

# MASTER SAFETY DATA SHEET

25/12/03

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## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

DOW EUROPE GMBH

CH-8810 HORGEN SWITZERLAND

MEDICAL EMERGENCY PHONE NO from ... 31 115 694 982 (THE NETHERLANDS)  
(ASK FOR MEDICAL DEPARTMENT)Product Name: **DOWANOL\* PE GLYCOL ETHER**

LV70: 15260

Issue Date: April 02

Ref: 00870

Revised: Nov. 03 (Section(s) 8, 9 &amp; 12)

### Use of the substance/preparation

Industrial solvent for cleaner and coating formulations.

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## 2. COMPOSITION/INFORMATION ON INGREDIENTS

### Dangerous components (see section 16 for complete R-phrases):

			CAS	EC No
1-Ethoxy-2-propanol	>95 %	R10	001569-02-4	216-374-5

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## 3. HAZARDS IDENTIFICATION

Flammable. This product is not hazardous to health and environment according to EC criteria.

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\* Trademark of The Dow Chemical Company.

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## 4. FIRST-AID MEASURES

Never give fluids or induce vomiting if patient is unconscious or is having convulsions.

### Inhalation

Move person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

### Skin Contact

Wash skin with plenty of water.

### Eye Contact

Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist.

### Ingestion

If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

### Note to Physician

No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

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## 5. FIRE-FIGHTING MEASURES

### Extinguishing Media

Water fog or fine spray. Carbon dioxide. Dry chemical fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

### Extinguishing Media to Avoid

Do not use direct water stream.

### Hazardous Combustion Products

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.

### Protection of Firefighters

Wear positive-pressure self-contained breathing apparatus and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves). If protective equipment is not available or not used, fight fire from a protected location or a safe distance.

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**Specific Fire or Explosion Hazards**

Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Vapours are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flashback may occur.

**Specific Methods of Firefighting**

Keep people away. Isolate fire area and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Do not use direct water stream. May spread fire. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Move containers from fire area if this is possible without hazard. Fight fire from a protected location or safe distance. Consider use of unmanned hose holder or monitor nozzles. Immediately withdraw all personnel from area in case of rising sound from venting safety device or discolouration of the container. Eliminate all ignition sources. Burning liquids may be moved by flushing with water to protect personnel and minimise property damage. Burning liquids may be extinguished by dilution with water.

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**6. ACCIDENTAL RELEASE MEASURES****Personal Precautions**

Eliminate all sources of ignition in vicinity of spill or released vapour to avoid fire or explosion. Vapour explosion hazard, keep out of sewers.

**Environmental Precautions**

Avoid contamination of drinking water, natural water, ground water or any waterway.

**Methods of Cleaning Up**

Pump with explosion-proof equipment. If available, use foam to smother or suppress.

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**7. HANDLING AND STORAGE****Handling**

No smoking, open flames or sources of ignition in handling and storage area. Use of non-sparking or explosion proof equipment may be necessary, depending upon type of operation. Containers, even those that have been emptied, can contain vapours. Do not cut, drill, grind, weld or perform similar operations on or near empty containers.

**Storage**

Minimise sources of ignition, such as static buildup, heat, spark or flame.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

None established.

### Engineering Controls

Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

### Personal Protective Equipment

#### - Respiratory Protection

If respiratory irritation is experienced, use an approved air-purifying respirator.

Use a CE approved air-purifying respirator with cartridge/filter for: Organic vapours, type A (boiling point >65 deg.C).

#### - Protective Clothing

When prolonged or frequently repeated contact could occur, use protective clothing chemically resistant to this material. Selection of specific items such as face shield, gloves, boots, apron, or full body-suit will depend on operation. Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, gloves, boots, apron, or full body-suit will depend on operation. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly.

#### -Hand protection

Use chemical resistant gloves classified under standard EN 374: Protective gloves against chemicals and micro-organisms.

Examples of preferred glove barrier materials include:

Butyl rubber.

Chlorinated polyethylene.

Polyethylene.

Ethyl vinyl alcohol laminate ("EVAL").

Examples of acceptable glove barrier materials include:

Natural rubber ("latex").

Nitrile/butadiene rubber ("nitrile" or "NBR").

Polyvinyl chloride ("PVC" or "vinyl").

Viton.

When prolonged or frequently repeated contact may occur, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended.

NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all requisite workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), as well as the instructions/specifications provided by the glove supplier.

