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

Product name : Ethyl PROXITOL

Product code : U5129

CAS-No. : 1569-02-4

Synonyms : EP, PGEE

Manufacturer or supplier's details

Manufacturer/Supplier : Shell Chemicals Europe B.V.

PO Box 2334 3000 CH Rotterdam

Netherlands

Telephone : +31 (0)10 441 5137 +31(0)10 441 5191 Telefax : +31 (0)20 716 8316/ +31 (0)20 713 9230

Emergency telephone : +44 (0) 1235 239 670 (This telephone number is available 24

number hours per day, 7 days per week)

Recommended use of the chemical and restrictions on use

Recommended use : Solvent.

Restrictions on use : This product must not be used in applications other than the

above without first seeking the advice of the supplier.

Other information : PROXITOL is a trademark owned by Shell Trademark

Management B.V. and Shell Brands Inc. and used by affiliates

of Royal Dutch Shell plc.

2. HAZARDS IDENTIFICATION

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids : Category 3 Eye irritation : Category 2

Specific target organ toxicity -

single exposure

: Category 3 (Narcotic effects)

Label elements

Hazard pictograms





Signal word : Warning

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Hazard statements : PHYSICAL HAZARDS:

H226 Flammable liquid and vapour.

HEALTH HAZARDS:

H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness.

ENVIRONMENTAL HAZARDS:

Not classified as environmental hazard according to CLP

criteria.

Prevention: Precautionary statements

P210 Keep away from heat/ sparks/ open flames/ hot surfaces.

No smoking.

P243 Take precautionary measures against static discharge.

P264 Wash hands thoroughly after handling.

P280 Wear protective gloves/ protective clothing/ eye

protection/ face protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off

immediately all contaminated clothing. Rinse skin with water/

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and

easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/

attention.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container

tiahtly closed.

Disposal:

P501 Dispose of contents/ container to an approved waste

disposal plant.

Other hazards

Vapours are heavier than air. Vapours may travel across the ground and reach remote ignition sources causing a flashback fire danger. Even with proper grounding and bonding, this material can still accumulate an electrostatic charge. If sufficient charge is allowed to accumulate, electrostatic discharge and ignition of flammable air-vapour mixtures can occur.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture Substance

Hazardous components

Chemical name	CAS-No.	Classification	Concentration
	EC-No.	(REGULATION	(% w/w)
	Registration	(EC) No	
	number	1272/2008)	
1-ethoxypropan-2-ol	1569-02-4	Flam. Liq. 3; H226	98 - 100
		Eye Irrit. 2; H319	
		STOT SE 3; H336	

Stabilized with 25 ppm BHT.

For explanation of abbreviations see section 16.

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Other information

Refer to Chapter 8 for Occupational Exposure Guidelines.

4. FIRST-AID MEASURES

General advice : Not expected to be a health hazard when used under normal

conditions.

If inhaled : Remove to fresh air. If rapid recovery does not occur,

transport to nearest medical facility for additional treatment.

In case of skin contact : Remove contaminated clothing. Flush exposed area with

water and follow by washing with soap if available. If persistent irritation occurs, obtain medical attention.

In case of eye contact : Immediately flush eye(s) with plenty of water.

Remove contact lenses, if present and easy to do. Continue

rinsing.

Transport to the nearest medical facility for additional

treatment.

If swallowed : In general no treatment is necessary unless large quantities

are swallowed, however, get medical advice.

Most important symptoms and effects, both acute and

delayed

: Breathing of high vapour concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination. Continued inhalation may result in unconsciousness and death.

No specific hazards under normal use conditions.

Skin irritation signs and symptoms may include a burning

sensation, redness, or swelling.

Eye irritation signs and symptoms may include a burning

sensation, redness, swelling, and/or blurred vision.

No specific hazards under normal use conditions.

Ingestion may result in nausea, vomiting and/or diarrhoea.

Protection of first-aiders : When administering first aid, ensure that you are wearing the

appropriate personal protective equipment according to the

incident, injury and surroundings.

