

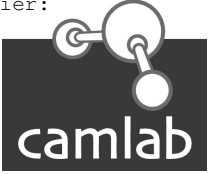
**1. Identification**

Product Code **CC-1684**

Product Name **2-BUTOXYETHANOL pure**

Molecular Formula **C<sub>4</sub>H<sub>9</sub>OCH<sub>2</sub>CH<sub>2</sub>OH =118.18**

CAS Number **111-76-2**

Supplier: **CAMLAB LIMITED**  
  
**Norman Way Industrial Estate  
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 Cambridge  
 England  
 CB4 5WE**

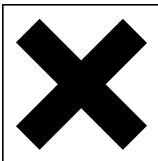
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**24hr 112**  
**(Have this document to hand)**

**2. Composition**

Component	CAS No	EEC No	Conc w/w	Classification & Risk Phrases	Exp (See 8.1)
2-Butoxyethanol	111-76-2	203-905-0	> 99.0%	Xn : R20/21/22,R36/38	WEL

**3. Hazards Identification**

Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes and skin.

**4. First Aid Measures**

**Eyes** Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. OBTAIN MEDICAL ATTENTION.

**Skin** Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re-use. If discomfort persists OBTAIN MEDICAL ATTENTION.

**Inhalation** Remove from exposure. Keep warm and at rest. If there is difficulty in breathing give oxygen if available. If breathing stops or shows signs of failing, apply artificial resuscitation. If unconscious place in the recovery position. OBTAIN MEDICAL ATTENTION URGENTLY.

**Ingestion** If conscious give plenty of water to drink. Do not induce vomiting. If there is difficulty in breathing give oxygen if available. If breathing stops or shows signs of failing, apply artificial resuscitation. If unconscious place in the recovery position. OBTAIN MEDICAL ATTENTION URGENTLY.

**5. Fire Fighting Measures**

**Hazards** Evacuate area immediately. Keep up wind. Avoid exposure to toxic vapours and fumes. Fire-fighters should wear protective clothing and breathing apparatus. Vapour-air mixtures are explosive.

**Extinguishing Media** Water spray, alcohol resistant foam, dry powder or carbon dioxide. Use water spray to keep fire exposed containers cool.

**Unsuitable Media** Do not use water jet.

## 6. Accidental Release Measures

Personal Protection	Ensure no sources of ignition. Avoid breathing vapour. Use approved personal protective equipment. Evacuate area immediately. Do not allow general use of area until it is safe to do so. Beware : vapour is heavier than air and will tend to accumulate at low spots.
Environmental	Keep material out of sewers, storm drains, surface waters and soil. Notify the Environmental Agency and local Environmental Health Officer if major spillage occurs.
Major Spillage	Contain and absorb on inert material. Transfer absorbent to salvage container for removal. Wash area down with copious amounts of water.
Minor Spillage	Contain and absorb on inert material. Transfer absorbent to container for removal. Allow solvent to evaporate in remote area, then dispose of absorbent as solid chemical waste. Wash area down with copious amounts of water.

## 7. Storage & Handling

Handling Precautions	All transfer systems should be earthed to prevent accumulation of static electricity. Avoid contact with skin and eyes. Do not breath vapours. Do not allow to contaminate clothing.  Ensure Local Exhaust Ventilation maintains vapour concentrations below the recommended limits.
Storage Conditions	Well ventilated, cool, dry storage . Protect from direct sun and store away from sources of ignition. Keep containers closed when not in use. Keep well separated from oxidising agents.

## 8.1 Workplace Exposure Limits

Workplace Exposure Limits	Long Term (8hr TWA):	25.00 ppm	123.0 mg m-3
	Short Term (15min Period):	- ppm	- mg m-3

## 8.2 Personal Protection

Respiratory	Use L.E.V. or natural ventilation to maintain vapour concentrations below exposure limits. If not, use a well maintained chemical cartridge organic vapour respirator, or use self contained breathing apparatus.
Hands	Use solvent resistant gloves.
Eyes	Use chemical splash proof glasses or goggles.
Skin	Avoid contact with skin. If skin contact or contamination of clothing is likely, protective clothing must be worn.

