

Material Safety Data Sheet

Version 4.1
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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Butyl lactate
Product Number : 283320
Brand : Aldrich
Supplier : Sigma-Aldrich
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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, Irritant

GHS Classification
Flammable liquids (Category 4)
Skin irritation (Category 2)
Eye irritation (Category 2A)
Specific target organ toxicity - single exposure (Category 3)
Acute aquatic toxicity (Category 3)

GHS Label elements, including precautionary statements

Pictogram



Signal word : Warning

Hazard statement(s)
H227 : Combustible liquid
H315 : Causes skin irritation.
H319 : Causes serious eye irritation.
H335 : May cause respiratory irritation.
H402 : Harmful to aquatic life.

Precautionary statement(s)
P261 : Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P305 + P351 + P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification

Health hazard: 2
Flammability: 2
Physical hazards: 0

NFPA Rating
Health hazard: 2
Fire: 2
Reactivity Hazard: 0

Potential Health Effects

Inhalation : May be harmful if inhaled. Causes respiratory tract irritation.
Skin : May be harmful if absorbed through skin. Causes skin irritation.
Eyes : Causes eye irritation.
Ingestion : May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : C₇H₁₄O₃
Molecular Weight : 146.18 g/mol

Component	Concentration
Butyl lactate	
CAS-No.	138-22-7
EC-No.	205-316-4

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
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.
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

Suitable extinguishing media
For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.
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.

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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 contact with skin and eyes. 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

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Butyl lactate	138-22-7	TWA	5 ppm	USA, ACGIH Threshold Limit Values (TLV)
Remarks	Upper Respiratory Tract irritation Headache			
		TWA	5 ppm 25 mg/m ³	USA, OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	5 ppm 25 mg/m ³	USA, NIOSH Recommended Exposure Limits

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

Safety glasses with side-shields conforming to EN168 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Impervious clothing. 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 liquid
Colour colourless

Safety data

pH no data available

Melting point/freezing point	Melting point/range: -28 °C (-18 °F) - lit.
Boiling point	185 - 187 °C (365 - 369 °F) - lit.
Flash point	69 °C (156 °F) - closed cup
Ignition temperature	382 °C (720 °F)
Autoignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	0.5 hPa (0.4 mmHg) at 20 °C (68 °F)
Density	0.984 g/cm ³ at 25 °C (77 °F)
Water solubility	no data available
Partition coefficient: n-octanol/water	no data available
Relative vapour density	5.05 - (Air = 1.0) 5.05 - (Air = 1.0)
Odour	no data available
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 Strong oxidizing agents, Strong bases

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 - > 5,000 mg/kg

Inhalation LC50

no data available

Dermal LD50

no data available

Other information on acute toxicity

LD50 Subcutaneous - rat - 12,000 mg/kg

Skin corrosion/irritation

Skin - rabbit -

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitization
no data available

Germ cell mutagenicity
no data available

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)

Inhalation - May cause respiratory irritation.

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. Causes respiratory tract irritation.
Ingestion	May be harmful if swallowed.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects

no data available

Additional Information

RTECS: OD4025000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish	LC50 - Danio rerio (zebra fish) - 75 mg/l - 96 h mortality NOEC - Danio rerio (zebra fish) - 56 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 320 mg/l - 48 h

Persistence and degradability
no data available

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.
no data available

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)

NA-Number: 1993 Class: CBL Packing group: III
Proper shipping name: Combustible liquid, n.o.s. (Butyl lactate)
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION

OSHA Hazards

Combustible Liquid, Irritant

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

Massachusetts Right To Know Components

Butyl lactate	CAS-No. 138-22-7	Revision Date 1994-04-01
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Pennsylvania Right To Know Components

Butyl lactate	CAS-No. 138-22-7	Revision Date 1994-04-01
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New Jersey Right To Know Components

Butyl lactate

CAS-No.
138-22-7

Revision Date
1994-04-01

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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