

## SAFETY DATA SHEET

### 1. Chemical Product and Company Identification

Product Name : 88% Lactic Acid  
Other Name : (S)-2-Hydroxypropanoic Acid  
Manufacturer : Musashino Chemical Laboratory, Ltd.  
Address : Tekko Bldg., 8-2, Marunouchi 1-Chome,  
Chiyoda-Ku, Tokyo 100-0005  
TEL : +81-3-6810-0242  
FAX : +81-3-6810-0148

### 2. Hazards Identification

Hazard Classification : Skin Corrosion/Irritation, Category 1  
Serious Eye Damage/Irritation, Category 1

Hazard Label :



Signal Word : Danger  
Hazard Statement : Causes severe skin burns and eye damage.  
Precautionary Statement :

#### Safety measures

Do not breathe dust/fume/gas/mist/vapors/spray.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Wash face and hands thoroughly after handling.

#### Emergency measures

##### IF ON SKIN (or Hair) :

Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
Wash contaminated clothing before reuse.

##### IF IN EYES :

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

##### IF SWALLOWED :

Rinse mouth. Do NOT induce vomiting.

##### IF INHALED :

Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Immediately call a POISON CENTER or doctor/physician.

Storage

Store locked up.

Disposal

Dispose of contents/container in accordance with local/national regulations.

Other Hazard

No information available

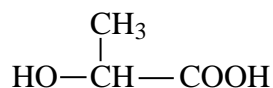
### 3. Composition/Information of Ingredients

It is Single Substance of Lactic Acid

Ingredient and Content :

Single component

Formula



- MITI No. : 2-1369  
CAS No. : 79-33-4 (50-21-5)  
EINECS : 201-196-2  
TSCA : On Inventory  
Hazardous component : Lactic Acid

### 4. First Aid Measures

First Aid Measures under different exposure routes :

Inhalation :

Move the exposed person to fresh air at once. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention.

Skin Contact :

Remove affected person from source of contamination. Remove contaminated clothing. Wash the skin immediately with soap and water. Get medical attention if irritation persists after washing.

Eye Contact :

Remove victim immediately from source of exposure. Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

Ingestion :

Immediately rinse mouth and drink plenty of water (200-300 ml). Get medical attention immediately.

Most important symptoms and effects :

Causes skin irritation. Causes serious eye irritation.

Protection of first aider :

No information available.

Notes for the physician :

No information available.

## 5. Fire Fighting Measures

Suitable extinguishing media :

This product is not flammable. Use fire extinguishing media appropriate for surrounding materials. Dry chemicals. Foam.

Special hazards arising from the product :

No information available.

Special fire-fighting methods :

Fire-fighting in the wind. Remove from fire and move to empty place. Cool containers with water spray. Provide adequate ventilation. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Protection for fire-fighters :

Fire-fighters should wear appropriate breathing apparatus and protective equipment.

## 6. Accidental Release Measures

Personal precautions :

Wear personal protective equipment (See section 8).

Environmental precautions :

Do not allow to get into sewer or waterways, if this occurs, inform the relevant water authority at once.

Methods cleaning up :

Neutralize with alkaline material (Lime, crushed limestone, sodium bicarbonate or soda ash). Flush area with water. Absorb in vermiculite, dry sand or earth and place into containers. Flush with plenty of water to clean spillage area.

## 7. Handling and Storage

Handling :

Avoid spilling, skin and eye contact. Wear appropriate clothing to prevent any possibility of skin contact.

Storage :

Store in tightly closed original container. Protect from light, including direct sunrays. Store below room temperature.

Avoid :

Strong alkalis.

## 8. Exposure Controls/Personal Protection

Engineering control :

Provide local exhaust or process enclosure ventilation system.

Personal protective equipment :

Respiratory protection : In case of inadequate ventilation wear respiratory protection.

Hand protection : Wear protective gloves.

Eye protection : Wear approved safety goggles.

Skin and body protection : Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene measures :

Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

## 9. Physical and Chemical Properties

Appearance : Transparent syrupy liquid, having an acid taste.

Color : Colorless or slightly yellow

Odor : Odorless or slightly characteristic odor

pH : 1>

Boiling Point : 122°C (1.85~2.0 kPa, 100%)

Melting Point : 53°C (100%)

Flash Point : Not available

Flammability : Not flammable

Specific Gravity : 1.20~1.21 ( $d_{20}^{20}$ )

Viscosity : 0.0369 Pa·s (25°C, 88.6% water solution)

Solubility : Miscible with water and alcohol

Octanol Water Partition Coefficient (Pow) :

Log Pow = -0.6

Metal Corrosion : Low

1.14mm/Year (High Tensile Stainless Steel(SS400))

## 10. Stability and Reactivity

Stability : Stable under normal conditions of handling, storage use.

Reactivity : Reacts with alkali and generates heat.

Hazardous decomposition products : Not available.

## 11. Toxicological Information

Acute Toxicity : LD<sub>50</sub> 4,875mg/kg (Mouse, Oral) (Lactic Acid 100%)  
LD<sub>50</sub> 3,730mg/kg (Rat, Oral) (Lactic Acid 100%)  
Local Effect : No data  
Mutagenicity : Ames test : Negative  
Irritation : 500mg/24hr sev. (Rabbit skin)  
750  $\mu$  g sev. (Rabbit eye)  
750  $\mu$  g/24hr sev. (Rabbit eye)  
Skin corrosion : No data

## 12. Ecological Information

Persistence/degradability : Good.

## 13. Disposal Consideration

Waste Disposal methods : Incinerate in suitable combustion chamber. Dispose of waste and residues in accordance with local authority requirements.

## 14. Transport Information

UN Number : Not regulated  
UN Proper shipping name : Not regulated  
UN Classification : Not regulated  
Packing Group : Not regulated  
Mark/Label(s) : Not regulated  
Marine pollutant (Yes/No) : No  
Additional 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.

## 15. Regulatory Information

Applicable regulations :

1. Sea Pollution Prevention Act : Z class material
2. Pharmaceutical and Medical Device Act  
: Japanese Pharmacopoeia
3. Food Sanitation Act : Food additives

## 16. Other Information

### 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) "Encyclopedia Chimica (KAGAKU DAIJITEN)"  
KYORITSU SHUPPAN (Japanese)
- 4) "Lactic Acid"; C.H.Holten, Verlag Chemie
- 5) International Chemical safety Cards(ICSC) (Japanese version) 4<sup>th</sup>  
The Chemical Daily Co., Ltd.
- 6) Unpublished data (for Company use :Japanese)
- 7) WHO Food Additive Series. No.5 (1974)
- 8) JJMT(HEN'IGEN TO DOKUSEI) 5(6)579-587(1982) (Japanese)
- 9) TSUSANSHO KOHO 1993.12.28 (Japanese)

### Disclaimer :

The information in this SDS is provided all the relevant data fully and truly. However, the information is provided without any warranty on their absolute extensiveness and accuracy. This SDS was prepared to provide safety preventive measures for the users who have got professional training. The personal user who obtained this SDS should make independent judgment for the applicability of this SDS under special conditions. In these special cases, we do not assume responsibility for the damage.