

Material safety data sheet*

L-(+)-lactic acid

1. MATERIAL AND COMPANY DESIGNATION

PRODUCT NAME:	L-(+) – lactic acid
CAS-number:	79-33-4 (50-21-5 general CAS nr)
EC number:	201-196-2 (200-018-0 general EC nr.)
Reach reg no	01-2119474164-39-003
Supplier :	JINDAN Europe Europalaan 12E 5232 BC 's Hertogenbosch
Telephone nr:	+31 73 8200780
FAX nr :	+31 73 8200781
Emergency telephone number	+31 631 999963
Identified uses	Acidulant, pH modifier, preservative in food, cosmetic and beverage, natural antibiotics in feed stuff, cleaning agent or antiseptic/disinfectant/pesticide in washing/cleaning and biocidal products
Only representative	Reach Compliance Services Limited Suite 1E Paramount court, Corrig road, Sandyford, Dublin Ireland Info@reach24h.com Tel: 00353 (0) 1 8899951 Fax: 00353 (0) 1 6865683
Manufacturer	Henan Jindan Lactic Acid Techonology Co. Ltd. No. 08 Jindan Avenue, Dancheng County, Henan China jindanla@jindanlactic.com tel: +86 394 3196766 fax: +86 394 3195838

2. HAZARDS

Classification of substances: According regulation (EC) No 1272/2008	Skin irritation category 2; H315 Eye Damage category 1; H318
According Council Directive 67/548/EEC	R-phrases: R38;R41



Symbol:

Labelling according EC 1272/2008:
product identifier:

L-(+)-lactic acid



Hazard Pictogram:
Hazard statements

Skin irritation category 2; H315
Eye Damage category 1; H318

Prevention statements

P264, wash thoroughly after handling
P280; wear protective gloves, protective clothing/ eye protection/face protection

Response:

P302 +P352; if on skin; wash with plenty of soap and water
P332+P313; if skin irritation occurs; get medical advice/attention
P305+P351+P338; If in eyes; rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do, continue rinsing
P337+P313; If eye irritation persists; get medical advice/attention
P362; take off contaminated clothing and wash before reuse

Material safety data sheet*

L-(+)-lactic acid

3. COMPOSITION/INFORMATION ON INGREDIENTS

L-(+)- lactic acid	(S)-lactic acid
CAS No	(S)- 2- hydroxypropionic ac id
EC No	79-33-4
Classification under 67/548/EEC	201-196-2
Classification under CLP	Xi; R38 and R41 (concentration 78-92%)
	Skin irrit. 2; H315
	Eye Dam,1; H318

4. FIRST AID MEASURES

in case of inhalation:	immediate medical attention is not required, move to fresh air
in case of skin contact:	wash with soap and plenty of water, remove all contaminated clothes
in case of eye contact:	rinse with plenty of water, also under the eyelids, for at least 15 min.
in case of ingestion:	immediate medical attention is required, drink plenty of water do not induce vomiting. Call a physician immediately

Important symptoms and effects:
Potential acute health effects

Ingestion: burns, vomiting, gastrointestinal disturbance
Inhalation; severe irritation of respiratory tract as coughing,
choking or shortness of breath, headache and dizziness
inflammation of the eye; redness, watering and itching
skin inflammation; itching, scaling, reddening, blistering
chronic eye irritation, severe skin irritation and respiratory tract
irritation leading to frequent attacks of bronchial infection

Potential chronic health effects

5. MEASURES FOR EXTINGUISHING FIRES

extinguisher type:	dry chemical powder at small fire; water spray, fog or foam at large fire
specific Hazards:	thermal decomposition can lead to release of irritating gases and vapours
specific Protection Equipment required:	self-contained breathing apparatus in pressure demand and full protective gear

6. MEASURES IN CASE OF ACCIDENTAL LEAKAGE

Safety measures for personnel:	use protective equipment, avoid breathing vapors, mist or gas
Environmental measures:	avoid dispersal of spilled material and contact with soil, waterways, drains and sewers
Cleaning/removal procedure:	neutralize with soda or sodium carbonate. Soak up with inert absorbent material and dispose as hazardous waste. Keep in suitable, closed containers of disposal. After cleaning, flush away traces with plenty of water
Reference to other sections	section 7 for safe handling Section 8 for personal protection equipment Section 13 for information on disposal

7. HANDLING AND STORAGE

Precautions for safe handling:	normal measures for preventive fire protection. Keep dry and away from heat and sources of ignition. Empty containers pose a risk fire; evaporate the residue under a Fume hood. Avoid contact with skin and eyes
--------------------------------	--

Material safety data sheet*

L-(+)-lactic acid

Conditions for safe storage

keep container tightly closed. Keep in proper labelled containers
Keep in cool dry, sunless and ventilate place
Packaging material; plastics or stainless steel 316L containers
Storage class 12 (VCI storage system) acid resistant floors

8. MAXIMUM ALLOWABLE EXPOSURE/PROTECTION EQUIPMENT

Control parameters

no occupational exposure limits, biological limit established

Exposure control

equipped with eyewash facility and safety shower, adequate
Ventilation to keep airborne concentrations low

Personal protection

Safety glasses, face shield

Suitable material:

Hand protection, rubber gloves. Break through time 8 h.

rubber FKM (0,4mm)

natural rubber/latex –NR (0,5); Polychloroprene –CR (0,5mm)
Nitrile rubber/Latex NBR (0,35mm), Butyl rubber- butyl (0,5mm)

Fluoro carbon

Environmental exposure controls:

Body protection; long sleeved clothing, chemical resistant boots
prevent from entering sewers, basements and workshops.