Notes to physician : IMMEDIATE TREATMENT IS EXTREMELY IMPORTANT!

Call a doctor or poison control center for guidance.

Treat symptomatically.

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5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point : 40 °C / 104 °F

Method: PMCC / ASTM D3278

Ignition temperature : 255 °C / 491 °F

Upper explosion limit : 12 %(V)

Lower explosion limit : 1,3 %(V)

Flammability (solid, gas) : Data not available

Suitable extinguishing media : Alcohol-resistant foam, water spray or fog. Dry chemical

powder, carbon dioxide, sand or earth may be used for small

fires only.

Unsuitable extinguishing

media

: None

Specific hazards during

firefighting

: The vapour is heavier than air, spreads along the ground and

distant ignition is possible.

Carbon monoxide may be evolved if incomplete combustion

occurs.

Specific extinguishing

methods

Further information

: Standard procedure for chemical fires.

: Clear fire area of all non-emergency personnel.

Keep adjacent containers cool by spraying with water.

Special protective equipment

for firefighters

: Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained

Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to

relevant Standards (e.g. Europe: EN469).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Observe the relevant local and international regulations Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

Local authorities should be advised if significant spillages

cannot be contained.

The vapour is heavier than air, spreads along the ground and

distant ignition is possible.

Vapour may form an explosive mixture with air.

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: Avoid contact with skin, eyes and clothing.

Isolate hazard area and deny entry to unnecessary or

unprotected personnel.

Stay upwind and keep out of low areas.

Environmental precautions

Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Use appropriate containment to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.

Ventilate contaminated area thoroughly. Monitor area with combustible gas indicator.

Methods and materials for containment and cleaning up

: For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.

Additional advice

: For guidance on selection of personal protective equipment see Section 8 of this Safety Data Sheet.

For guidance on disposal of spilled material see Section 13 of

this Safety Data Sheet.

7. HANDLING AND STORAGE

General Precautions

: Avoid breathing of or direct contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see

Section 8 of this Safety Data Sheet.

Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of

this material.

Ensure that all local regulations regarding handling and

storage facilities are followed.

Advice on safe handling

: Avoid contact with skin, eves and clothing.

Use local exhaust ventilation if there is risk of inhalation of

vapours, mists or aerosols.

Bulk storage tanks should be diked (bunded).

Extinguish any naked flames. Do not smoke. Remove ignition

sources. Avoid sparks.

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Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment

to reduce the risk.

The vapours in the head space of the storage vessel may lie

in the flammable/explosive range and hence may be

flammable.

Properly dispose of any contaminated rags or cleaning

materials in order to prevent fires.

Do NOT use compressed air for filling, discharging, or

handling operations.

Glycol ethers can be peroxide formers.

Avoidance of contact : Strong oxidising agents.

Product Transfer : Refer to guidance under Handling section.

Storage

Conditions for safe storage : The vapour is heavier than air. Beware of accumulation in pits

and confined spaces.

Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.

Packaging material : Suitable material: For containers, or container linings use mild

steel, stainless steel.

Unsuitable material: Natural, butyl, neoprene or nitrile rubbers.

Unsuitable material: Aluminum, Most plastics.

Container Advice : Containers, even those that have been emptied, can contain

explosive vapours. Do not cut, drill, grind, weld or perform

similar operations on or near containers.

Specific use(s) : Not applicable

Ensure that all local regulations regarding handling and

storage facilities are followed.

See additional references that provide safe handling practices:

American Petroleum Institute 2003 (Protection Against

Ignitions Arising out of Static, Lightning and Stray Currents) or National Fire Protection Agency 77 (Recommended Practices

on Static Electricity).

IEC/TS 60079-32-1: Electrostatic hazards, guidance

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Data Source
1-ethoxypropan-2-ol	1569-02-4	TSEL	10 mg/m3	RU TSEL

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(vapour	
and/or gas)	

Biological occupational exposure limits

No biological limit allocated.

Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.

Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.

Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/

Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/

Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/

Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany http://www.dguv.de/inhalt/index.jsp

L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

Engineering measures

: Use sealed systems as far as possible.

Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits.

Local exhaust ventilation is recommended.

Firewater monitors and deluge systems are recommended.

Eve washes and showers for emergency use.

Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated. The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances.

Appropriate measures include:

General Information:

Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

Define procedures for safe handling and maintenance of controls.

Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.

Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.

Drain down system prior to equipment break-in or maintenance.

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Retain drain downs in sealed storage pending disposal or subsequent recycle.

Personal protective equipment

Protective measures

Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.

Respiratory protection

: If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus.

Where air-filtering respirators are suitable, select an

appropriate combination of mask and filter.

If air-filtering respirators are suitable for conditions of use: Select a filter suitable for organic gases and vapours [Type A

boiling point >65°C (149°F)].

Hand protection Remarks

: Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. Longer term protection: Butyl rubber. Nitrile rubber. Incidental contact/Splash protection: PVC or neoprene rubber gloves. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

Eye protection : Wear goggles for use against liquids and gas.

Wear full face shield if splashes are likely to occur.

Skin and body protection : Wear antistatic and flame-retardant clothing, if a local risk

assessment deems it so.

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Skin protection is not required under normal conditions of use. For prolonged or repeated exposures use impervious clothing

over parts of the body subject to exposure.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to relevant Standard,

and provide employee skin care programmes.

Thermal hazards : Not applicable

Environmental exposure controls

General advice : Local guidelines on emission limits for volatile substances

must be observed for the discharge of exhaust air containing

vapour.

Minimise release to the environment. An environmental assessment must be made to ensure compliance with local

environmental legislation.

Information on accidental release measures are to be found in

section 6.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Liquid.

Colour : clear

Odour : Ethereal

Odour Threshold : Data not available pH : Data not available Melting / freezing point : < -70 °C / < -94 °F

Boiling point/boiling range : 129 - 136 °C / 264 - 277 °F

Flash point : 40 °C / 104 °F

Method: PMCC / ASTM D3278

Evaporation rate : 0,5

Flammability (solid, gas) : Data not available

Upper explosion limit : 12 %(V)

Lower explosion limit : 1,3 %(V)

Vapour pressure : 1.200 Pa (20 °C / 68 °F)

Relative vapour density : 3,5

Relative density : 0,91 (20 °C / 68 °F)

Method: ASTM D4052

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Density : ca. 897 kg/m3 (20 °C / 68 °F)

Method: ASTM D4052

Solubility(ies)

: Completely miscible. (20 °C / 68 °F) Water solubility

Partition coefficient: n-

octanol/water

: log Pow: < 1

: 255 °C / 491 °F Auto-ignition temperature

: Data not available Decomposition temperature

Viscosity

Viscosity, dynamic : 2,21 mPa.s (20 °C / 68 °F)

Method: ASTM D445

Viscosity, kinematic : Data not available Explosive properties : Not applicable Oxidizing properties : Data not available

Surface tension : 41,5 mN/m

Conductivity : Electrical conductivity: > 10,000 pS/m, A number of factors,

> for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity

of a liquid, This material is not expected to be a static

accumulator.

Particle size : Data not available

Molecular weight : 104,1 g/mol

10. STABILITY AND REACTIVITY

Reactivity : The product does not pose any further reactivity hazards in

addition to those listed in the following sub-paragraph.

Chemical stability : No hazardous reaction is expected when handled and stored

according to provisions

Possibility of hazardous

Conditions to avoid

reactions

: Reacts with strong oxidising agents.

: Avoid heat, sparks, open flames and other ignition sources.

Prevent vapour accumulation.

In certain circumstances product can ignite due to static

electricity.

Exposure to air or moisture over prolonged periods.

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Incompatible materials : Strong oxidising agents.

Hazardous decomposition

products

: Thermal decomposition is highly dependent on conditions. A complex mixture of airborne solids, liquids and gases including carbon monoxide, carbon dioxide, sulphur oxides and unidentified organic compounds will be evolved when this material undergoes combustion or thermal or oxidative

degradation.

