

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

NORMAL PROPOXYPROPANOL (53666, 53667)

Revision Date: 15-Oct-2014

Revision Number: 12

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product Identifier

Product Name NORMAL PROPOXYPROPANOL (53666, 53667)

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use	Reagent
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1.3. Details of the supplier of the safety data sheet

Halliburton Energy Services
 Halliburton House, Howemoss Place
 Kirkhill Industrial Estate
 Dyce
 Aberdeen, AB21 0GN
 United Kingdom

Emergency Phone Number: +44 1224 795277 or +1 281 575 5000

www.halliburton.com

For further information, please contact

E-Mail address: fdunexchem@halliburton.com

1.4. Emergency telephone number

+44 1224 795277 or +1 281 575 5000

Emergency telephone - §45 - (EC)1272/2008	
Europe	112
Croatia	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO): + 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Spain	Poison Information Service (ES): +34 91 562 04 20
United Kingdom	NHS Direct (UK): +44 0845 46 47

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Serious Eye Damage / Eye Irritation	Category 2 - H319
Specific Target Organ Toxicity - (Single Exposure)	Category 3 - H336
Flammable liquids.	Category 3 - H226

Classification according to EU Directives 67/548/EEC or 1999/45/EC

For the full text of the R-phrases mentioned in this Section, see Section 16

Classification Xi - Irritant.

Risk Phrases R10 Flammable.
R36 Irritating to eyes.
R67 Vapours may cause drowsiness and dizziness.

2.2. Label Elements

Hazard Pictograms



Signal Word Warning

Hazard Statements

H226 - Flammable liquid and vapor
H319 - Causes serious eye irritation
H336 - May cause drowsiness or dizziness

Precautionary Statements - EU (§28, 1272/2008)

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P280 - Wear eye protection/face protection
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
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
P370 + P378 - In case of fire: Use water spray for extinction

Contains

Substances Propylene glycol n-propyl ether **CAS Number** 1569-01-3

2.3. Other Hazards

None known

SECTION 3: Composition/information on Ingredients

Substances	EINECS	CAS Number	PERCENT (w/w)	EEC Classification	EU - CLP Substance Classification	REACH No.
Propylene glycol n-propyl ether	216-372-4	1569-01-3	60 - 100%	Xi; R36 R10 R67	Eye Irrit. 2 (H319) STOT-SE 3 (H336) Flamm. Liq. 3 (H226)	No data available

For the full text of the R-phrases mentioned in this Section, see Section 16

3.1. Substances

Substance

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.
Eyes	In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.
Skin	Wash with soap and water. Get medical attention if irritation persists.
Ingestion	Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

May cause eye irritation May cause headache, dizziness, and other central nervous system effects.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

SECTION 5: Firefighting Measures

5.1. Extinguishing media

Suitable Extinguishing Media

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2. Special hazards arising from the substance or mixture

Special Exposure Hazards

May be ignited by heat, sparks or flames. Vapors are heavier than air and may accumulate in low areas. Vapors may travel along the ground to be ignited at distant locations. Avoid spraying water directly into storage containers due to danger of boilover.

5.3. Advice for firefighters

Special Protective Equipment for Fire-Fighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment.
See Section 8 for additional information

6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3. Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Remove ignition sources and work with non-sparking tools. Contain spill with sand or other inert materials. Scoop up and remove.

6.4. Reference to other sections

See Section 8 and 13 for additional information.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Wash hands after use. Launder contaminated clothing before reuse.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

7.2. Conditions for safe storage, including any incompatibilities

Store away from oxidizers. Keep from heat, sparks, and open flames. Keep container closed when not in use.

7.3. Specific End Use(s)

Exposure Scenario

No information available

Other Guidelines

No information available

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Exposure Limits

Substances	CAS Number	EU	UK OEL	Netherlands	France OEL
Propylene glycol n-propyl ether	1569-01-3	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Germany MAK/TRK	Spain	Portugal	Finland
Propylene glycol n-propyl ether	1569-01-3	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Propylene glycol n-propyl ether	1569-01-3	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Propylene glycol n-propyl ether	1569-01-3	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark
Propylene glycol n-propyl ether	1569-01-3	Not applicable

Derived No Effect Level (DNEL)

No information available.

Worker

General Population

Predicted No Effect Concentration (PNEC)

No information available.

8.2. Exposure controls

Engineering Controls

Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

Personal protective equipment

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

Respiratory Protection

If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Organic vapor respirator.

Hand Protection

Chemical-resistant protective gloves (EN 374) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Nitrile gloves. (>= 0.4 mm thickness)
This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced. Manufacturer's directions for use should be observed because of great diversity of types.

Skin Protection

Rubber apron.

Eye Protection

Chemical goggles; also wear a face shield if splashing hazard exists.

Other Precautions

Eyewash fountains and safety showers must be easily accessible.

Environmental Exposure Controls No information available

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Physical State: Liquid **Color:** Clear
Odor: Mild ether **Odor Threshold:** No information available

<u>Property</u> Remarks/ - Method	<u>Values</u>
pH:	No data available
Freezing Point/Range	-80 °C
Melting Point/Range	No data available
Boiling Point/Range	149 °C
Flash Point	48 °C Seta closed cup
lower flammability limit	1.1
Evaporation rate	0.21
Vapor Pressure	1.5 mmHg
Vapor Density	No data available
Specific Gravity	0.833
Water Solubility	Soluble in water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	252 °C
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2. Other information

Molecular Weight 118.2
VOC Content (%) No data available

SECTION 10: Stability and Reactivity

10.1. Reactivity

Not applicable

10.2. Chemical Stability

Stable

10.3. Possibility of Hazardous Reactions

Will Not Occur

10.4. Conditions to Avoid

Keep away from heat, sparks and flame.

