



Safety Data Sheet

1. Identification of the substance/mixture and of the company/undertaking

Product identifier:

Product name: Lactic acid(DL-) / Lactic acid

SDS No. : 4352E-2

Relevant identified uses of the substance or mixture and uses advised against

Research and Development, Food additives (Conforming product for Japan's Specifications and Standards for Food Additives only)

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.

Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN

Division: Chemical Safety Management Department

Telephone number: +81-6-6946-8061

FAX: +81-6-6946-1607

e-mail address: kagakuhinanzenkanri@kishida.co.jp

2. Hazards identification

GHS classification and label elements of the product**Classification of the substance or mixture****HEALTH HAZARDS**

Skin corrosion/irritation: Category 1

Serious eye damage/eye irritation: Category 1

Label elements

Signal word: Danger

HAZARD STATEMENT

Causes severe skin burns and eye damage

PRECAUTIONARY STATEMENT**Prevention**

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash contaminated parts thoroughly after handling.

Wear protective gloves, protective clothing or face protection.

Wear eye protection/face protection.

Response

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or 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.

Disposal

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



3. Composition/information on ingredients

Mixture/Substance selection:

Mixture

Ingredient name:Lactic acid(DL-)

Content (%):85-92

Chemical formula:CH₃CH(OH)COOH

Chemicals No, Japan:2-1369

CAS No.:50-21-5

MW:90.08

ECNO:200-018-0

Ingredient name:Water

Content (%):8.0-15

Chemical formula:H₂O

CAS No.:7732-18-5

MW:18.02

ECNO:231-791-2

Note : The figures shown above are not the specifications of the product.

4. First-aid measures

Descriptions of first-aid measures

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER/doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water or shower.

If skin irritation or rash occurs: Get medical advice/attention.

IF IN EYES

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

If eye irritation persists: Get medical advice/attention.

IF SWALLOWED

Rinse mouth. Do NOT induce vomiting.

Call a POISON CENTER/doctor/physician if you feel unwell.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

Unsuitable extinguishing media

Unsuitable extinguishing media data is not available.

Specific hazards arising from the substance or mixture

Containers may explode when heated.

Fire may produce irritating, corrosive and/or toxic gases.

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire resistant or flame retardant clothing.

Wear protective gloves/protective clothing/eye protection/face protection.

Firefighters should wear self-contained breathing apparatus with full face piece operated



positive pressure mode.

6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.

Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.

Methods and materials for containment and cleaning up

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

Preventive measures for secondary accident

Collect spillage.

7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Wear protective gloves, protective clothing or face protection.

Wear eye protection/face protection.

When using do not eat, drink or smoke.

Any incompatibilities

See "10.Stability and Reactivity"

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

Wash contaminated clothing before reuse.

Storage

Conditions for safe storage

Keep container tightly closed.

Store in a cool, dry place. Do not store in direct sunlight.

Container and packaging materials for safe handling

Glass

Polyethylene

8. Exposure controls/personal protection

Control parameters

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

**Individual protection measures****Respiratory protection**

Wear respiratory protection.

Hand protection

Wear protective gloves.

Eye protection

Wear eye/face protection.

9. Physical and Chemical Properties**Information on basic physical and chemical properties**

Physical state: Viscous liquid

Color: Colorless, Clear

Odor: Characteristic odor

Melting point/Freezing point data is not available.

Boiling point or initial boiling point data is not available.

Boiling range data is not available.

Flammability (gases, liquids and solids) data is not available.

Lower and upper explosion limit/flammability limit data is not available.

Flash point data is not available.

Auto-ignition temperature data is not available.

Decomposition temperature data is not available.

pH: ≤ 1.0 Dynamic viscosity: $3.69 \times 10^{-2} \text{ Pa} \cdot \text{S}(25^\circ\text{C}, 88.6\%)$

Kinematic viscosity data is not available.

Solubility:

Solubility in water: Soluble

n-Octanol/water partition coefficient data is not available.

Vapor pressure data is not available.

Density and/or relative density: 1.2

Relative vapor density (Air=1) data is not available.

Particle characteristics data is not available.

10. Stability and Reactivity**Reactivity**

Not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

Not available.

Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

Incompatible materials

Strong bases

Hazardous decomposition products

Carbon oxides



11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(Lactic acid(DL-))

rat LD50=3730mg/kg (JECFA 344, 1974)

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]

(Lactic acid(DL-))

rabbit corrosive (USMOE/HPV, 2002)

Serious eye damage/irritation

[GHS Cat. Japan, base data]

(Lactic acid(DL-))

rabbit severe (RTECS, 2010)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenic effects data is not available.

Reproductive toxicity data is not available.

STOT

STOT-single exposure data is not available.

STOT-repeated exposure data is not available.

Aspiration hazard data is not available.

12. Ecological Information

Ecotoxicity

Ecotoxicity data is not available.

Water solubility

(Lactic acid(DL-))

miscible (ICSC, 1997)

Persistence and degradability

(Lactic acid(DL-))

Readily degradable (BOD: 76% (METI existing chemical safety inspections 1993))

Bioaccumulative potential

(Lactic acid(DL-))

log Pow=-0.6 (ICSC, 1997)

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

Waste treatment methods

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



14. Transport Information

UN No. or ID No.: 1760
UN Proper Shipping Name :
CORROSIVE LIQUID, N.O.S.
Class or division (Transport hazard class) : 8
Packing group : III
ERG GUIDE No.: 154
Special provisions No.: 223; 274

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 1760
Proper Shipping Name :
CORROSIVE LIQUID, N.O.S.
Class or division : 8
Packing group : III
Special provisions No.: 223; 274

IATA Dangerous Goods Regulations

UN No.: 1760
Proper Shipping Name :
CORROSIVE LIQUID, N.O.S.
Class or division : 8
Hazard labels : Corrosive
Packing group : III
Special provisions No.: A3; A803

Environmental hazards

MARPOL Annex III – Prevention of pollution by harmful substances

Marine pollutants (yes/no) : no

Maritime transport in bulk according to IMO instruments

Noxious Liquid ; Cat. Z
Lactic acid(DL-)
Non Noxious Liquid ; Cat. OS
Water

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Toxic Substances Control Act (TSCA) Inventory

Chemicals listed in TSCA Inventory

Lactic acid(DL-); Water

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information**GHS classification and labelling**

Skin Corr. 1: H314 Causes severe skin burns and eye damage

Eye Dam. 1: H318 Causes serious eye damage

Reference Book

Globally Harmonized System of classification and labelling of chemicals, UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN
IMDG Code, 2018 Edition (Incorporating Amendment 39-18)
IATA Dangerous Goods Regulations (62nd Edition) 2021
2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)



2022 TLVs and BEIs. (ACGIH)

Supplier's data/information

General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

The GHS classification data given here is based on current Japan official data (NITE published in 2020).