

M A T E R I A L S A F E T Y D A T A S H E E T

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 Charge Department: Isohara Plant Quality Control Department
 Responsibility for MSDS: Quality Control Manager Masanobu Yamagata
 MSDS Preparation Date July 1, 2007

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|------------|--|
| Trade Name | BUTYL LACTATE |
| Name | BUTYL LACTATE (n-Butyl 2-Hydroxypropanoate) |
| Contents | 97.5 % up |
| Formula | CH ₃ CH(OH)COOC ₄ H ₉ |
| MITI No. | (2)-1372 (Law Concerning Examination and Regulation of Manufacture, etc., of Chemical Substances) |
| CAS NO. | 138-22-7 |

Hazards Identification

Class Name Not applicable

Human Health Effects

Vapor may cause irritant of eyes , mucous membranes and skin.

TLV ACGIH : TWA 5ppm , 25mg/m³

First Aid 1)

Skin Contact

Immediately soap skin, and flush skin with plenty of water or tepid water.

Eye Contact

Immediately flush skin with plenty of water at least 15 minutes.
 Immediately remove contact lenses if wore.
 If irritation persists, call a physician .

Inhalation

Immediately remove to fresh air.
 Difficult breathing needs inhalation of oxygen.
 If the exposed person does not breathe, give him an artificial respiration. Call a physician immediately.

Ingestion

If swallowed, give large quantities of water or solution of salt, and try to induce vomiting by having affected person touch back of the throat with his finger.

Call a physician immediately.

Fire Fighting Measures

Fire Extinguish

Remove a source of fire. Use a fire extinguisher.

Cool the tanks and houses with water spray to prevent from spreading fire. Fire fighting must be done at the windward side.

Wear the respiratory protector if need.

Extinguishing Media

Dry Chemicals, Foam

Leakage

In case of small quantities of leakage, pack an absorbent material into container after absorbing spilled material.

Clean up the leaked place with large quantities of water.

Deal the container contents with applicable regulations.

In case of large quantities of leakage, 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 large quantities of water.

Disposal must be in accordance with applicable regulations.

Take person refuge in the weather side.

Tighten rope around the leakage place.

Keep person out the place.

Keep away from heat and flames promptly.

Prepare extinguishing media before starting on cleaning.

Wear protective clothing and self-contained breathing apparatus.

Handling and Storage

Caution not to generate fire, as to fire, static electricity, and spark.

Take account of preventing the materials from leak.

Wear protective clothing to prevent from contact and inhale the materials.

Avoid direct rays of the sun.

Keep container tightly closed.

Keep away from high temperature substances.

Use an earthed anti-explosive electric apparatus in storage areas.

Exposure controls 4)

Use protective glasses and rubber gloves.
 Especially if necessary, wear organic gas mask, air mask,
 or self-contained breathing apparatus.
 Set up safety shower, hand washer and eye washer nearby
 handling the materials. Indicate the positions distinctly.

Physical And Chemical Properties 1) 3) 4) 5)

Appearance Transparent, clear liquid having a characteristic odor.
 Boiling point 187℃ (760 hPa)
 Vapor pressure 0.43 hPa (20℃)
 0.91 hPa (30℃)
 Vapor density 5.04 (air=1)
 Vaporization velocity 0.044 (butyl acetate = 1)
 Melting point -43℃
 Specific Gravity d_{20}^{20} 0.985
 Solubility Soluble in water :3.4g/100ml

Hazards Reactivity 1) 3) 4)

Flash point 74.8 ℃ (closed)
 Auto ignition 382 ℃
 temperature
 Explosion limits upper 14.0 vol%, lower 1.4 vol%
 Instability Normally stable.
 Reactivity Acid or alkali may cause hydrolysis with the materials.

Toxicological Information 1) 2)

LD₅₀ > 5000 mg/kg-bw. (rat, oral)
 TCL₀ 4 ppm (human)
 LC₅₀ > 5.70 g/m³ (rat) No death data
 Irritation
 500 mg/24 hr moderate (rabbit skin)

Ecological Information 5)

Chemical Oxygen Demand(COD Mn) 0.31 g /g
 Biochemical Oxygen Demand(BOD) 1.08 g /g

Disposal Information

Burn up absorbent sand gradually in the opened incinerator
 after absorbing the materials, or burn up the materials
 directly in the incinerator through atomizer.