## 9. Physical & Chemical Properties

Appearance	Clear colourless liquid.
Odour	Odourless.
pH	Not available
Boiling point	168.4 °C
Melting point	74.8- °C
Flash point	69.0 °C(Closed cup)
Upper Flammable Limit	13.0 %
Lower Flammable Limit	4.0 %
Auto Ignition	214.0 °C
Explosive properties	Moderate/severe in confined spaces.
Oxidising Properties	No.
Vapour Pressure	0.76 mm Hg @ 20 C
Relative Density	0.9012
Water Solubility	Completely miscible in water.

## 10. Stability & Reactivity

Chemical Stability	Stable under normal conditions but may form peroxides on prolonged storage if air is present.
Conditions to Avoid	Hot surfaces, naked flames or other sources of ignition.

## 10. Stability & Reactivity (continued)

Materials to Avoid	Strong oxidising agents. Hydrogen peroxide, chromium trioxide and potassium permanganate. Copper, zinc aluminium and their alloys.
Hazardous Decomposition Products	None unusual. Burning will produce smoke, carbon monoxide and/or carbon dioxide.

## 11. Toxicological Information

Eyes	The liquid or concentrated vapour will cause moderate irritation to the eye producing acute pain, inflammation of the conjunctiva and corneal clouding which will persist for several days.
Skin	The liquid is mildly irritating to the skin. Skin absorption may be an important exposure route producing toxic effects similar to inhalation.
LD50 Skin	G.Pig 230mg/Kg
Ingest	Ingestion will cause gastrointestinal irritation. Ingestion of large amounts may cause liver and kidney damage.
LD50 Ingest	Oral Rat 1.48 g/Kg
Inhalation	Primary toxicity is associated with changes to the blood with secondary effects on organs such as the liver, kidney and spleen.
Carcinogenicity	No information is available.
Mutagenicity	Not considered to be a mutagen.
Reproductive Effects	Unlike other glycol ethers does not induce toxic effects on the testes. Not teratogenic. Maternal toxicity observed at 300ppm.
Other Information	Biological monitoring may be required.

## 12. Ecological

Theoretical oxygen demand (ThOD) 2.31g/g : BOD 0.71 g/g : COD 2.2g/g Non-hazardous to aquatic species : 26Hr LC50 Static : 1700mg/l (Goldfish).

## 13. Disposal Considerations

Disposal Methods	Dispose of in a licensed incinerator for organic solvents. Do not dispose of as domestic waste. Never dispose of into water courses or sewerage systems due to high risk of explosion.
Contaminated Packaging	Use a licensed waste disposer. Do not attempt to burn any residual liquids due to risk of explosion.

## 14. Transport Information

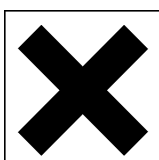
Proper Shipping Name	toxic liquid,organic,n.o.s
UN Number	2810
UN Classification	6.1 Toxic
Subsidiary Risk	None
Flash Point	69.0 °C(Closed cup)
Packing Group	III
Transport Category	2
Marine pollutant	No
ADR Hazard ID	60



## 15. Regulatory Information

Labelling	Harmful.
Classification	

Label Symbols	Xn
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## 15. Regulatory Information (continued)

Risk & safety Phrases Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes and skin. Keep out of reach of children. Wear suitable protective clothing and gloves. If swallowed, seek medical advice immediately and show this container or label.

EEC Number 203-905-0

## 16. Other Information

Document Information This document has been prepared in accordance with directive 88/379/EEC.

The information contained in this document only covers the hazards presented by this material, it DOES NOT constitute a workplace risk assessment.

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