

**1. Product Identification.**

Product Name: Butyl glycol ether  
Product Type: Chemical Solvent

**2. Composition/ Information on Ingredients.**

Substance Formal Name: 2-butoxy ethanol  
Substance Chemical family: Glycol Ether  
Common Name: Butyl Glycol  
Synonyms: 2-butoxy-ethanol  
Ethylene glycol butyl ether  
Butyl Glycol  
Ethylene glycol monobutyl ether  
CAS No.: 111-76-2

**3. Hazards Identification.**


Human Health Hazards: Harmful by inhalation, in contact with skin and if swallowed.  
Irritating to respiratory system.  
Safety Hazards: Combustible.  
Environmental Hazards: Annex 1 substance under review by the EU Commission.

**4. First Aid Measures.**

Symptoms and Effects: Irritation of the skin, eyes and respiratory tract. Inhalation may cause headache, nausea. Ingestion may cause irritation of digestive tract.  
First Aid – Inhalation: Remove to fresh air. If rapid recovery does not occur, obtain medical attention.  
First Aid – Skin: Remove contaminated clothing. Wash skin with water using soap if available. If persistent irritation occurs, obtain medical attention.  
First Aid – Eye: Do not delay flush eye with water.  
First Aid – Ingestion: Do not delay, do not induce vomiting. Give water to drink, providing patient is conscious. Obtain medical attention immediately.  
Advice to Physicians: Ingestion may cause coma, metabolic acidosis, hypokalaemia and haemoglobinuria.

**5. Fire Fighting Measures.**

Specific Hazards: Not classified as flammable but will burn. Hazardous combustion products may include carbon monoxide.  
Extinguishing Media: Alcohol-resistant foam. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.  
Unsuitable Extinguishing :



Media: Water in a jet.  
Protective Equipment: Full protective clothing and self contained breathing apparatus.  
Other Information: Keep adjacent containers cool by spraying with water.

**6. Accidental Release Measures.**

Personal Precautions: Avoid contact with skin, eyes, clothing. Ventilate contaminated area thoroughly. Do not breathe vapours. Shut off leaks, if possible without personal risks.

Personal Protection: Wear PVC gloves, gauntlet type, PVC one-piece suit with integral hood, safety boots - rubber, knee length. Wear full face- piece respirator with organic vapour cannister NPF 400. In a confined space, wear self-contained breathing apparatus open circuit type NPF 2000.

Environmental Precautions: Prevent contamination of soil and water. Prevent from spreading or entering into drains, ditches or rivers by using sand, earth or other appropriate barriers.

Clean-up methods - small spillage: Absorb or contain liquid with sand, earth or spill control material. Shovel up and place in a labelled, sealable container for subsequent safe disposal. Flush contaminated area with plenty of water. Put leaking containers in a labelled drum or overdrum.

Clean-up methods - large spillage: Transfer to a labelled, sealable container for product recovery or safe disposal. Treat residues as for small spillage.

Other Information: See section 13 for information on disposal.

**7. Handling & Storage.**

Handling: Avoid contact with skin, eyes and clothing. Do not breathe vapour.  
Only use in well ventilated areas. Avoid handling above 67<sup>0</sup>C, otherwise the product may form flammable/explosive vapour-mixtures.

air

Handling Temperatures: Ambient.

Storage: Keep container tightly closed and in a well-ventilated place. Keep in a bunded area.

Storage Temperatures: Ambient.

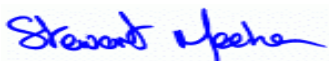
Product Transfer: Earth all equipment.

Recommended Materials: For container linings, use mild steel, stainless steel.

Unsuitable Materials: most plastics, natural, butyl, neoprene or nitrile rubbers.

**8. Exposure Controls and Personal Protection.**

Occupational Exposure Standards: Butyl glycol ether TLV (EH40/97) 2-Butoxyethanol  
TWA (8hr) = 25 ppm  
TWA (8hr) = 123 mg/m<sup>3</sup>



Can be absorbed through the skin Bmg/v = Biological monitoring may be appropriate.

Engineering Control Measures: Use local exhaust ventilation.

Respiratory Protection: Where local exhaust ventilation is not practicable wear full face-piece respirator with organic vapour canister NPF 400.

Hand Protection: PVC gloves - gauntlet type

Eye Protection: Monogoggles

Body Protection: Disposable one piece coated overall with integral hood, safety shoes or boots - chemical resistant.

