

## EC-SAFETY DATA SHEET

### BUTYLTRIGLYKOL

Version: 7.00

Revision Date 2006/06/26



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

Trade name	BUTYLTRIGLYKOL
Use	industrial use, raw material for washing and cleaning agents, hydraulic fluids and additives
Company	Hitech Chemicals

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether; butoxytriethylene glycol  
content: >= 70 %

CAS-No.: 143-22-6  
Classification:

Index-No.: 603-183-00-0  
Xi

EC-No.: 205-592-6  
R41;

contains:

2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether  
content: <= 15 %

CAS-No.: 112-34-5  
Classification:

Index-No.: 603-096-00-8  
Xi

EC-No.: 203-961-6  
R36;

3,6,9,12-Tetraoxahexadecan-1-ol  
content: <= 25 %

CAS-No.: 1559-34-8  
Classification:

Index-No.:

EC-No.: 216-322-1

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

## 3. HAZARDS IDENTIFICATION

### Identification of the risks

Irritant Risk of serious damage to eyes.

## 4. FIRST AID MEASURES

General advice	If you feel unwell, seek medical advice (show the label where possible). Take off all contaminated clothing immediately.
Inhalation	Remove from exposure, lie down. If breathing is irregular or stopped, administer artificial respiration. Monitor breathing, give oxygen if necessary. Consult a physician.
Skin contact	Wash off with plenty of water.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Ingestion	Consult a physician. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

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#### 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media** Water spray, Dry powder, Foam, Carbon dioxide (CO<sub>2</sub>)  
**Further information** In the event of fire, cool tanks with water spray.

#### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions** Use personal protective equipment.  
**Environmental precautions** Avoid subsoil penetration. Do not flush into surface water or sanitary sewer system.  
**Methods for cleaning up** Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

#### 7. HANDLING AND STORAGE

##### HANDLING

**Safe handling advice** Wear personal protective equipment.  
**Advice on protection against fire and explosion** No special protective measures against fire required.

##### STORAGE

**Requirements for storage areas and containers** No special storage conditions required.  
**Storage classification (VCI system/Germany):** 10; Combustible liquids neither in Storage Class 3A nor 3B  
**container material** unsuitable materials: Light metals

#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

##### COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

##### NATIONAL OCCUPATIONAL EXPOSURE LIMITS

Components	Typ	Control parameters	Update	Basis
2-(2-BUTOXYETHOXY)ETHANOL 2-(2-BUTOXYETHOXY)ETHANOL	AGW	100 mg/m <sup>3</sup>	01 2006	Germany TRGS 900

##### EUROPEAN OCCUPATIONAL EXPOSURE LIMITS

no data available

##### PERSONAL PROTECTIVE EQUIPMENT

**Respiratory protection** No personal respiratory protective equipment normally required. In inadequately ventilated areas, where workplace limits are exceeded, where unpleasant odours exist or where aerosols are in use, or smoke and mist occur, use self-contained breathing apparatus or breathing apparatus with a combined filter (e.g. A-P2 or ABEK-P2), in compliance with EN 141.

**Hand protection** The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Be aware that in daily use the durability of a chemical resistant protective glove can be notably shorter than

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the break through time measured according to EN 374, due to the numerous outside influences (e.g. temperature).

**gloves suitable for permanent contact:**

Material: Nitrile rubber/nitrile latex  
Break through time:  $\geq$  480 min  
Material thickness: 0.35 mm

Material: butyl-rubber  
Break through time:  $\geq$  480 min  
Material thickness: 0.5 mm

**gloves suitable for splash protection:**

Material: Natural rubber/natural latex  
Break through time:  $\geq$  120 min  
Material thickness: 0.5 mm

**unsuitable gloves**

Material: Polychloroprene

<b>Eye protection</b>	Tightly fitting safety goggles
<b>Skin and body protection</b>	Protective suit
<b>Hygiene measures</b>	Avoid contact with eyes. Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feedingstuffs. Wear suitable gloves and eye/face protection.
<b>Protective measures</b>	Avoid contact with eyes. Wear suitable gloves and eye/face protection.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Form</b>	liquid
<b>Odour</b>	odourless
<b>pH</b>	neutral
<b>Melting point/range</b>	-43.5 °C
<b>Boiling point/range</b>	277 - 333 °C; 1,013 hPa
<b>Flash point</b>	ca. 138 °C; DIN 51758
<b>Ignition temperature</b>	290 °C; DIN 51794
<b>Lower explosion limit</b>	0.7 %(V)
<b>Upper explosion limit</b>	3.8 %(V)
<b>Vapour pressure</b>	< 0.1 hPa; 20 °C
<b>Density</b>	0.982 - 0.990 g/cm <sup>3</sup> ; 20 °C
<b>Water solubility</b>	20 °C; completely miscible
<b>Partition coefficient (n-octanol/water)</b>	log Pow: 0.969; (calculated)
<b>Viscosity, dynamic</b>	9.70 mPas; 20 °C

**10. STABILITY AND REACTIVITY**

<b>Hazardous decomposition products</b>	No decomposition if stored normally.
<b>Further information</b>	Formation of peroxides may occur

