

Creation Date 02-Jul-2014

Revision Date 19-Feb-2019

Revision Number 7

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identification

Product Description: 2(2-Ethoxyethoxy)ethanol
Cat No. : 117890000; 117890010; 117890025
Synonyms Diethylene glycol monoethyl ether; Carbitol[®]4
CAS-No 111-90-0
Molecular Formula C6 H14 O3
Reach Registration Number 01-2119475105-42

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

Recommended Use Laboratory chemicals.
Sector of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites
Product category PC21 - Laboratory chemicals
Process categories PROC15 - Use as a laboratory reagent
Environmental release category ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
Uses advised against No Information available

1.3. Details of the supplier of the safety data sheet

Company **UK entity/business name**
 Fisher Scientific UK
 Bishop Meadow Road, Loughborough,
 Leicestershire LE11 5RG, United Kingdom

EU entity/business name
 Acros Organics BVBA
 Janssen Pharmaceuticaaan 3a
 2440 Geel, Belgium

E-mail address begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11
 Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99
CHEMTREC Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical hazards

Based on available data, the classification criteria are not met

Health hazards

SAFETY DATA SHEET

2(2-Ethoxyethoxy)ethanol

Revision Date 19-Feb-2019

Based on available data, the classification criteria are not met

Environmental hazards

Based on available data, the classification criteria are not met

2.2. Label elements

Hazard Statements

Precautionary Statements

2.3. Other hazards

No information available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Component	CAS-No	EC-No.	Weight %	CLP Classification - Regulation (EC) No 1272/2008
Diethylene glycol monoethyl ether	111-90-0	EEC No. 203-919-7	98	-

Reach Registration Number	01-2119475105-42
----------------------------------	------------------

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.
Ingestion	Do not induce vomiting. Get medical attention if symptoms occur.
Inhalation	Move to fresh air. Get medical attention if symptoms occur. If not breathing, give artificial respiration.
Self-Protection of the First Aider	No special precautions required.

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

Breathing difficulties. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

SAFETY DATA SHEET

2(2-Ethoxyethoxy)ethanol

Revision Date 19-Feb-2019

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

Notes to Physician

Treat symptomatically. Symptoms may be delayed.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Extinguishing media which must not be used for safety reasons

No information available.

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors. Containers may explode when heated. Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO₂), peroxides.

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

6.2. Environmental precautions

Avoid release to the environment. See Section 12 for additional ecological information.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Wear personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do

SAFETY DATA SHEET

2(2-Ethoxyethoxy)ethanol

Revision Date 19-Feb-2019

not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep under nitrogen.

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

List source(s):

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

Derived No Effect Level (DNEL) No information available

<u>Route of exposure</u>	<u>Acute effects (local)</u>	<u>Acute effects (systemic)</u>	<u>Chronic effects (local)</u>	<u>Chronic effects (systemic)</u>
Oral Dermal Inhalation				

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Measures

None under normal use conditions.

Personal protective equipment

Eye Protection

Safety glasses with side-shields (European standard - EN 166)

Hand Protection

Protective gloves

<u>Glove material</u>	<u>Breakthrough time</u>	<u>Glove thickness</u>	<u>EU standard</u>	<u>Glove comments</u>
Viton (R)	See manufacturers recommendations	-	EN 374	(minimum requirement)

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

SAFETY DATA SHEET

2(2-Ethoxyethoxy)ethanol

Revision Date 19-Feb-2019

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Respiratory Protection

No protective equipment is needed under normal use conditions.

Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

Recommended Filter type: Particle filter

Small scale/Laboratory use

Maintain adequate ventilation

Recommended half mask:- Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141

Environmental exposure controls

No information available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Colorless	
Physical State	Liquid	
Odor	sweet	
Odor Threshold	No data available	
pH	No information available	
Melting Point/Range	-80 °C / -112 °F	
Softening Point	No data available	
Boiling Point/Range	197 °C / 386.6 °F	@ 760 mmHg
Flash Point	94 °C / 201.2 °F	Method - No information available
Evaporation Rate	No data available	
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	Lower 1.2 Upper 8.5	
Vapor Pressure	No data available	
Vapor Density	No data available	(Air = 1.0)
Specific Gravity / Density	0.990	
Bulk Density	Not applicable	Liquid
Water Solubility	Miscible	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Component	log Pow	
Diethylene glycol monoethyl ether	-0.8	
Autoignition Temperature	204 - °C / 399.2 - °F	
Decomposition Temperature	No data available	
Viscosity	No data available	
Explosive Properties	No information available	
Oxidizing Properties	No information available	

9.2. Other information

Molecular Formula	C6 H14 O3
Molecular Weight	134.17

SECTION 10: STABILITY AND REACTIVITY

SAFETY DATA SHEET

2(2-Ethoxyethoxy)ethanol

Revision Date 19-Feb-2019

10.1. Reactivity

None known, based on information available

10.2. Chemical stability

Stable under normal conditions, Hygroscopic.