**9. Physical and Chemical Properties.**

Physical State: Liquid

Colour: Clear

Odour: Rancid Sweet

Boiling Point: 168 - 173<sup>0</sup>C (ASTM D-1078)

Melting/Freezing Point: -70<sup>0</sup>C (ASTM D-97)

Flash Point: 67<sup>0</sup>C (Abel)

Auto-Ignition Temperature: 240<sup>0</sup>C (ASTM E-659)

Explosion/Flammability: Lower: 1.1 % v/v Upper: 10.6 % v/v

Vapour Pressure: 80 Pa @ 20<sup>0</sup>C

Relative Evaporation Rate: 0.08 (ASTM D-3539 nBuAc = 1)

Density: 898 - 902 kg/m<sup>3</sup> @ 20<sup>0</sup>C (ASTM D-4052)

Vapour Density (air = 1): 4.1

Solubility in Water: @ 20<sup>0</sup>C Completely miscible

n-octanol/water partition: 0.8

Molecular Mass: 118

Dynamic Viscosity: 3.3 mPa.s @ 20<sup>0</sup>C (ASTM D-445)

Electrical Conductivity: 10 uS/m @ 20<sup>0</sup>C (ASTM D-4308)

**10. Stability & Reactivity.**

Stability: Stable under normal use conditions. Reacts with strong oxidising agents. Hygroscopic.

Conditions to avoid: Heat, flames and sparks.

Materials to avoid: Strong oxidising agents.

Hazardous decomposition: product None known.

**11. Toxicological Information.**

Acute Toxicity Oral: Moderately toxic, 200 < LD<sub>50</sub> <= 2000 mg/kg

Acute Toxicity Dermal: Moderately toxic, 400 < LD<sub>50</sub> <= 2000 mg/kg

Acute Toxicity Inhalation: Moderately toxic, 1 < LC<sub>50</sub> <= 5 mg/l

Skin Irritation: Expected to be irritant



Eye Irritation:	Irritant
Skin Sensitisation:	Not a skin sensitiser
Repeated dose toxicity:	Repeated exposure causes haemolysis of blood cells.
Mutagenicity:	Not expected to be mutagenic
Human Effects:	Irritation of the respiratory tract

## 12. Ecological Information.

Basis for assessment:	Information given is based on product data.
Mobility:	Dissolves in water. Product remaining on soil surface will partly evaporate, but a significant proportion will remain after one day. Large volumes may penetrate soil and could contaminate groundwater.
Persistence/Degradability:	Readily biodegradable meeting the 10 day window criterion. Oxidises rapidly by photo-chemical reactions in air. Integrated environmental half-life expected to be 1 - < 10 days.
Bioaccumulation:	Does not bioaccumulate significantly.
Acute Toxicity – Fish:	Practically non toxic, LC/EC/IC 50 > 1000 mg/l.
Acute Toxicity – Invertebrate:	Practically non toxic, LC/EC/IC 50 > 1000 mg/l.
Acute Toxicity – Algae:	Practically non toxic, 100 < LC/EC/IC 50 <= 1000 mg/l.
Acute Toxicity – Bacteria:	Practically non toxic, LC/EC/IC 50 > 100 mg/l.
Sewage Treatment:	Expected to be practically non-toxic, 100 < LC/EC/IC 50 <= 1000 mg/l.

## 13. Disposal Considerations.

Precautions:	Refer to section 7 before handling the product or containers.
Waste Disposal:	Recover or recycle if possible. Otherwise incineration.
Product Disposal:	Recover or recycle if possible. Otherwise incineration.
Container Disposal:	Drain container thoroughly. Residues may cause an explosion hazard if heated above 67 <sup>0</sup> C. Do not puncture, cut or weld uncleaned drums. Send to drum recoverer or metal reclaimer.
Local Legislation:	The recommendations given are considered appropriate for safe disposal. However, local regulations may be more stringent and these must be complied with.

## 14. Transport Information.

Local Regulations:	Dangerous substances (Conveyance of scheduled substances by road. Trade or Business) regulations 1980, as amended.
Other Information:	Not dangerous for conveyance under UN, IMO, ARD/RID and IATA/ICAO codes.

## 15. Regulatory Information.

*Stewart Speke*

EC Label/EC Number:	203-905-0
EC Label Name:	2-Butoxyethanol
EC Classification:	Harmful
EC Symbols:	(Xn) Harmful
EC Risk Phrases:	R 20/21/22 - Harmful by inhalation, in contact with skin and if swallowed. R 37 - Irritating to the respiratory system.
EC Safety Phrases:	S24/25 - Avoid contact with skin and eyes.
TSCA (USA):	Listed
AICS (Australia):	Listed
DSL (Canada):	Listed
EC Annex 1 number:	603-014-00-0
EINECS (EC):	203-905-0
MITI (Japan):	2-407

**16. Other Information.**

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