

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

Product identifier: L-(+)-lactic acid
CAS: 79-33-4
EC: 201-196-2
Index: 607-743-00-5
REACH: 01-2119474164-39-XXXX
Other means of identification: Non-applicable.

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

Relevant uses: Acidificant agent for beverage; preservative and flavouring in dressings and salads;
Fermentation and pH regulator in beer, wine and spirits; Antimicrobial agent and shelf-life
extender in bakery, meat products.

Uses advised against: All uses not specified in this section or in section 7.3.

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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture:

CLP Regulation (EC) No 1272/2008: Classification of this product has been carried out in accordance with CLP Regulation (EC)
No 1272/2008.
Eye Dam. 1: Serious eye damage, Category 1, H318.
Skin Corr. 1: Skin corrosion, Category 1, H314.

Label elements:

CLP Regulation (EC) No 1272/2008:



Danger.

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Hazard statements:	Skin Corr. 1: H314 - Causes severe skin burns and eye damage.
Precautionary statements:	P260: Do not breathe dust/fume/gas/mist/vapours/spray. P264: Wash thoroughly after handling. P280: Wear protective gloves/face protection/protective clothing/protective footwear. P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310: Immediately call a poison centre/doctor.
Supplementary information:	EUH071: Corrosive to the respiratory tract.
Substances that contribute to the classification:	L-(+)-lactic acid (CAS: 79-33-4)
Other hazards:	Product fails to meet PBT/vPvB criteria.
Endocrine-disrupting properties:	The product fails to meet the criteria.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance:	
Chemical description:	Preservative/s.
Components:	
In accordance with Annex II of Regulation (EC) No 1907/2006 (point 3), the product contains:	

Chemical name:	L-(+)-lactic acid (1)*
Classification:	Regulation 1272/2008. Eye Dam. 1: H318. Skin Corr. 1C: H314. EUH071 – Danger.



Concentration:	80 - <95%
Identification:	
CAS:	79-33-4
EC:	201-196-2
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Chemical name: Water (2)*
Classification: Regulation 1272/2008.
Concentration: 5 - <20%
Identification:
CAS: 7732-18-5
EC: 231-791-2
Index: Not applicable.
REACH: Not applicable.

(1)* Main component.

(2)* Voluntarily-listed substance failing to meet any of the criteria set out in Regulation (EU) No. 2020/878.

To obtain more information on the hazards of the substances consult sections 11, 12 and 16.

Mixture: Non-applicable.

4. FIRST AID MEASURES

Description of first aid measures: Request medical assistance immediately, showing the SDS of this product.

By inhalation: This product does not contain substances classified as hazardous for inhalation, however, in case of symptoms of intoxication remove the person affected from the exposure area and provide with fresh air. Seek medical attention if the symptoms get worse or persist.

By skin contact: Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

By eye contact: Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, in which case this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

By ingestion/aspiration: Request immediate medical assistance, showing the SDS of this product. Do not induce vomiting, because its expulsion from the stomach can be hazardous to the mucus of the main digestive tract, and also risk damage to the respiratory system through inhalation. Rinse out the mouth and throat, as they may have been affected during ingestion. In the case of loss of consciousness do not administer anything orally unless supervised by a doctor. Keep the person affected at rest.

Most important symptoms and effects, both acute and delayed: Acute and delayed effects are indicated in sections 2 and 11.

Indication of any immediate medical attention and special treatment needed: Non-applicable.

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5. FIRE-FIGHTING MEASURES

Extinguishing media:

Suitable extinguishing media: Product is non-flammable under normal conditions of storage, handling and use. In the case of combustion as a result of improper handling, storage or use preferably use polyvalent powder extinguishers (ABC powder), in accordance with the Regulation on fire protection systems.

Unsuitable extinguishing media: Non-applicable.

Special hazards arising from the substance or mixture: As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

Advice for firefighters: Depending on the magnitude of the fire it may be necessary to use full protective clothing and self-contained breathing apparatus (SCBA). Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit...) in accordance with Directive 89/654/EC.

Additional provisions: Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Eliminate all sources of ignition. In case of fire, cool the storage containers and tanks for products susceptible to combustion, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

For non-emergency personnel: Isolate leaks provided that there is no additional risk for the people performing this task. Personal protection equipment must be used against potential contact with the spilt product (See section 8).
Evacuate the area and keep out those who do not have protection.

For emergency responders: Wear protective equipment.
Keep unprotected persons away.
See section 8.

Environmental precautions: This product is not classified as hazardous to the environment.
Keep product away from drains, surface and underground water.

