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

Product name : Ethyl DIPROXITOL

Product code : U5151

CAS-No. : 30025-38-8

Synonyms : Propanol, (2-ethoxymethylethoxy)-, EDP, ethoxypropoxy

propanol

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 (NCEC) This telephone number is

available 24 hours per day, 7 days per week 08 61555777

(Local Poison Centre)

Recommended use of the chemical and restrictions on use

Recommended use : Speciality 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 : DIPROXITOL is a trademark owned by Shell Trademark

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

of Shell plc.

2. HAZARDS IDENTIFICATION

number

Based on available data this substance / mixture does not meet the classification criteria.

Label elements

Hazard pictograms : No Hazard Symbol required

Signal word : No signal word

Hazard statements : PHYSICAL HAZARDS:

Not classified as a physical hazard according to CLP criteria.

HEALTH HAZARDS:

Not classified as a health hazard under CLP criteria.

ENVIRONMENTAL HAZARDS:

Not classified as environmental hazard according to CLP

criteria.

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Precautionary statements : Prevention:

No precautionary phrases.

Response:

No precautionary phrases.

Storage:

No precautionary phrases.

Disposal:

P501 Dispose of contents/ container to an approved waste

disposal plant.

Other hazards

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. EC-No. Registration number	Classification (REGULATION (EC) No 1272/2008)	Concentration (% w/w)
Propanol, (2- ethoxymethylethoxy)-	30025-38-8		> 80

4. FIRST-AID MEASURES

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

conditions.

If inhaled : No treatment necessary under normal conditions of use. If

symptoms persist, obtain medical advice.

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 : Flush eye with copious quantities of water.

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

rinsina.

If persistent irritation occurs, obtain medical attention.

If swallowed If swallowed, do not induce vomiting: transport to nearest

medical facility for additional treatment. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

Rinse mouth.

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Most important symptoms and effects, both acute and delayed

: Not considered to be an inhalation hazard under normal conditions of use.

Possible respiratory irritation signs and symptoms may include a temporary burning sensation of the nose and throat, coughing, and/or difficulty breathing.

No specific hazards under normal use conditions. Skin irritation signs and symptoms may include a burning sensation, redness, or swelling.

No specific hazards under normal use conditions. Eye irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blurred vision.

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

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

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.

Call a doctor or poison control center for guidance. Notes to physician

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

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

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

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> 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.

: 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

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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, eyes 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.

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.

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.

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

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8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

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.

Eye 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

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

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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.

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: Nitrile rubber gloves. Incidental contact/Splash protection: PVC. neoprene or nitrile 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.

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Eye protection : If material is handled such that it could be splashed into eyes,

protective eyewear is recommended.

Skin and body protection : 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.

Wear antistatic and flame-retardant clothing, if a local risk

assessment deems it so.

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 : Not applicable

Melting / freezing point : -50 °C / -58 °F

Boiling point/boiling range : 194 °C / 381 °F

Flash point : 82 °C / 180 °F

Method: ASTM D-93 / PMCC

Evaporation rate : Data not available Flammability (solid, gas) : Data not available

Upper explosion limit : Data not available
Lower explosion limit : Data not available

Vapour pressure : 56,7 Pa (25 °C / 77 °F)

Relative vapour density : Data not available

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Relative density : 0,9317Method: ASTM D4052

Density : 931,7 kg/m3 (20 °C / 68 °F)

Method: ASTM D4052

Solubility(ies)

Water solubility : completely soluble (20 °C / 68 °F)

Partition coefficient: n-

octanol/water

: log Pow: 0,16

Auto-ignition temperature : 199 °C / 390 °F

Decomposition temperature : Data not available

Viscosity

Viscosity, dynamic : Data not available

Viscosity, kinematic : 4,2 mm2/s (20 °C / 68 °F)

Method: ASTM D445

Explosive properties : Not applicable

Oxidizing properties : Data not available

Surface tension : 61 mN/m, 20 °C / 68 °F

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 : 162 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

reactions

: Reacts with strong oxidising agents.

