



MATERIAL SAFETY DATA SHEET

L-BUTYL LACTATE

SECTION 1- MATERIAL/COMPANY IDENTIFICATION

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Charge Department Safety Management Department
Responsibility for MSDS Safety Manager Fan Gui-Zeng
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SECTION 2- COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name Butyl-L(S)-2-Hydroxy propionate
Component 98% up
Formula $\text{CH}_3\text{CH}(\text{OH})\text{COOC}_4\text{H}_9$
Mol.W. 146.18
CAS NO. 138-22-7
Dangerous Goods Butyl lactate

SECTION 3- HAZARDS IDENTIFICATION

Firefighting law No.4 flammable liquid and N0.3 oil insoluble liquid
Human Health Effects Vapor may cause irritant of eyes, mucous membranes and skin

SECTION 4- FIRST AID MEASURES

General advice Show this safety data sheet to the doctor in attendance.
Skin contact Immediately remove all contaminated clothing, including
footwear. flush skin and hair with plenty of water or tepid water.
Eye contact Immediately hold eyelids apart and flush eyes with plenty of
water at least 15minutes.If irritation persists, call a physician.
Inhalation Immediately remove to fresh air.
If breathing is difficult, give oxygen, call a physician.
Ingestion If swallowed, give plenty of water or salt water.
If in doubt, Call a physician immediately.

SECTION 5- FIRE FIGHTING MEASURES

Specific hazards Flammable. Can happen explosion in fire and high temperature.
Chemical reaction with strong oxidizing agents. Burning
produces irritant fumes
Extinguishing media Remove a source of fire. Use a fire extinguisher. Cool the container

with plenty of water. Standing upwind side and wear breathing apparatus.

Water, carbon dioxide(CO₂), foam.

SECTION 6- ACCIDENTAL RELEASE MEASURES

Personal precautions	<p>Prepare extinguishing media before starting on cleaning.</p> <p>Wear protective clothing and self-contained breathing apparatus. Avoid contact with skin and eyes. Take person refuge in upwind side. Keep person out the place. Keep away from heat and flames promptly.</p>
Environmental precautions	Prevent further leakage or spillage, Prevent product from entering drains
Methods for cleaning up	<p>In case of small quantities of leakage, pack a absorbent material into container after absorbing spilled material. Clean up the leaked place with plenty of water.</p> <p>In case of large quantities of leakage, Tighten rope around the leakage place. Flush spilled material into container after leading to suitable retaining areas stopping the fluid by sand and the like. Clean up the leaked place with plenty water.</p>

SECTION 7- HANDLING AND STORAGE

Handling	<p>Caution not to generate firer, as to fire, static electricity, and spark.</p> <p>Take account of preventing the materials from leak.</p> <p>Wear protective clothing to prevent from contacting and inhaling the materials.</p>
Storage	<p>Avoid direct rays of the sun.</p> <p>Keep container tightly closed.</p> <p>Keep away from high temperature substances.</p> <p>Use earth and anti-explosive electric-apparatus in storage areas.</p>
Packaging material	Polyethylene plastic containers etc.

SECTION 8- EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures to reduce exposure	Ensure adequate ventilation, especially in confined areas.
Personal protection equipment	Wear personal protective equipment. Avoid contact with skin and eyes. Especially if necessary, wear organic gas mask, air mask, or self-contained breathing apparatus.
Hygiene measures	Set up safety shower, hands washer and eyes washer nearby handling the materials. Indicate the positions distinctly. When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use.



SECTION 9- PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Transparent, Clear liquid
Boiling point	185°C
Vapor pressure	0.53 nPa(20°C)
Melting point	-43°C
Flash point	74.8°C (closed up)
Autoignition temperature	383°C
Explosion limits	None
Density(20°C)	0.970~0.990g/ml
Solubility	Water: 4.2% (25°C) freely soluble in most organic solvents
Viscosity	3.58 cP @25°C

SECTION 10- STABILITY AND REACTIVITY

Stability	Stable at normal conditions. Hazardous polymerization does not occur.
Conditions to avoid	Avoid temperatures above 74.8°C
Materials to avoid	Avoid Ethene chloride, Polystyrene, oxidizing agents, acid, alkaline, water, air.
Hazardous decomposition products	CO, CO ₂

SECTION 11- TOXICOLOGICAL INFORMATION

Acute toxicity	Severe eye irritation,. Risk of serious damage to eyes. High concentration of vapours may cause irritation to eyes and respiratory system and produce narcotic effects. LD50 5 g/ kg (rat, oral) LDL0 200 mg/kg (mouse, abdominal injection) LD50 1100 mg/kg (mouse, skin injection) LD50 12 g/kg (rat, skin injection)
Irritability	500 mg/24h Moderate (Rabbit skin)
Carcinogenicity	None
Mutagenic properties	None

SECTION 12- ECOLOGICAL INFORMATION

Mobility	Completely soluble, readily biodegradable and hydrolyses, no hazardous polymerization.
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SECTION 13- DISPOSAL CONSIDERATIONS

Waste from residues/unused products	Burn up absorbent sand gradually in the opened incinerator after absorbing the materials, or burn up the materials directly in the incinerator through atomizer.
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Contaminated packaging	Decontaminate empty containers with water, dilute with water and flush to waste system. Recycle containers if possible.
Further information	Treatment, storage, transportation, and disposal must be in accordance with local regulations.

SECTION 14- TRANSPORTATION INFORMATION

Firefighting law	No.4 flammable liquid and N0.3 oil liquid slightly soluble in water
Packaging Class	III
Packaging label	3 Sticking properly on label, indicating material name, lot No., net weight etc
Further information	The materials transportation by vehicles, the sender serves deliverers with instructions for safe handling. In transportation confirm leakless of the container, and load the materials not to upset, fall and damage. Secure preventing the load from falling.

SECTION 15- REGULATORY INFORMATION

CHIMICAL DANGEROUS SUBSTANCES SAFETY MANAGEMETN REGULATORY(CHINA)
CHIMICAL DANGEROUS SUBSTANCES SAFETY MANAGEMETN DETAILED RULES AND REGULATORY(CHINA)
SAFETY USING CHEMICAL REGULATORY IN WORKING SITE (CHINA)