Methods and material for containment and cleaning up:

It is recommended: Absorb the spillage using sand or inert absorbent and move it to a safe place.
Do not absorb in sawdust or other combustible absorbents.
For any concern related to disposal consult section 13.

Reference to other sections: See sections 8 and 13.

[cont...]

7. HANDLING AND STORAGE

Precautions for safe handling:

General precautions for safe use: Comply with the current legislation concerning the prevention of industrial risks with regards manually handling weights. Maintain order, cleanliness and dispose of using safe methods (section 6).

Technical recommendations for the prevention of fires and explosions:

Product is non-flammable under normal conditions of storage, handling and use. It is recommended to transfer at slow speeds to avoid the generation of electrostatic charges that can affect flammable products. Consult section 10 for information on conditions and materials that should be avoided.

Technical recommendations on general occupational hygiene:

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

Technical recommendations to prevent environmental risks:

It is recommended to have absorbent material available at close proximity to the product (See subsection 6.3)

Conditions for safe storage, including any incompatibilities:

Technical measures for storage:

Minimum Temp.: 5 °C

Maximum Temp.: 30 °C

Maximum Time: 24 Months

General conditions for storage: Avoid sources of heat, radiation, static electricity and contact with food.
For additional information see subsection 10.5.

Specific end use(s): Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:

Substances whose occupational exposure limits have to be monitored in the workplace (European OEL, not country-specific legislation): There are no applicable occupational exposure limits for the substances contained in the product.

DNEL (Workers): Non-applicable.

DNEL (General population): Non-applicable.

PNEC: Non-applicable.

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Exposure controls:

Individual protection measures, such as personal protective equipment:

As a preventative measure it is recommended to use basic Personal Protective Equipment, with the corresponding <> in accordance with Regulation (EU) 2016/425. For more information on Personal Protective Equipment (storage, use, cleaning, maintenance, class of protection...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1. All information contained herein is a recommendation which needs some specification from the labour risk prevention services as it is not known whether the company has additional measures at its disposal.



Respiratory protection:

The use of protection equipment will be necessary if a mist forms or if the occupational exposure limits are exceeded.





Specific protection for the hands:

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory hand protection	NON-disposable chemical protective gloves	 CAT III	EN ISO 374-1:2016+A1:2018 EN 16523-1:2015+A1:2018 EN ISO 21420:2020	The Breakthrough Time indicated by the manufacturer must exceed the period during which the product is being used. Do not use protective creams after the product has come into contact with skin.



Eye and face protection:

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory face protection	Face shield	 CAT II	EN 166:2002 EN 167:2002 EN 168:2002 EN ISO 4007:2018	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing.

Body protection:

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory complete body protection	Disposable clothing for protection against chemical risks	 CAT III	EN 13034:2005+A1:2009 EN 168:2002 EN ISO 13982-1:2004/A1:2010 EN ISO 6529:2013 EN ISO 6530:2005 EN 464:1994	For professional use only. Clean periodically according to the manufacturer's instructions.
 Mandatory foot protection	Safety footwear for protection against chemical risk	 CAT III	EN ISO 20345:2011 EN 13832-1:2019	Replace boots at any sign of deterioration.

Additional emergency measures:

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2011, ISO 3864-4:2011	 Eyewash stations	DIN 12 899 ISO 3864-1:2011, ISO 3864-4:2011

Environmental exposure controls: In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D.

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Volatile organic compounds:

With regard to Directive 2010/75/EU, this product has the following characteristics:

V.O.C. (Supply):	0 % weight
V.O.C. density at 20 °C:	0 kg/m ³ (0 g/L)
Average carbon number:	Non-applicable.
Average molecular weight:	Non-applicable.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties: For complete information see the product datasheet.

Appearance:

Physical state at 20 °C:	Liquid.
Appearance:	Characteristic
Colour:	Light yellow, colourless.
Odour:	Characteristic.
Odour threshold:	Non-applicable. *

Volatility:

Boiling point at atmospheric pressure:	217 °C
Vapour pressure at 20 °C:	3,04E-2 Pa
Vapour pressure at 50 °C:	12381,01 Pa (12,38 kPa)
Evaporation rate at 20 °C:	Non-applicable. *

Product description:

Density at 20 °C:	1133,6 kg/m ³
Relative density at 20 °C:	1,134
Dynamic viscosity at 20 °C:	18,4 cP
Kinematic viscosity at 20 °C:	2,35 mm ² /s
Kinematic viscosity at 40 °C:	Non-applicable. *
Concentration:	Non-applicable. *
pH:	<2
Vapour density at 20 °C:	Non-applicable. *
Partition coefficient n-octanol/water 20 °C:	-0,43
Solubility in water at 20 °C:	860 kg/m ³
Solubility properties:	Non-applicable. *
Decomposition temperature:	Non-applicable. *
Melting point/freezing point:	53 °C

Flammability:

Flash Point:	Non-flammable (>60 °C)
Flammability (solid, gas):	Non-applicable *
Autoignition temperature:	>400 °C
Lower flammability limit:	Non-applicable. *
Upper flammability limit:	Non-applicable. *

[cont...]

