

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

Company Name: Musashino Chemical Laboratory, Ltd.  
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 Factory: Isohara Plant  
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 Ibaraki-ken, Japan 319-15  
 Charge Department: Isohara Plant Quality Control Department  
 Responsibility for MSDS: Quality Control Manager Masanobu Yamagata  
 MSDS Preparation Date March 1, 2008

Trade Name	90% LACTIC ACID
Name	LACTIC ACID (2-HYDROXYPROPANOIC ACID)
Component	Lactic Acid 90% aqueous solution
Formula	CH <sub>3</sub> CH(OH)COOH
MITI No.	(2)-1369 (Law Concerning Examination and Regulation of Manufacture, etc., of Chemical Substances)
CAS No.	598-82-3

## Hazards Identification

Skin contact Irritant

## Human Health Effects

Skin contact may cause severe skin irritation with discomfort  
or rash.

Prolonged exposure may cause skin burns or ulceration.

## First Aid 1) 2)

## Skin Contact

Immediately flush skin with plenty of water or tepid water.

## Eye Contact

Immediately flush eyes 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.

If breathing is difficult, give oxygen, call a physician.

## Ingestion

If swallowed, give large quantities of water or solution of salt.

Call a physician immediately.

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**Fire Fighting Measures 2)****Fire Extinguish**

Product is considered non-flammable.

Remove a source of fire. Use a fire extinguisher.

**Extinguishing Media**

Dry Chemicals, Foam.

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**Leakage 2)**

Wear chemical splash goggles, rubber boots and rubber gloves.

Neutralized the materials with sodium carbonate or sodium hydrogencarbonate.

Pack a absorbent material into a container after absorbing neutralized solution with sand or diatom earth.

Clean up the leaked place with large quantities of water.

Treatment, disposal must be in accordance with applicable local regulations.

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**Handling and Storage 1) 2)****Handling**

Wear protective clothing to prevent skin contact because of acid liquid.

**Storage**

Keep container tightly closed.

Store in areas shielded the light, and below room temperature.

Keep away from strong bases storage areas.

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**Exposure Controls 1) 2)****Protection**

Wear protective clothing, safety glasses, face shield and rubber gloves.

Set up safety shower, hands washer and eyes washer nearby handling the materials. Indicate the positions distinctly.

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**Physical And Chemical Properties****Appearance**

Transparent, colorless syrupy liquid having an acid taste.

Odorless or a slight characteristic odor.

**Specific Gravity**

$d_{20}^{20}$  1.21~1.22

**Solubility**

Soluble in water, alcohol.

**Corrosion test**

on metal 3) non corrosive (SUS-41 1.14 mm/year)

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**Hazards Information**

Instability        Stable.  
Reactivity        Exothermic reaction with alkaline substances.

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**Toxicological Information (Health Hazards Information)**

LD<sub>50</sub> 4875 mg/kg bw. (mouse, oral)    1) 4)    (as 100% lactic acid)

LD<sub>50</sub> 3730 mg/kg bw. (rat, oral)    1) 4)    (as 100% lactic acid)

Irritativity 1)

500 mg/24 hr sev. (rabbit skin)

750 g sev.        (rabbit eye)

750 g/24 hr sev. (rabbit eye)

Carcinogenicity 5)

Bacterial mutagenicity test : Negative

Skin contact

Irritant

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**Ecological Information**

Biodegradability 6)

good.

Chemical Oxygen Demand(COD Mn) 3) 0.24 g/g

Biochemical Oxygen Demand(BOD) 3) 0.67 g/g

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**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.

Treatment, storage, transportation, and disposal must be in accordance with local regulations.

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**Transport 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.

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**Regulatory Information**

JAPAN	The Law of Prevention for Marine Pollution: Dangerous liquid (attached table 1st Z)
JAPAN	Food Additive(JSFA on Food Sanitation Law) Medicament (JP)
USA	Food Additive(GRAS) (21CFR184.1061) Medicament (USP)
EU	Food Additive(EEC No.E270) Medicament (EP,BP etc.)

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**Additional Information**

Inquiry about informations

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**References**

- 1) The Sigma-Aldrich Library of Chemical Safety Data  
Edition II ; Robert E. Lenga
- 2) "The Handbook of Prevention for Dangerous Substances  
Accident and Emergencies"  
KOBKAINAN BOSHIKENKYUKAI published by SEIZANDO (Japanese)
- 3) Unpublished data (for Company use :Japanese)
- 4) WHO Food Additives Series No.5 (1974)
- 5) JJMT(HEN' IGEN TO DOKUSEI) 5(6)579-587(1982) (Japanese)
- 6) TSUSANSHO KOHO 1993.12.28 (Japanese)

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While MSDS presented here is correct and reliable to the best of our knowledge and belief, because we do not control any applications and conditions of use, they are given without guarantee, and we assume no responsibility with respect thereto.

The information on products is intended for common products use, so care for extraordinary handling.

End of MSDS

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(Kabu) Musashino Kagaku Kenkyusho