11. TOXICOLOGICAL INFORMATION

Basis for assessment : Unless indicated otherwise, the data presented is

representative of the product as a whole, rather than for

individual component(s).

Information given is based on product testing, and/or similar

products, and/or components.

Information on likely routes of :

exposure

Exposure may occur via inhalation, ingestion, skin absorption,

skin or eye contact, and accidental ingestion.

Acute toxicity

Components:

1-ethoxypropan-2-ol:

Acute oral toxicity : LD 50 : > 5.000 mg/kg

Remarks: Low toxicity:

Acute inhalation toxicity : Remarks: Low toxicity if inhaled.

Based on available data, the classification criteria are not met.

Acute dermal toxicity : LD 50 : > 5.000 mg/kg

Remarks: Low toxicity:

Skin corrosion/irritation

Components:

1-ethoxypropan-2-ol:

Remarks: Slightly irritating to skin.

Serious eye damage/eye irritation

Components:

1-ethoxypropan-2-ol:

Remarks: Causes serious eye irritation.

Respiratory or skin sensitisation

Components:

1-ethoxypropan-2-ol:

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Remarks: Not a sensitiser.

Based on available data, the classification criteria are not met.

Germ cell mutagenicity

Components:

1-ethoxypropan-2-ol:

Remarks: No evidence of mutagenic activity.

Carcinogenicity

Components:

1-ethoxypropan-2-ol:

Remarks: Not a carcinogen., Based on available data, the classification criteria are not met.

Material	GHS/CLP Carcinogenicity Classification
1-ethoxypropan-2-ol	No carcinogenicity classification.

Reproductive toxicity

Components:

1-ethoxypropan-2-ol:

Remarks: Not a developmental toxicant., Does not impair fertility., Based on available data, the classification criteria are not met.

STOT - single exposure

Components:

1-ethoxypropan-2-ol:

Remarks: May cause drowsiness or dizziness., High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness., Inhalation of vapours or mists may cause irritation to the respiratory system.

STOT - repeated exposure

Components:

1-ethoxypropan-2-ol:

Remarks: Based on available data, the classification criteria are not met.

Aspiration toxicity

no data available

Further information

Components:

1-ethoxypropan-2-ol:

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Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

12. ECOLOGICAL INFORMATION

Basis for assessment : Unless indicated otherwise, the data presented is

representative of the product as a whole, rather than for

individual component(s).

Incomplete ecotoxicological data are available for this product. The information given below is based partly on a knowledge of the components and the ecotoxicology of similar products.

Ecotoxicity

Components:

1-ethoxypropan-2-ol:

Toxicity to fish (Acute

toxicity)

: LC50 : > 100 mg/l

Remarks: Practically non toxic:

Based on available data, the classification criteria are not met.

Toxicity to crustacean (Acute

toxicity)

: EC50 : > 100 mg/l

Remarks: Practically non toxic:

Based on available data, the classification criteria are not met.

Toxicity to algae/aquatic

plants (Acute toxicity)

: EC50: > 100 mg/l

Remarks: Practically non toxic:

Toxicity to microorganisms

(Acute toxicity)

: IC50: > 100 mg/l

Remarks: Practically non toxic:

Based on available data, the classification criteria are not met.

Toxicity to fish (Chronic

toxicity)

: Remarks: NOEC/NOEL > 100 mg/l

Toxicity to crustacean(Chronic toxicity) : Remarks: NOEC/NOEL > 100 mg/l

Persistence and degradability

Components:

1-ethoxypropan-2-ol:

Biodegradability : Remarks: Readily biodegradable.

Bioaccumulative potential

Product:

Partition coefficient: n-

: log Pow: < 1

octanol/water Components:

1-ethoxypropan-2-ol:

Bioaccumulation : Remarks: Does not bioaccumulate significantly.

Mobility in soil

Components:

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1-ethoxypropan-2-ol:

Mobility Remarks: If product enters soil, it will be highly mobile and

may contaminate groundwater., Dissolves in water.

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Recover or recycle if possible.