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Particle characteristics:

Median equivalent diameter: Non-applicable.

Other information:

Information with regard to physical hazard classes:

Explosive properties: Non-applicable *

Oxidising properties: Non-applicable *

Corrosive to metals: Non-applicable *

Heat of combustion: Non-applicable *

Aerosols-total percentage (by mass) of flammable components: Non-applicable *

Other safety characteristics:

Surface tension at 20 °C: 0,07 N/m

Refraction index: Non-applicable *

*Not relevant due to the nature of the product, not providing information property of its hazards.

10. STABILITY AND REACTIVITY

Reactivity: No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7.

Chemical stability: Chemically stable under the indicated conditions of storage, handling and use.

Possibility of hazardous reactions: Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable.

Incompatible materials:

Acids	Water	Oxidising materials	Combustible materials	Others
Not applicable	Not applicable	Precaution	Not applicable	Avoid alkalis or strong bases.

Hazardous decomposition products: See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products.

Depending on the decomposition conditions, complex mixtures of chemical substances can be released:

Carbon dioxide (CO₂).
Carbon monoxide.
Other organic compounds.

[cont...]

11. TOXICOLOGICAL INFORMATION**Information on hazard classes as defined in Regulation (EC) No 1272/2008:**

The experimental information related to the toxicological properties of the product itself is not available.

Dangerous health implications: In case of exposure that is repetitive, prolonged or at concentrations higher than the recommended occupational exposure limits, adverse effects on health may result, depending on the means of exposure.

Ingestion (acute effect):

Acute toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for consumption. For more information see section 3.

Corrosivity/Irritability: Corrosive product if it is swallowed causes burns destroying the tissues. For more information about secondary effects from skin contact see section 2.

Inhalation (acute effect):

Acute toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for inhalation. For more information see section 3.

Corrosivity/Irritability: Corrosive to the respiratory tract.

Contact with the skin and the eyes (acute effect):

Contact with the skin: Above all, skin contact may occur as fabrics of all thicknesses can be destroyed, resulting in burns. For more information on the secondary effects see section 2.

Contact with the eyes: Produces serious eye damage after contact.

CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

Carcinogenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for the effects mentioned. For more information see section 3.

IARC: Non-applicable.

Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

Reproductive toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

Sensitizing effects:

Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous with sensitising effects. For more information see section 3.

Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

Specific target organ toxicity (STOT) - single exposure: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

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Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

Aspiration hazard: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

Other information: Non-applicable.

Specific toxicology information on the substances:

Identification	Acute toxicity		Genus
L-(+)-lactic acid	LD50 oral	3750 mg/kg	Rat
CAS: 79-33-4	LD50 dermal	Non-applicable	
EC: 201-196-2	LC50 inhalation	Non-applicable.	

Information on other hazards:

Endocrine-disrupting properties: The product fails to meet the criteria.

Other information: Non-applicable.

12. ECOLOGICAL INFORMATION

Toxicity:

Product-specific aquatic toxicity:

Acute toxicity	Species	Genus
LC50 320 mg/L (96 h)	Brachydanio rerio	Fish
EC50 240 mg/L (48 h) (ISO 14669)	Daphnia magna	Crustacean
EC50 3500 mg/L (72 h)	Pseudokirchneriella subcapitata	Algae

Substance-specific aquatic toxicity:

Acute toxicity:

Identification	Concentration	Species	Genus
L-(+)-lactic acid	LC50 320 mg/L (96 h)	Brachydanio rerio	Fish
CAS: 79-33-4	EC50 240 mg/L (48 h)	Daphnia magna	Crustacean
EC: 201-196-2	EC50 3500 mg/L (72 h)	Acartia tonsa	Crustacean

Persistence and degradability: Not available.

Bioaccumulative potential: Not available.

Mobility in soil: Not available.

Results of PBT and vPvB assessment: Product fails to meet PBT/vPvB criteria.

