

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Butyric acid

Product Number : B103500
Brand : Aldrich

Supplier : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
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Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

Preparation Information : Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Combustible Liquid, Target Organ Effect, Corrosive

Target Organs

Blood

GHS Classification

Flammable liquids (Category 4)
Acute toxicity, Oral (Category 5)
Skin corrosion (Category 1B)
Serious eye damage (Category 1)
Acute aquatic toxicity (Category 3)

GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H227 Combustible liquid
H303 May be harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H402 Harmful to aquatic life.

Precautionary statement(s)

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or doctor/ physician.

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : C₄H₈O₂
Molecular Weight : 88.11 g/mol

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

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

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

If swallowed

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

5. FIREFIGHTING MEASURES

Conditions of flammability

Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

Suitable extinguishing media

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

Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe 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.

Conditions for safe 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.

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. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

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

Safety data

pH 3 at 10 g/l at 20 °C (68 °F)

Melting point/freezing point Melting point/range: -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)
Autoignition temperature	no data available
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)
Odour	Stench.
Odour Threshold	no data available
Evaporation rate	no data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

no data available

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50

LD50 Oral - rat - 2,940 mg/kg

Inhalation LC50

no data available

Dermal LD50

LD50 Dermal - rabbit - 6,083 mg/kg

Other information on acute toxicity

no data available

Skin corrosion/irritation

Skin - rabbit - Corrosive

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

Genotoxicity in vitro - Human - HeLa cell
DNA damage

Genotoxicity in vitro - Human - lymphocyte
DNA inhibition

Carcinogenicity

- 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.

Reproductive toxicity

no data available

Teratogenicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

no data available

Aspiration hazard

no data available

Potential health effects

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

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

Synergistic effects

no data available

Additional Information

RTECS: ES5425000

12. ECOLOGICAL INFORMATION

Toxicity

- | | |
|---|--|
| 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 |

Persistence and degradability

- | | |
|------------------|----------------|
| Biodegradability | Biotic/Aerobic |
| | Biotic/Aerobic |

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life.

Avoid release to the environment.

13. DISPOSAL CONSIDERATIONS**Product**

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. 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

Reportable Quantity (RQ): 5000 lbs

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

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

Butyric acid	CAS-No. 107-92-6	Revision Date 1993-04-24
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Pennsylvania Right To Know Components

CAS-No.	Revision Date
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Butyric acid

107-92-6

1993-04-24

New Jersey Right To Know Components

Butyric acid

CAS-No.
107-92-6

Revision Date
1993-04-24

California Prop. 65 Components

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

16. OTHER INFORMATION

Further information

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