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

Prevent vapour accumulation.

In certain circumstances product can ignite due to static

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electricity.

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.

exposure

Information on likely routes of : Skin and eye contact are the primary routes of exposure although exposure may occur following accidental ingestion.

Acute toxicity

Components:

Propanol, (2-ethoxymethylethoxy)-:

: LD50: > 2000 - <= 5000 mg/kg Acute oral toxicity

Remarks: May be harmful if swallowed.

Acute inhalation toxicity : Remarks: Based on available data, the classification criteria

are not met.

: LD50 : > 5000 mg/kg Acute dermal toxicity

Remarks: Low toxicity

Skin corrosion/irritation

Components:

Propanol, (2-ethoxymethylethoxy)-:

Remarks: Not irritating to skin.

Serious eye damage/eye irritation

Components:

Propanol, (2-ethoxymethylethoxy)-:

Remarks: Not irritating to eye.

Respiratory or skin sensitisation

Components:

Propanol, (2-ethoxymethylethoxy)-:

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Remarks: Not a skin sensitiser.

Germ cell mutagenicity

Components:

Propanol, (2-ethoxymethylethoxy)-:

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

Carcinogenicity

Components:

Propanol, (2-ethoxymethylethoxy)-:

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

Material	GHS/CLP Carcinogenicity Classification
Propanol, (2- ethoxymethylethoxy)-	No carcinogenicity classification.

Reproductive toxicity

Components:

Propanol, (2-ethoxymethylethoxy)-:

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

STOT - single exposure

Components:

Propanol, (2-ethoxymethylethoxy)-:

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

STOT - repeated exposure

Components:

Propanol, (2-ethoxymethylethoxy)-:

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

Aspiration toxicity

Components:

Propanol, (2-ethoxymethylethoxy)-:

Not an aspiration hazard.

Further information

Components:

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Propanol, (2-ethoxymethylethoxy)-:

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:

Propanol, (2-ethoxymethylethoxy)-:

Toxicity to fish (Acute : Remarks: Practically non toxic:

toxicity) LL/EL/IL50 > 100 mg/l

Toxicity to crustacean (Acute : Remarks: Practically non toxic:

toxicity) LL/EL/IL50 > 100 mg/l

Toxicity to algae/aquatic : Remarks: Practically non toxic: plants (Acute toxicity) : LL/EL/IL50 > 100 mg/l

Toxicity to microorganisms : Remarks: LL/EL/IL50 > 100 mg/l

(Acute toxicity) Practically non toxic:

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

Toxicity to fish (Chronic : Remarks: NOEC/NOEL > 100 mg/l

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

crustacean(Chronic toxicity)

Persistence and degradability

Components:

Propanol, (2-ethoxymethylethoxy)-:

Biodegradability : Remarks: Readily biodegradable.

Bioaccumulative potential

Product:

Partition coefficient: n- : log Pow: 0,16

octanol/water Components:

Propanol, (2-ethoxymethylethoxy)-:

Bioaccumulation : Remarks: Does not bioaccumulate significantly.

Mobility in soil

Components:

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Propanol, (2-ethoxymethylethoxy)-:

Mobility : Remarks: If product enters soil, one or more constituents will

be mobile and may contaminate groundwater.

Other adverse effects

no data available

Components:

Propanol, (2-ethoxymethylethoxy)-:

Additional ecological : None known.

information

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

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Not regulated as a dangerous good

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Maritime transport in bulk according to IMO instruments

Pollution category : Z Ship type : 3

Product name : Poly (2-8) alkylene glycol monoalkyl (C1-C6) 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 : Transport in bulk according to Annex II of Marpol and the IBC

Code

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.

Other international regulations

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

AIIC : Listed IECSC : Listed KECI : Listed PICCS : Listed TSCA : Listed TCSI : Listed

16. OTHER INFORMATION

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 : Regulation 1907/2006/EC

Further information

Training advice : Provide adequate information, instruction and training for

operators.

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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.