

SIGMA-ALDRICH

Material Safety Data Sheet

Version 3.1
Revision Date 01/21/2009
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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : **Butyric acid**
Product Number : B103500
Brand : Aldrich
Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA
Telephone : +18003255832
Fax : +18003255052
Emergency Phone # : (314) 776-6555

2. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : C4H8O2
Molecular Weight : 88.11 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
Butyric acid			
107-92-6	203-532-3	607-135-00-X	-

3. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Combustible Liquid, Target Organ Effect, Corrosive

Target Organs

Blood

HMIS Classification

Health Hazard: 3
Chronic Health Hazard: *
Flammability: 2
Physical hazards: 0

NFPA Rating

Health Hazard: 3
Fire: 2
Reactivity Hazard: 0

Potential Health Effects

Inhalation May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

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Skin
Eyes
Ingestion

May be harmful if absorbed through skin. Causes skin burns.
Causes eye burns.
May be harmful if swallowed. Causes burns.

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If Inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Continue rinsing eyes during transport to hospital. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point 72 °C (162 °F) - closed cup

Ignition temperature 440 °C (824 °F)

Suitable extinguishing media

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

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions

Do not let product enter drains.

Methods for cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling

Avoid inhalation of vapour or mist.
Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Storage

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves.

Eye protection

Safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	clear, liquid
Colour	colourless
Odour	Stench.

Safety data

pH	3 at 10 g/l at 20 °C (68 °F)
Melting point	-7 - -5 °C (19 - 23 °F)
Boiling point	164 °C (327 °F) at 1,013 hPa (760 mmHg)
Flash point	72 °C (162 °F) - closed cup
Ignition temperature	440 °C (824 °F)
Lower explosion limit	2 %(V)
Upper explosion limit	10 %(V)
Vapour pressure	0.57 hPa (0.43 mmHg) at 20 °C (68 °F)
Density	0.958 g/cm ³
Water solubility	ca.50 g/l
Partition coefficient: n-octanol/water	log Pow: 0.79
Relative vapour density	3.04 - (Air = 1.0)

10. STABILITY AND REACTIVITY

Storage stability

Stable under recommended storage conditions.

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Oral - rat - 2,940 mg/kg

LD50 Dermal - rabbit - 6,083 mg/kg

Irritation and corrosion

Skin - rabbit - Corrosive

Sensitisation

no data available

Chronic exposure

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Genotoxicity in vitro - Human - HeLa cell
DNA damage

Genotoxicity in vitro - Human - lymphocyte
DNA inhibition

Signs and Symptoms of Exposure

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea

Potential Health Effects

Inhalation	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin	May be harmful if absorbed through skin. Causes skin burns.
Eyes	Causes eye burns.
Ingestion	May be harmful if swallowed. Causes burns.
Target Organs	Blood,

Additional information

RTECS: ES5425000

12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

Biodegradability Biotic/Aerobic
Biotic/Aerobic

Ecotoxicity effects

Toxicity to fish LC0 - Leuciscus idus melanotus - 96 mg/l - 48 h
Toxicity to daphnia and other aquatic invertebrates. EC50 - Daphnia magna (Water flea) - 61.7 mg/l - 24 h

Further information on ecology

Avoid release to the environment.
no data available

13. DISPOSAL CONSIDERATIONS

Product

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN-Number: 2820 Class: 8 Packing group: III
Proper shipping name: Butyric acid
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

UN-Number: 2820 Class: 8 Packing group: III EMS-No: F-A, S-B
Proper shipping name: BUTYRIC ACID
Marine pollutant: No

IATA

UN-Number: 2820 Class: 8 Packing group: III
Proper shipping name: Butyric acid

15. REGULATORY INFORMATION

OSHA Hazards

Combustible Liquid, Target Organ Effect, Corrosive

DSL Status

All components of this product are on the Canadian DSL list.

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
Butyric acid	107-92-6	1991-07-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Butyric acid	107-92-6	1991-07-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
Butyric acid	107-92-6	1991-07-01

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

16. OTHER INFORMATION

Further information

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