10.5. Incompatible Materials

Strong oxidizers.

10.6. Hazardous Decomposition Products

Carbon monoxide and carbon dioxide.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity

Inhalation	May cause respiratory irritation. Excessive inhalation causes headache, dizziness, nausea and incoordination.
Eye Contact	May cause moderate eye irritation.
Skin Contact	Prolonged or repeated contact may cause skin irritation.
Ingestion	May cause central nervous system depression including headache, dizziness, drowsiness, muscular weakness, incoordination, slowed reaction time, fatigue blurred vision, slurred speech, giddiness, tremors and convulsions.

Chronic Effects/Carcinogenicity Repeated overexposure may cause liver and kidney effects. Repeated excessive ingestion may cause central nervous system effects.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Propylene glycol n-propyl ether	1569-01-3	3250 µL/kg (Rat) 2504 mg/kg (Rat)	3550 mg/kg (Rabbit) 4 mL/kg (Rabbit)	8.3 mg/L (Rat)

Substances	CAS Number	Skin corrosion/irritation
Propylene glycol n-propyl ether	1569-01-3	Mild skin irritation (rabbit)

Substances	CAS Number	Eye damage/irritation
Propylene glycol n-propyl ether	1569-01-3	Causes moderate eye irritation. (rabbit)

Substances	CAS Number	Skin Sensitization
Propylene glycol n-propyl ether	1569-01-3	Did not cause sensitization on laboratory animals

Substances	CAS Number	Respiratory Sensitization
Propylene glycol n-propyl ether	1569-01-3	No information available

Substances	CAS Number	Mutagenic Effects
Propylene glycol n-propyl ether	1569-01-3	In vitro tests did not show mutagenic effects

Substances	CAS Number	Carcinogenic Effects
Propylene glycol n-propyl ether	1569-01-3	No information available.

Substances	CAS Number	Reproductive toxicity
Propylene glycol n-propyl ether	1569-01-3	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)

Substances	CAS Number	STOT - single exposure
Propylene glycol n-propyl ether	1569-01-3	May cause anesthetic or narcotic effects.

Substances	CAS Number	STOT - repeated exposure
Propylene glycol n-propyl ether	1569-01-3	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	Aspiration hazard
Propylene glycol n-propyl ether	1569-01-3	Not applicable

SECTION 12: Ecological Information

12.1. Toxicity Ecotoxicity Effects

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Propylene glycol n-propyl ether	1569-01-3	EC50(96h): 1466 mg/L (cell number) (Pseudokirchnerella subcapitata)	LC50(96h): 3,400 mg/l (Pimephales promelas) LC50(96h): > 100 mg/L (Oncorhynchus mykiss)	EC50(16h): 3800 mg/L (Bacteria)	LC50: 3,600 mg/l EC50(48h) > 100 mg/L (Daphnia magna)

12.2. Persistence and degradability

Readily biodegradable

Substances	CAS Number	Persistence and Degradability
Propylene glycol n-propyl ether	1569-01-3	Readily biodegradable (91.5% @ 28d)

12.3. Bioaccumulative potential

Does not bioaccumulate

Substances	CAS Number	Log Pow
Propylene glycol n-propyl ether	1569-01-3	0.621

12.4. Mobility in soil

No information available

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Other adverse effects

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Disposal Method

Disposal should be made in accordance with federal, state, and local regulations.

Contaminated Packaging

Follow all applicable national or local regulations.

SECTION 14: Transport Information

IMDG/IMO

UN Number: UN1993
UN Proper Shipping Name: Flammable Liquid, N.O.S. (Contains Propylene Glycol n-Propyl Ether)
Transport Hazard Class(es): 3
Packing Group: III
Environmental Hazards: Not applicable
EMS: EmS F-E, S-E

RID

UN Number: UN1993
UN Proper Shipping Name: Flammable Liquid, N.O.S. (Contains Propylene Glycol n-Propyl Ether)
Transport Hazard Class(es): 3
Packing Group: III
Environmental hazard: Not applicable

ADR

UN Number: UN1993
UN Proper Shipping Name: Flammable Liquid, N.O.S. (Contains Propylene Glycol n-Propyl Ether)
Transport Hazard Class(es): 3
Packing Group: III
Environmental hazard: Not applicable

IATA/ICAO

UN Number: UN1993
UN Proper Shipping Name: Flammable Liquid, N.O.S. (Contains Propylene Glycol n-Propyl Ether)
Transport Hazard Class(es): 3
Packing Group: III
Environmental hazard: Not applicable

14.1. UN Number: UN1993

14.2. UN Proper Shipping Name: Flammable Liquid, N.O.S. (Contains Propylene Glycol n-Propyl Ether)

14.3. Transport Hazard Class(es): 3

14.4. Packing Group: III

14.5. Environmental Hazards: Not applicable

14.6. Special Precautions for User: None

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

SECTION 15: Regulatory Information

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

International Inventories

EINECS Inventory

This product, and all its components, complies with EINECS

US TSCA Inventory

All components listed on inventory or are exempt.

Canadian DSL Inventory

All components listed on inventory or are exempt.

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

Germany, Water Endangering Classes (WGK) Not determined.

15.2. Chemical Safety Assessment

No information available

SECTION 16: Other Information

Full text of R-phrases referred to under Sections 2 and 3

R10 Flammable.

R36 - Irritating to eyes

R67 Vapours may cause drowsiness and dizziness.

Key literature references and sources for data

www.ChemADVISOR.com/

Revision Date: 15-Oct-2014

Revision Note

Update to Format SECTION: 8

This safety data sheet complies with the requirements of Regulation (EC) No. 453/2010

Disclaimer Statement

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End of Safety Data Sheet