> It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Do not dispose into the environment, in drains or in water

courses

Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment. Waste, spills or used product is dangerous waste.

Disposal should be in accordance with applicable regional,

national, and local laws and regulations.

Local regulations may be more stringent than regional or national requirements and must be complied with.

MARPOL - see International Convention for the Prevention of Pollution from Ships (MARPOL 73/78) which provides technical aspects at controlling pollutions from ships.

Contaminated packaging

Drain container thoroughly.

After draining, vent in a safe place away from sparks and fire.

Residues may cause an explosion hazard. Do not, puncture, cut, or weld uncleaned drums. Send to drum recoverer or metal reclaimer.

Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand.

14. TRANSPORT INFORMATION

International Regulations

ADR

UN number : 3271

Proper shipping name ETHERS, N.O.S.

(1-ethoxypropan-2-ol)

Class : 3

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Packing group : III
Labels : 3
Hazard Identification Number : 30
Environmentally hazardous : no

ADN

UN number : 3271

Proper shipping name : ETHERS, N.O.S.

(1-ethoxypropan-2-ol)

Class : 3
Packing group : III
Labels : 3 (F)
Environmentally hazardous : no

IATA-DGR

UN/ID No. : UN 3271

Proper shipping name : ETHERS, N.O.S.

(1-ethoxypropan-2-ol)

Class : 3
Packing group : III
Labels : 3

IMDG-Code

UN number : UN 3271

Proper shipping name : ETHERS, N.O.S.

(1-ethoxypropan-2-ol)

Class : 3
Packing group : III
Labels : 3
Marine pollutant : no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Pollution category : Z Ship type : 3

Product name : Propylene glycol monoalkyl ether

Special precautions for user

Remarks : Special Precautions: Refer to Section 7, Handling & Storage,

for special precautions which a user needs to be aware of or

needs to comply with in connection with transport.

Additional Information: This product may be transported under nitrogen blanketing.

Nitrogen is an odourless and invisible gas. Exposure to nitrogen enriched atmospheres displaces available oxygen which may cause asphyxiation or death. Personnel must observe strict safety precautions when involved with a

confined space entry.

15. REGULATORY INFORMATION

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

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

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Other international regulations

The components of this product are reported in the following inventories:

AIIC Listed DSL Listed **IECSC** Listed **ENCS** Listed : Listed KECI **NZIoC** : Listed **PICCS** : Listed TCSI : Listed **TSCA** : Listed

16. OTHER INFORMATION

Full text of H-Statements

H226 Flammable liquid and vapour.
 H319 Causes serious eye irritation.
 H336 May cause drowsiness or dizziness.

Full text of other abbreviations

Eye Irrit. Eye irritation Flam. Liq. Flammable liquids

STOT SE Specific target organ toxicity - single exposure

Abbreviations and Acronyms : The standard abbreviations and acronyms used in this

document can be looked up in reference literature (e.g.

scientific dictionaries) and/or websites.

SDS Regulation : 1. GN 2.2.5.1313-03 "Maximum permissible

concentration of harmful substance in the working zone

area".

2. GOST 12.1.007-76 "Harmful agents. Classification and

safety requirements."

3. GOST 12.1.005-88 "General hygiene requirements to

the working zone area".

4. GN 2.1.5.1315-03 "Reservoir water maximum

permissible concentration".

5. GOST 19433-88 "Dangerous goods. Classification and

marking".

6. Rail transportation safety rules and dangerous goods

accidents liquidation procedure.

7. GOST 30333-2007 Chemical product safety data

sheet. General requirements. Regulation 1907/2006/EC

Further information

Training advice : Provide adequate information, instruction and training for

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operators.

Other information : A vertical bar (|) in the left margin indicates an amendment

from the previous version.

Sources of key data used to compile the Safety Data

Sheet

: The quoted data are from, but not limited to, one or more sources of information (e.g. toxicological data from Shell Health Services, material suppliers' data, CONCAWE, EU

IUCLID date base, EC 1272 regulation, etc).

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.