**11. TOXICOLOGICAL INFORMATION**

<b>Acute oral toxicity</b>	2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether; butoxytriethylene glycol: LD50 rat: > 2,000 mg/kg; (literature value)  2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether:
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	LD50 rat: > 2,000 mg/kg; (literature value)
	3,6,9,12-Tetraoxahexadecan-1-ol: LD50 rat: > 2,000 mg/kg; (literature value)
<b>Acute dermal toxicity</b>	2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether; butoxytriethylene glycol: LD50 rabbit: > 2,000 mg/kg; (literature value)
	2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether: LD50 rabbit: > 2,000 mg/kg; (literature value)
	3,6,9,12-Tetraoxahexadecan-1-ol: LD50 rabbit: > 2,000 mg/kg; (literature value)
<b>Skin irritation</b>	2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether; butoxytriethylene glycol: rabbit: not irritating; Draize Test; (literature value)
	2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether: rabbit: slightly irritating; (literature value)
	3,6,9,12-Tetraoxahexadecan-1-ol: rabbit: slightly irritating; Draize Test; (literature value)
<b>Eye irritation</b>	2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether; butoxytriethylene glycol: rabbit: Risk of serious damage to eyes.; (literature value)
	2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether: rabbit: highly irritating; (literature value)
	3,6,9,12-Tetraoxahexadecan-1-ol: rabbit: slightly irritating; (literature value)
<b>Sensitization</b>	2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether: Maximisation Test (GPMT) guinea pig: not sensitizing; (literature value)
	3,6,9,12-Tetraoxahexadecan-1-ol: Maximisation Test (GPMT) guinea pig: not sensitizing; (literature value)
<b>Genotoxicity in vitro</b>	2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether; butoxytriethylene glycol: Ames test: not mutagenic; (literature value)
	2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether: Ames test: not mutagenic; (literature value)

## 12. ECOLOGICAL INFORMATION

<b>Biodegradability</b>	2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether; butoxytriethylene glycol: Readily biodegradable.; > 70 %; 21 d; OECD Test Guideline 301 E; (literature value)
	2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether: Readily biodegradable.; > 70 %; 28 d; OECD Test Guideline 301 E; (literature value)
	2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether: biodegradable; 100 %; 28 d; OECD Test Guideline 302 B; (literature value)
	3,6,9,12-Tetraoxahexadecan-1-ol: < 60 %; 28 d; OECD Test Guideline 301 B(literature value)

### ECOTOXICITY EFFECTS

<b>Toxicity to fish</b>	2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether; butoxytriethylene glycol: LC50 Poecilia reticulata: > 100 mg/l; (literature value)
	2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether: LC50 Leuciscus idus: > 100 mg/l; (literature value)
	3,6,9,12-Tetraoxahexadecan-1-ol: LC50 Salmo gairdneri: > 100 mg/l; 96 h; (literature value)

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<b>Toxicity to daphnia</b>	2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether; butoxytriethylene glycol: EC50 Daphnia magna: > 100 mg/l; 24 h; (literature value)  2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether: EC50 Daphnia magna: > 100 mg/l; 48 h; (literature value)  3,6,9,12-Tetraoxahexadecan-1-ol: EC50 Daphnia magna: > 100 mg/l; 48 h; (literature value)
<b>Toxicity to algae</b>	2-[2-(2-butoxyethoxy)ethoxy]ethanol; TEGBE; triethylene glycol monobutyl ether; butoxytriethylene glycol: EC50 Scenedesmus subspicatus: > 100 mg/l; 72 h; (literature value)  2-(2-butoxyethoxy)ethanol; diethylene glycol monobutyl ether: EC50 Scenedesmus subspicatus: > 100 mg/l; (literature value)  3,6,9,12-Tetraoxahexadecan-1-ol: EC50 Selenastrum capricornutum: > 100 mg/l; 96 h; (literature value)

### 13. DISPOSAL CONSIDERATIONS

<b>Product</b>	Can be incinerated, when in compliance with local regulations.
<b>waste code of the European Union: EWC</b>	The waste code must be determined in agreement with the regional waste disposal authority or company. A waste code in accordance with the European Waste Catalogue (EWC) may not be assigned to this product since it admits of a classification only when the consumer uses it for some purpose.

### 14. TRANSPORT INFORMATION

<b>ADR</b>	Not dangerous goods
<b>RID</b>	Not dangerous goods
<b>ADNR</b>	Not dangerous goods
<b>IMDG</b>	Not dangerous goods
<b>ICAO/IATA</b>	Not dangerous goods

### 15. REGULATORY INFORMATION

#### LABELLING

<b>Regulatory base</b>	67/548/EEC
<b>Regulatory list</b>	67/548/EEC, ANNEX 1
<b>Symbol(s)</b>	Xi: Irritant
<b>R-phrases(s)</b>	R41: Risk of serious damage to eyes.
<b>S-phrases(s)</b>	S 2: Keep out of reach of children. S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S39: Wear eye/face protection. S46: If swallowed, seek medical advice immediately and show this container or label.
<b>Additional advice</b>	EC Label

#### NATIONAL/OTHER REGULATIONS

<b>Occupational restrictions</b>	Employment restrictions for children and young workers in accordance with Directive 94/33/EC and the respective national provisions are to be observed.
<b>Directive 96/82/EC on the control of major-accident hazards involving dangerous sub-</b>	list entry in the directive: Directive 96/82/EC does not apply

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stances

#### 16. OTHER INFORMATION

##### Text of R phrases mentioned in Section 2

R36	Irritating to eyes.
R41	Risk of serious damage to eyes.

|| Indicates updated section.

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.

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.