9. PHYSICAL AND CHEMICAL DESCRIPTION

Form/Color/Smell:

liquid yellowish or colorless, mild acid odor

pH-value at 20C:

1:10 dilution in water <2

Melting point

53°C

Boiling point (12 mbar):

122°C

Decomposition temperature

>200C

Flash point:

not applicable

Danger of Explosion:

not applicable

Vapour Pressure (25°C):

<0.0813 hPa at 25°C

Vapour desitiy

3.11

Density (25°C):

~1.19-1.21 g/cm3

Solubility:

in water and many organic solvents

Division coefficient (log Pow):

ca 0.62 at 20°C

10 STABILITY AND REACTIVITY

Reactivity

decomposed when heated. Incompatible with iodides,
hydrofluoric acid and nitric acid, oxidizing agents, Albumin.
Mixtures of lactic acid, hydrofluoric acid and nitric acid are not
stable and should not be stored.

Lactic Acid and nitric acid react autocatalytically after a
quiescent period, attaining a temperature of 90C with vigorous
gas evolution after 12 h

Stability:

stable under recommended storage conditions

Conditions to avoid:

heating, avoid temperatures >200°C

Material to avoid:

oxidizing agents, alkali material

Hazardous residues:

irritating gases and vapours, at under fire carbon dioxide

Hazardous polymers:

none

11 TOXICOLOGICAL INFORMATION

Acute toxicity

oral LD₅₀=3730 mg/kg (rat) (IUCLID OECD guideline 401)
dermal LD₅₀ >2000mg/kg (rabbit) (IUCLID OECD guideline 402)

skin corrosion/irritation:

draize test rabbit skin:500 mg/24h severe
draize test rabbit skin:100 mg/24h moderate
Skin, rabbit; irritating (OECD Guideline 404)

Material safety data sheet*

L-(+)-lactic acid

Eye damage/irritation:
CMR effects

draize test rabbit eye:750 ug Severe
>0,1% not identified as carcinogen (IARC,ACGIH,NTP,OSHA)
No mutagenic effects known
No data on toxicity for reproduction available
No data available

STOT-single exposure
Symptoms related to the characteristics

ingestion; gastrointestinal irritation, nausea, vomiting and diarrhea, may cause stomach perforation
skin contact; skin irritation, prolonged skin contact may produce dermatitis
inhalation; irritating to the respiratory system, may cause throat pain and cough. Inhalation of vapors in high concentration may cause shortness in breath. Chronic exposure may cause dermatitis, gastrointestinal disturbance, coughing
RTECS# : OD2800000

Additional information

12 ECOLOGICAL INFORMATION

Acute Fish Toxicity
Acute daphnia toxicity
Acute algae toxicity
Persistence and degradability

LC 50 = 320 mg/l/96h (IUCLD OECD guideline 203)
EC 50 = 240 mg/l/48h (IUCLD OECD guideline 202)
EC 50 = 3500 mg/l/70h (IUCLD OECD guideline 201)
degradation; 80% LA 50% after 5 days and 67% after 20 days
Biochemical oxygen demand (BOD)₅ = 0,45 mg O₂/mg
Biochemical oxygen demand (BOD)₂₀ = 0,60 mg O₂/mg
Chemical oxygen demand (COD) = 0,90mg O₂/mg
Log POW = ca -0,62 at 20C (OECD guideline 117)
no data known
no data known

Bio-accumulative potential
Mobility in soil
PBT and vPvB assessment

13 DISPOSAL CONSIDERATIONS:

Can be disposed as waste water, landfilled or incinerated, when in compliance with local regulations. Clean container with water. Empty containers should be taken for local recycling, recovery or waste disposal

14 DIRECTIONS FOR TRANSPORT

Non classified in ADR/RID/GGSVE or IMDG-code/GGVsee or ICAO-TI/IATA-DGR

15 Regulations

EU regulation
EINECS
DSD (67/548/EEC)
USA –TSCA
Canada –DSL
Australia – AICS
Korea- ECL
Japan- ENCS
China –IECSC

no information available on Safety/Health or Environmental listed on the inventory
not mentioned in annex I
listed on the inventory
listed on the inventory
listed on the inventory
listed on the inventory
listed on the inventory
listed on the inventory

16 Any other Directions

Literature suggestions
R41
R38
H315
H318

ESISI IUCLID Dataset, EPA-HPV dataset, ICSC and GESTIS
Risk of serious damage on eyes
Irritating to skin
causes skin irritation
causes serious eye damage

Version 2, 20-5-2014

addition of only representative/manufacturer

*according to EU rules 93/112

The above mentioned information is accurate to our present level of knowledge. We cannot, however, accept liability or responsibility for situations arising from applying the information supplied