available)	
12.1.1. Toxicity to fish :	LC50 - Oncorhynchus mykiss (rainbow trout) - 18,500 mg/l - 96 h
12.1.2. Crustaceans / Toxicity to crustaceans :	No data available
12.1.3. Algae / Toxicity to algae :	No data available
12.2. Degradability and persistence	
None	
12.3. Bio-accumulative potential :	LC50: 100 mg/l /96 h
12.4. Mobility in soil :	No data available
12.5. Other adverse effects :	No data available
-	

13 Disposal considerations

13.1. Waste information :	-
13.2. Remain materials :	-
13.3. Waste disposal :	Disposal in compliance with official regulations.
13.4. Package contaminated disposal :	Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

14 Transport information

14.1. UN Number :	None	**Pictogram**
14.2. UN Proper Shipping Name :	None	
14.3. Transport Class/Division :	None	
14.4. Package group (if any) :		
14.5. Marine pollution :	O Yes ◉ No O N/A	
14.6. Special precautionary for user :	-	
14.7. Transport in bulk :	-	
14.8. Classification code :	-	
14.9. Other :		

15 Regulatory information

15.1. Safety, health and environmental regulations

All of the components in the product are on the following Inventory lists: X = listed
International Inventories:

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Monoethylene Glycol (MEG)	X	X	-	203-473-3	-		X	X	X	X	X

16 Other information

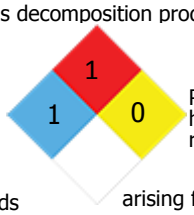
16.1. Date of latest issue 01/07/2022

16.2. Description of point of Safety Data Sheet changing

Company name

16.3. Abbreviation explanation

NFPA Hazard Code	HMIS Hazard	Rating System
Hazardous decomposition products Health hazard Possibility of hazardous reactions Specific hazards arising from the chemical	1 Health 1 Flammability 0 Reactivity	0 = No hazard 1 = Slight hazard 2 = Moderate hazard 3 = Serious hazard 4 = Severe hazard



16.4. Information Safety Data Sheet files

Primary Reference :
Secondary Reference : Ethylene-glycol Sigma_142.pdf

16.5. Local Legislation Related

16.6. Reference

Ethylene-glycol Sigma_142.pdf

16.7. Other details