PIOCHEM
LABORATORY CHEMICALS

Material Safety Data Sheet

Section1. Product Information and Company Identification			
Product name	Diethylene Glycol		
Mol.formula	C4H10O3	**Cas no**	111-46-6
Mol.wt	106 g/mol	**Cat no**	D004
Manfacture name	Pioneers for laboratory chemicals		
Brand name	Piochem		
Address	Area 540, Industrial Zone 6th October city Giza, Egypt.		
Website	www.piochem.com		
E-mail	info@piochem.com		
Phone number	+201225728304 , +201023932115		

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Acute toxicity, Oral (Category 4), H302
Specific target organ toxicity - repeated exposure (Category 2), H373

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal word	Warning
Hazard statement(s)	
H302	Harmful if swallowed.
H373	May cause damage to organs through prolonged or repeated exposure.
Precautionary statement(s)	none
Supplemental Hazard	none

Statements

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	:	2,2′-Oxydiethanol Bis(2-hydroxyethyl) ether Diglycol 2-Hydroxyethyl ether
Formula	:	$C_4H_{10}O_3$
Molecular weight	:	106.12 g/mol
CAS-No.	:	111-46-6
EC-No.	:	203-872-2
Index-No.	:	603-140-00-6

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component		Classification	Concentration
Diethylene glycol			
CAS-No.	111-46-6	Acute Tox. 4; STOT RE 2;	<= 100 %
EC-No.	203-872-2	H302, H373	
Index-No.	603-140-00-6		

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

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

In case of skin contact

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

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

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

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Carbon oxides

5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information
Cool containers/tanks with water spray.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.
Evacuate personnel to safe areas.
For personal protection see section 8.

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

6.3 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.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Store in 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.

hygroscopic
Storage class (TRGS 510): Combustible liquids

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

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

Personal protective equipment

Eye/face protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use (US) or type ABEK (EN 14387) respirator cartridges as a backup to enginee protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a)	Appearance	Form: viscous liquid Colour: colourless
b)	Odour	slight
c)	Odour Threshold	No data available
d)	pH	5.0 - 8 at 500 g/l at 20 °C
e)	Melting point/freezing point	Melting point/range: -10 °C
f)	Initial boiling point and boiling range	245 °C
g)	Flash point	143 °C - closed cup
h)	Evaporation rate	< 0.01 - Butyl acetate
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 12.3 %(V) Lower explosion limit: 2 %(V)
k)	Vapour pressure	0.008 hPa at 25 °C
l)	Vapour density	3.66 - (Air = 1.0)
m)	Relative density	1.118 g/mL at 20 °C
n)	Water solubility	completely miscible
o)	Partition coefficient: n-octanol/water	log Pow: -1.999
p)	Auto-ignition temperature	372 °C at 1,013.25 hPa
q)	Decomposition temperature	No data available
r)	Viscosity	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available

9.2 Other safety information

Surface tension	48.5 mN/m at 25 °C
Relative vapour density	3.66 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
Heating in air. Exposure to moisture

10.5 Incompatible materials
Strong oxidizing agents, Strong acids, Zinc

10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - 12,565 mg/kg(Diethylene glycol)
LD50 Oral - Human - 1,000 mg/kg(Diethylene glycol)
Remarks: Effects due to ingestion may include: Drowsiness Gastrointestinal disturbance Liver disorders Behavioral:Muscle weakness.
Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)Diethylene glycol
LD50 Dermal - Rabbit - 11,890 mg/kg(Diethylene glycol)

Skin corrosion/irritation
Skin - Rabbit(Diethylene glycol)
Result: No skin irritation
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit(Diethylene glycol)
Result: No eye irritation

Respiratory or skin sensitisation
Maximisation Test - Guinea pig(Diethylene glycol)
Result: Did not cause sensitisation on laboratory animals.
(Directive 67/548/EEC, Annex V, B.6.)

Germ cell mutagenicity
No data available(Diethylene glycol)

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
No data available(Diethylene glycol)

Specific target organ toxicity - single exposure
No data available(Diethylene glycol)

Specific target organ toxicity - repeated exposure
May cause damage to organs through prolonged or repeated exposure.
Oral - Kidney(Diethylene glycol)

Aspiration hazard
No data available(Diethylene glycol)
Additional Information

Repeated dose toxicity - Rat - Oral - No observed adverse effect level - 100 mg/kg(Diethylene glycol)
RTECS: ID5950000

Symptoms and signs of poisoning are:(Diethylene glycol)
Confusion., Dizziness, Kidney injury may occur., Unconsciousness, Convulsions, Nausea, Headache, Vomiting, Pulmonary edema. Effects may be delayed.(Diethylene glycol)

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 75,200 mg/l - 96 h(Diethylene glycol)
	LC50 - Carassius auratus (goldfish) - 5,000 mg/l - 24 h(Diethylene glycol)
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - > 10,000 mg/l - 24 h(Diethylene glycol) (DIN 38412)

12.2 Persistence and degradability

Biodegradability: anaerobic - Exposure time 28 d(Diethylene glycol)
Result: 90 - 100 % - Readily biodegradable
(OECD Test Guideline 301B)

12.3 Bioaccumulative potential

Bioaccumulation: Leuciscus idus melanotus - 3 d
- 0.05 mg/l(Diethylene glycol)

Bioconcentration factor (BCF): 100

12.4 Mobility in soil

No data available(Diethylene glycol)

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

ADR/RID: - IMDG: - IATA: -

14.2 UN proper shipping name

ADR/RID: Not dangerous goods
IMDG: Not dangerous goods
IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: - IMDG: - IATA: -

14.4 Packaging group

ADR/RID: - IMDG: - IATA: -

14.5 Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

No data available

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H302	Harmful if swallowed.
H373	May cause damage to organs through prolonged or repeated exposure.