

Camlab Limited – Material Safety Data Sheet

1. Identification


Product Code CC/2170-DH

Product Name **1,4-BUTYROLACTONE pure**

Molecular Formula **CH₂CH₂CH₂COO =86.09**

CAS Number **96-48-0**

Supplier: **CAMLAB LIMITED**



**Norman Way Industrial Estate
Over
Cambridge
England
CB4 5WE**

Phone **01954 233110**

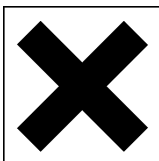
Fax **01954 233101**

Emergency Telephone **08:00-17:00 01954 233110**
24hr 112
(Have this document to hand)

2. Composition

Component	CAS No	EEC No	Conc w/w	Classification & Risk Phrases	Exp (See 8.1)
1,4-Butyrolactone	96-48-0	202-509-5	> 98.0%	Xn : R22,R36	N/A

3. Hazards Identification



Harmful if swallowed. Irritating to eyes.

4. First Aid Measures

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

Skin Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re-use.

Inhalation Remove from exposure. Keep warm and at rest. If discomfort persists OBTAIN MEDICAL ATTENTION.

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 Nothing specified.

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. No specific precautions.
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

No prescribed exposure limits available

8.2 Personal Protection

Respiratory	Presents no significant inhalation health hazard.
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	Mild odour.
pH	4 (at 100g/l)
Boiling point	205.0 °C
Melting point	43.0- °C
Flash point	102.0 °C(Open cup)
Upper Flammable Limit	15.6 %
Lower Flammable Limit	2.7 %
Auto Ignition	455.0 °C
Explosive properties	Moderate/severe in confined spaces.
Oxidising Properties	No.
Vapour Pressure	1.5mbar @ 20,C
Relative Density	1.1280
Water Solubility	Completely miscible in water.

10. Stability & Reactivity

Chemical Stability	Stable under normal conditions
Conditions to Avoid	Hot surfaces, naked flames or other sources of ignition.
Materials to Avoid	Strong oxidising agents.
Hazardous Decomposition Products	None unusual. Burning will produce smoke, carbon monoxide and/or carbon dioxide.

11. Toxicological Information

Eyes	Both the vapour and liquid will, irritate the eyes and can cause conjunctivitis.
Skin	Presents no significant hazard by skin contact.
LD50 Skin	Not available
Ingest	Low order of acute toxicity. Acts as a narcotic following ingestion.
LD50 Ingest	Oral Rat 1580mg/Kg
Inhalation	Presents no significant health hazard by inhalation.
Carcinogenicity	Not considered to be a carcinogen.
Mutagenicity	Not considered to be a mutagen.
Reproductive Effects	None identified.

12. Ecological

Fish toxicity: Golden Orfe Test LC50- 100-500mg/l/48hr. Degradability in water-static test. TOC>60%, readily degradable mainly by biological processes. By careful addition to adapted biological effluent treatment plants, no adverse effects on the degradative activity of the activated sludge is expected.

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

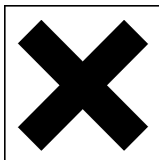
Proper Shipping Name	Toxic liquid, organic, n.o.s.
UN Number	2810
UN Classification	6.1 Toxic
Subsidiary Risk	None
Flash Point	102.0 °C(Open cup)
Packing Group	III
Transport Category	2
Marine pollutant	No
ADR Hazard ID	60



15. Regulatory Information

Labelling
Classification Harmful.

Label Symbols Xn



Risk & safety Phrases Harmful if swallowed. Irritating to eyes. Do not breath vapour. Avoid contact with eyes.

EEC Number 202-509-5

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.

Revision Date: 20/11/03.

Data reviewed and PDF file generated: 19/07/07.

Copyright 2007 Camlab Limited.