Endocrine disrupting properties: The product fails to meet the criteria.

Other adverse effects: Not described.

[cont...]

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13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

Code	Description	Waste class (Regulation (EU) No 1357/2014)
	It is not possible to assign a specific code, as it depends on the intended use by the user.	Dangerous

Type of waste (Regulation (EU) No 1357/2014): HP8 Corrosive.

Waste management (disposal and evaluation): Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC). As under 15 01 (2014/955/EC) of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. Waste should not be disposed of to drains. See paragraph 6.2.

Regulations related to waste management: In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH) the community or state provisions related to waste management are stated.

Community legislation: Directive 2008/98/EC, 2014/955/EU, Regulation (EU) No 1357/2014.

14. TRANSPORT INFORMATION

Transport of dangerous goods by land:

With regard to ADR 2021 and RID 2021:

UN number or ID number:	UN3265
UN proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (L-(+)-lactic acid)
Transport hazard class(es):	8
Labels:	8



Packing group:	III
Environmental hazards:	No
Special precautions for user:	
Special regulations:	274
Tunnel restriction code:	E
Physico-Chemical properties:	See section 9.
Limited quantities:	5 L
Maritime transport in bulk according to IMO instruments:	Non-applicable.

[cont...]

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Transport of dangerous goods by sea:

With regard to IMDG 40-20:

UN number or ID number: UN3265
UN proper shipping name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (L-(+)-lactic acid)
Transport hazard class(es): 8
Labels: 8



Packing group: III
Marine pollutant: No
Special precautions for user:
Special regulations: 274, 223
EmS Codes: F-A, S-B
Physico-Chemical properties: See section 9.
Limited quantities: 5 L
Segregation group: SGG1
Maritime transport in bulk according to IMO instruments: Non-applicable.

Transport of dangerous goods by air:

With regard to IATA/ICAO 2023:

UN number or ID number: UN3265
UN proper shipping name: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (L-(+)-lactic acid)
Transport hazard class(es): 8
Labels: 8



Packing group: III
Environmental hazards: No
Special precautions for user:
Physico-Chemical properties: See section 9.
Maritime transport in bulk according to IMO instruments: Non-applicable.

15. REGULATORY INFORMATION

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

Regulation (EC) No 528/2012: Contains a preservative to protect the initial properties of the treated article.
Contains L-(+)-lactic acid.

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Candidate substances for authorisation under the Regulation (EC) No 1907/2006 (REACH): Non-applicable.

Substances included in Annex XIV of REACH ("Authorisation List") and sunset date: Non-applicable.

Regulation (EC) No 1005/2009, about substances that deplete the ozone layer: Non-applicable.

Article 95, REGULATION (EU) No 528/2012: L-(+)-lactic acid (Product-type 1, 2, 3, 4, 6).

REGULATION (EU) No 649/2012, in relation to the import and export of hazardous chemical products: Non-applicable.

Seveso III: Non-applicable.

Other legislation: The product could be affected by sectorial legislation.

HACCP: Hazard analysis and critical control points, ISO: 22000.

Chemical safety assessment: The supplier has not carried out evaluation of chemical safety.

Note: The regulatory information given above only indicates the principal regulations specifically applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

16. OTHER INFORMATION

Legislation related to safety data sheets: The SDS shall be supplied in an official language of the country where the product is placed on the market. This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) No 1907/2006 (COMMISSION REGULATION (EU) 2020/878).

Modifications related to the previous Safety Data Sheet which concerns the ways of managing risks.: Non-applicable.

Texts of the legislative phrases mentioned in section 2:

H314: Causes severe skin burns and eye damage.

H318: Causes serious eye damage.

Texts of the legislative phrases mentioned in section 3:

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3.

CLP Regulation (EC) No 1272/2008: Eye Dam. 1: H318 - Causes serious eye damage.

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

Abbreviations and acronyms: ADR: European agreement concerning the international carriage of dangerous goods by road.
IMDG: International maritime dangerous goods code.
IATA: International Air Transport Association.
ICAO: International Civil Aviation Organisation.
COD: Chemical Oxygen Demand.
BOD5: 5day biochemical oxygen demand.

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BCF: Bioconcentration factor.

LD50: Lethal Dose 50.

LC50: Lethal Concentration 50.

EC50: Effective concentration 50.

LogPOW: Octanol-water partition coefficient.

Koc: Partition coefficient of organic carbon.

UFI: Unique formula identifier.

IARC: International Agency for Research on Cancer.

Legal disclaimer:

The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation. This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.