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**- Eye/Face Protection**

Use chemical goggles. If exposure causes eye discomfort, use a full-face respirator.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance	: clear liquid
Colour	: colourless
Odour	: ethereal
Rel. density (water=1)	: 0.890-0.907
Vapour pressure	: 1 kPa (20 deg.C)
Boiling point/range	: 133 deg.C
Freezing point/range	: -90 deg.C
pH	: not applicable
Water solubility	: (20 deg.C) miscible in all proportions
Flash point	: 40 deg.C (PMCC)
Autoignition temperature	: 255 deg.C
Flammability-LFL	: 1.3 %vol/vol
Flammability-UFL	: 12.0 %vol/vol

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**10. STABILITY AND REACTIVITY****Chemical Stability**

Stable under recommended storage conditions, see Section 7, Storage.

**Conditions to Avoid**

Product can oxidise at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

**Materials to Avoid**

Avoid contact with: Strong acids. Strong oxidising agents.

**Hazardous Decomposition Products**

Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products may include and are not limited to: Aldehydes. Ketones. Organic acids.

**Hazardous Polymerisation**

Will not occur.

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## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### - Ingestion

Very low toxicity if swallowed. The oral LD50 for rats is >5000 mg/kg. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury.

#### - Skin Contact

Prolonged skin contact with very large amounts may cause dizziness or drowsiness. The LD50 for skin absorption in rabbits is >8000 mg/kg for 24 hours.

#### - Inhalation

Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed. A single excessive exposure may cause: Slight kidney effects.

### Irritation

#### - Skin

Prolonged exposure is not likely to cause significant skin irritation. Repeated contact may cause drying or flaking of skin.

#### - Eyes

May cause moderate eye irritation. May cause moderate corneal injury. Vapours may cause eye irritation experienced as mild discomfort and redness.

#### - Inhalation

Excessive exposure may cause irritation to upper respiratory tract (nose and throat).

### Developmental/Reproductive Effects

Birth defects are unlikely. Even exposures having an adverse effect on the mother should have no effect on the fetus.

### Mutagenicity

In vitro genetic toxicity studies were negative.

### Carcinogenicity

No relevant information is available.

### Other Information

Repeated excessive exposure may cause: Central nervous system effects. Kidney injury.

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**12. ECOLOGICAL INFORMATION****Mobility and Bioaccumulation Potential**

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Log octanol/water partition coefficient (log Pow) is estimated using a structural fragment method to be 0.00. Potential for mobility in soil is very high (Koc between 0 and 50). Soil organic carbon/water partition coefficient (Koc) is estimated to be 37. Henry's Law Constant (H) is estimated to be 9.29E-07 atm.m<sup>3</sup>/mol.

**Degradation**

Material is readily biodegradable. Passes OECD Test(s) for ready biodegradability. Biodegradation reached in DOC Die-Away Test (Modified AFNOR Test, OECD Test No. 301 A) after 28 days: >87 %. The rate constant for the vapour phase reaction with photochemically produced hydroxyl radicals at 25 deg.C is estimated to be 2.18E-11 cm<sup>3</sup>/molecule-sec. In the atmospheric environment the material is estimated to have a tropospheric half-life of 5.9 hours.

**Aquatic Toxicity**

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50 greater than 100 mg/L in most sensitive species). Acute LC50 for fathead minnow (*Pimephales promelas*) is >10.000 mg/L. Acute LC50 for water flea *Daphnia magna* is >10.000 mg/L. The 16 hour growth inhibition EC50 in bacteria is >10.000 mg/L.

**13. DISPOSAL CONSIDERATIONS**

Any disposal practice must be in compliance with all local and national laws and regulations.

**14. TRANSPORT INFORMATION****Road & Rail**

Proper shipping name: 1987 ALCOHOLS, N.O.S. (1-ETHOXY-2-PROPANOL)  
 Truck/Rail ADR/RID : 3 Label : 3  
 Classification Code : F1  
 Packing Group : III

Kemler Code : 30 UN Number : 1987  
 Tremcard Nr. CEFIC : 30GF1-III

**Sea**

Proper shipping name: ALCOHOLS, N.O.S. (1-ETHOXY-2-PROPANOL)  
 Sea - IMO/IMDG Class: 3 UN Nr : 1987 Label: 3  
 Packing Group : III EMS : 3-07  
 Marine Pollutant : N (Y/N)

