

SAFETY DATA SHEET

1. PRODUCT

1.1 Product identifiers

Name: Di(propylene glycol) methyl ether, mixture of isomers

CAS-No.: 34590-94-8

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

Identified uses : Laboratory chemicals, Synthesis of substances

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 4), H227

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

2.2 GHS Label elements, including precautionary statements

Company

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Pictogram	N/A
Signal word	Warning
Hazard statement(s)	H227 Combustible liquid.
Precautionary statement(s)	P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking. P280 Wear protective gloves/ eye protection/ face protection. P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. P403 + P235 Store in a well-ventilated place. Keep cool. P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms: Dipropylene glycol monomethyl ether
DOWANOL® DPM

Formula: C₇H₁₆O₃

Molecular weight: 148.20 g/mol

CAS-No.: 34590-94-8

EC-No.: 252-104-2

Hazardous components

Component	Classification	Concentration
(2-Methoxymethylethoxy)propanol	Flam. Liq. 4; H227	<= 100 %

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

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. Move out of dangerous area.
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
Do NOT induce vomiting. 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

4.2 Indication of any immediate medical attention and special treatment needed

No data available

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

No data available

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid breathing vapours, mist or gas. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low 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

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
(2-Methoxymethylethoxy)propanol	34590-94-8	TWA	100.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Central Nervous System impairment Upper Respiratory Tract irritation Eye irritation Danger of cutaneous absorption		
		TWA	100 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Central Nervous System impairment Upper Respiratory Tract irritation Eye irritation Danger of cutaneous absorption		
		STEL	150 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Central Nervous System impairment Upper Respiratory Tract irritation Eye irritation Danger of cutaneous absorption		
		STEL	150.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		Central Nervous System impairment Upper Respiratory Tract irritation Eye irritation Danger of cutaneous absorption		
		TWA	100.000000 ppm 600.000000 mg/m3	USA. Occupational Exposure Limits (OSHA) -Table Z-1 Limits for Air Contaminants
		Skin designation The value in mg/m3 is approximate.		
		TWA	100.000000 ppm 600.000000 mg/m3	USA. NIOSH Recommended Exposure Limits
		Potential for dermal absorption		
		ST	150.000000 ppm 900.000000 mg/m3	USA. NIOSH Recommended Exposure Limits
		Potential for dermal absorption		
		STEL	150 ppm 900 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		Skin		
		PEL	100 ppm 600 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		Skin		

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	Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
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Skin protection	<p>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.</p> <p>Full contact Material: Nitrile rubber Minimum layer thickness: 0.4 mm Break through time: 480 min Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)</p> <p>Splash contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 30 min Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374</p> <p>If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.</p>
Body Protection	Impervious clothing, 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 a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Form: liquid Colour: colourless
Odour	mild
Odour Threshold	No data available
pH	No data available
Melting point/freezing point	Melting point/range: -83 °C (-117 °F) - lit.
Initial boiling point and boiling range	190 °C (374 °F) - lit.
Flash point	74 °C (165 °F) - closed cup
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	Upper explosion limit: 14 %(V) Lower explosion limit: 1.1 %(V)
Vapour pressure	0.5 hPa (0.4 mmHg) at 25 °C (77 °F)
Vapour density	No data available
Relative density	0.951 g/cm ³ at 25 °C (77 °F)
Water solubility	soluble
Partition coefficient: n-octanol/water	log Pow: 0.004 at 25 °C (77 °F)
Auto-ignition temperature	207 °C (405 °F) at 1,013 hPa (760 mmHg)
Decomposition temperature	No data available
Viscosity	4.55 mm ² /s at 20 °C (68 °F) - 3.82 mm ² /s at 25 °C (77 °F) -
Explosive properties	No data available
Oxidizing properties	No data available

9.2 Other safety information

Surface tension: 68.7 mN/m at 20 °C (68 °F)

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

Heat, flames and sparks.

10.5 Incompatible materials

Strong oxidizing agents, Strong acids

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

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity LD50 Oral - Rat - male and female - > 5,000 mg/kg (OECD Test Guideline 401) Inhalation: No data available LD50 Dermal - Rabbit - male - 9,510 mg/kg (OECD Test Guideline 402) No data available
Skin corrosion/irritation Skin - Rabbit Result: No skin irritation (OECD Test Guideline 404)
Serious eye damage/eye irritation Eyes - Rabbit Result: Mild eye irritation - 24 h Eyes - Rabbit Result: No eye irritation (Draize Test)
Respiratory or skin sensitisation No data available
Germ cell mutagenicity No data available Chromosome aberration test in vitro Chinese hamster lung cells Result: negative
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. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive toxicity No data available No data available
Specific target organ toxicity -single exposure No data available
Specific target organ toxicity -repeated exposure No data available
Aspiration hazard No data available
Additional Information

Repeated dose Rat - male and female - Oral - NOAEL : 1,000 mg/kg
toxicity

RTECS: JM1575000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish	static test LC50 - Poecilia reticulata (guppy) - > 1,000 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	Immobilization EC50 - Daphnia magna (Water flea) - 1,919 mg/l - 48 h (OECD Test Guideline 202)
Toxicity to algae	Growth inhibition EC50 - Pseudokirchneriella subcapitata - > 969 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	No data available

12.2 Persistence and degradability

Biodegradability	aerobic - Exposure time 28 d Result: 76 % - Readily biodegradable (OECD Test Guideline 301F)
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12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product
This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

NA-Number: 1993 Class: NONE Packing group: III

Proper shipping name: Combustible liquid, n.o.s. ((2-Methoxymethylethoxy)propanol)

Reportable Quantity (RQ):

Poison Inhalation Hazard: No

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

Component	CAS-No.	Revision Date
(2-Methoxymethylethoxy)propanol	34590-94-8	1993-04-24

Pennsylvania Right To Know Components

Component	CAS-No.	Revision Date
(2-Methoxymethylethoxy)propanol	34590-94-8	1993-04-24

New Jersey Right To Know Components

Component	CAS-No.	Revision Date
(2-Methoxymethylethoxy)propanol	34590-94-8	1993-04-24

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

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

Flam. Liq. Flammable liquids

H227 Combustible liquid.

HMIS Rating

Health hazard: 0

Chronic Health Hazard: *

Flammability: 2

Physical Hazard 0

NFPA Rating

Health hazard: 0

Fire Hazard: 2

Reactivity Hazard: 0