10.3. Possibility of hazardous reactions

Hazardous Polymerization Hazardous Reactions

Hazardous polymerization does not occur.
No information available.

10.4. Conditions to avoid

Incompatible products. Excess heat. Exposure to moisture.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids. Acid anhydrides. Acid chlorides.

10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO₂). peroxides.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Product Information

(a) acute toxicity;

Oral

Based on available data, the classification criteria are not met

Dermal

Based on available data, the classification criteria are not met

Inhalation

Based on available data, the classification criteria are not met

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Diethylene glycol monoethyl ether	6031 mg/kg (Rat)	9143 mg/kg (Rabbit) 4200 µL/kg (Rabbit) 6 mL/kg (Rat)	LC50 > 5240 mg/m ³ (Rat) 4 h

(b) skin corrosion/irritation;

Based on available data, the classification criteria are not met

(c) serious eye damage/irritation;

Based on available data, the classification criteria are not met

(d) respiratory or skin sensitization;

Respiratory

Based on available data, the classification criteria are not met

Skin

Based on available data, the classification criteria are not met

(e) germ cell mutagenicity;

Based on available data, the classification criteria are not met

(f) carcinogenicity;

Based on available data, the classification criteria are not met

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity;

Based on available data, the classification criteria are not met

(h) STOT-single exposure;

Based on available data, the classification criteria are not met

SAFETY DATA SHEET

2(2-Ethoxyethoxy)ethanol

Revision Date 19-Feb-2019

(i) **STOT-repeated exposure;** Based on available data, the classification criteria are not met

Target Organs None known.

(j) **aspiration hazard;** Based on available data, the classification criteria are not met

Other Adverse Effects The toxicological properties have not been fully investigated.

Symptoms / effects, both acute and delayed Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity
Ecotoxicity effects

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Diethylene glycol monoethyl ether	LC50: 19100 - 23900 mg/L, 96h flow-through (Lepomis macrochirus) LC50: 11400 - 15700 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: 11600 - 16700 mg/L, 96h flow-through (Pimephales promelas) LC50: = 13400 mg/L, 96h flow-through (Salmo gairdneri) LC50: = 10000 mg/L, 96h static (Lepomis macrochirus)	EC50: 3940 - 4670 mg/L, 48h (Daphnia magna)		

12.2. Persistence and degradability

Persistence Persistence is unlikely.

12.3. Bioaccumulative potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Diethylene glycol monoethyl ether	-0.8	No data available

12.4. Mobility in soil

The product is water soluble, and may spread in water systems . Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

12.5. Results of PBT and vPvB assessment

No data available for assessment.

12.6. Other adverse effects

Endocrine Disruptor Information
Persistent Organic Pollutant
Ozone Depletion Potential

This product does not contain any known or suspected endocrine disruptors
This product does not contain any known or suspected substance
This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

SAFETY DATA SHEET

2(2-Ethoxyethoxy)ethanol

Revision Date 19-Feb-2019

Waste from Residues / Unused Products	Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.
Contaminated Packaging	Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers.
European Waste Catalogue (EWC)	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.
Other Information	Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO Not regulated

- 14.1. UN number**
- 14.2. UN proper shipping name**
- 14.3. Transport hazard class(es)**
- 14.4. Packing group**

ADR Not regulated

- 14.1. UN number**
- 14.2. UN proper shipping name**
- 14.3. Transport hazard class(es)**
- 14.4. Packing group**

IATA Not regulated

- 14.1. UN number**
- 14.2. UN proper shipping name**
- 14.3. Transport hazard class(es)**
- 14.4. Packing group**

14.5. Environmental hazards No hazards identified

14.6. Special precautions for user No special precautions required

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

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

International Inventories X = listed.

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	IECSC	AICS	KECL
Diethylene glycol monoethyl ether	203-919-7	-		X	X	-	X	X	X	X	KE-10467

National Regulations

SAFETY DATA SHEET

2(2-Ethoxyethoxy)ethanol

Revision Date 19-Feb-2019

Component	Germany - Water Classification (VwVwS)	Germany - TA-Luft Class
Diethylene glycol monoethyl ether	WGK 1	

Component	France - INRS (Tables of occupational diseases)
Diethylene glycol monoethyl ether	Tableaux des maladies professionnelles (TMP) - RG 84

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment.

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

SECTION 16: OTHER INFORMATION

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

Legend

CAS - Chemical Abstracts Service

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

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

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

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

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration

PBT - Persistent, Bioaccumulative, Toxic

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

PNEC - Predicted No Effect Concentration

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

Key literature references and sources for data

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - Volatile Organic Compounds

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Creation Date 02-Jul-2014

Revision Date 19-Feb-2019

Revision Summary Not applicable.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

SAFETY DATA SHEET

2(2-Ethoxyethoxy)ethanol

Revision Date 19-Feb-2019

End of Safety Data Sheet