



Lactic acid

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830
Date of issue: 5/6/2011 Revision date: 3/13/2018 Supersedes: 12/9/2015 Version: 5.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Name : Lactic acid / (L+) lactic acid
Trade name : Lactic acid
EC-No. : 200-018-0 / 201-196-2
CAS-No. : 50-21-5 / 79-33-4
REACH registration No : 01-2119548400-48-0001 / 01-2119474164-39-0001

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Agriculture, forestry, fishery
Mining, (including offshore industries)
Mining (without offshore industries)
Manufacture, processing and distribution of substances and mixtures
Manufacture of pulp, paper and paper products
Manufacture of bulk, large scale chemicals (including petroleum products)
Manufacture of fine chemicals
Manufacture of plastics products, including compounding and conversion
Building and construction work
Health services
Washing and cleaning products (including solvent based products)
Formulation of preparations (mixtures)
Manufacture of food products
(See exposure scenario(s) nr 1)
Private household
(See exposure scenario(s) nr 2)

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

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GALACTIC INC.

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Milwaukee, WI 53209

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galactic-us@lactic.com

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Ireland	National Poisons Information Centre Beaumont Hospital	PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2566 (Healthcare professionals-24/7) +353 1 809 2166 (public, 8am - 10pm, 7/7)	
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital, Guy's & St Thomas' Hospital Trust	Dudley Road B18 7QH Birmingham	0844 892 0111 (UK only, Monday to Friday, 08.00 to 18.00 hours)	-
USA	American Association of Poison Control Centers	515 King Street, Suite 510 VA 22314 Alexandria	1-800-222-1222	

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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin Irrit. 2 H315

Eye Dam. 1 H318

Full text of hazard classes and H-statements : see section 16

Adverse physicochemical, human health and environmental effects

Causes serious eye damage. Causes skin irritation.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS05

Signal word (CLP) : Danger

Hazard statements (CLP) : H315 - Causes skin irritation.
H318 - Causes serious eye damage.

Precautionary statements (CLP) : P264 - Wash hands thoroughly after handling.
P280 - Wear protective gloves, protective clothing, eye protection.
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 CENTER, a doctor.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P332+P313 - If skin irritation occurs: Get Obtain medical attention.

2.3. Other hazards

Other hazards not contributing to the classification : None, to our knowledge.

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Lactic acid / (L+) lactic acid	(CAS-No.) 50-21-5 / 79-33-4 (EC-No.) 200-018-0 / 201-196-2 (REACH-no) 01-2119548400-48-0001 / 01-2119474164-39-0001	≥ 10	Skin Irrit. 2, H315 Eye Dam. 1, H318

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Move the affected person away from the contaminated area and into the fresh air. If irritation persists, consult a doctor.

First-aid measures after skin contact : Remove all contaminated clothing and footwear. Rinse immediately with plenty of water. In case of redness or irritation, call a doctor.

First-aid measures after eye contact : Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum). Remove contact lenses, if present and easy to do. Continue rinsing. Consult an eye specialist immediately, even if there are no immediate symptoms.

First-aid measures after ingestion : Rinse mouth out with water. Never attempt to induce vomiting. Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : Burns. Headache. Abdominal pain, nausea. Vomiting.

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Symptoms/effects after skin contact : Irritation.
Symptoms/effects after eye contact : Serious damage to eyes.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Carbon dioxide (CO₂). Foam.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire : Toxic fumes may be released. Carbon oxides (CO, CO₂).

5.3. Advice for firefighters

Firefighting instructions : Cool down the containers exposed to heat with a water spray. Contain the extinguishing fluids by bunding.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Avoid contact with skin and eyes. Do not breathe vapours. In case of important spillage : Only qualified personnel equipped with suitable protective equipment may intervene.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Contain the spilled material by bunding. Do not discharge into drains or rivers.

6.3. Methods and material for containment and cleaning up

For containment : Liquid spill: take up in sand, earth, vermiculite.

Methods for cleaning up : Wash non-recoverable remainder with large amounts of water.

Other information : Dispose of contaminated materials in accordance with current regulations.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Do not breathe vapours.

Hygiene measures : Do not drink, eat or smoke in the workplace. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.

Storage conditions : Keep container tightly closed and dry. Protect from heat and direct sunlight. Keep away from ignition sources.

Incompatible products : Strong oxidizing agents. Acids.

7.3. Specific end use(s)

Not applicable.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Lactic acid / (L+) lactic acid (50-21-5 / 79-33-4)	
DNEL/DMEL (Workers)	
Acute - local effects, inhalation	592 mg/m ³
DNEL/DMEL (General population)	
Acute - systemic effects, oral	35.4 mg/kg bodyweight/day
Acute - local effects, inhalation	296 mg/m ³
PNEC (Water)	

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Lactic acid / (L+) lactic acid (50-21-5 / 79-33-4)	
PNEC aqua (freshwater)	1.3 mg/l
PNEC (STP)	
PNEC sewage treatment plant	10 mg/l

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protective equipment:

Insulated gloves. Face-shield.

Hand protection:

Protective gloves made of rubber. Breakthrough time (min) : > 480

Eye protection:

Face-shield

Skin and body protection:

Protective clothing

Respiratory protection:

If the ventilation is suitable, it is not essential to wear respiratory equipment. Mist formation: aerosol mask with filter type P2

Personal protective equipment symbol(s):



Environmental exposure controls:

Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Viscous.
Colour	: No data available
Odour	: odourless.
Odour threshold	: Not established
pH	: < 2 (25 °C)
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 53 °C (crystal lactic acid)
Freezing point	: Not applicable
Boiling point	: 105 - 150 °C
Flash point	: Not applicable
Auto-ignition temperature	: 400 °C
Decomposition temperature	: > 200 °C
Flammability (solid, gas)	: Non flammable
Vapour pressure	: Negligible.
Relative vapour density at 20 °C	: No data available
Relative density	: 1.04 - 1.25
Solubility	: Water: Soluble
Log Pow	: -0.72 (20 °C)
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: 5 - 60 mPa.s
Explosive properties	: Not applicable.
Oxidising properties	: Not applicable.
Explosive limits	: No data available

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9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

To our knowledge, the product does not present any particular risk.

10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

10.3. Possibility of hazardous reactions

Can react violently with. Strong oxidizing agents.

10.4. Conditions to avoid

High temperature.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation) : Not classified (Based on available data, the classification criteria are not met)

Lactic acid / (L+) lactic acid (50-21-5 / 79-33-4)	
LD50 oral rat	3543 mg/kg (EPA OPP 81-1)
LD50 dermal rabbit	> 2000 mg/kg (EPA OPP 81-2)
LC50 inhalation rat	> 7.94 mg/l/4h (OECD 403)
Skin corrosion/irritation	: Causes skin irritation. (OECD 404) pH: < 2 (25 °C)
Serious eye damage/irritation	: Causes serious eye damage. pH: < 2 (25 °C)
Respiratory or skin sensitisation	: Not classified (EPA OPP 81-6)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Not classified

Lactic acid / (L+) lactic acid (50-21-5 / 79-33-4)	
LC50 fish	130 mg/l/96h (Lepomis macrochirus)
EC50 Daphnia	130 mg/l/48h (Daphnia magna)
ErC50 (algae)	2800 mg/l/72h (Pseudokirchnerella subcapitata)
NOEC (acute)	1900 mg/l (OECD 201)

12.2. Persistence and degradability

Lactic acid / (L+) lactic acid (50-21-5 / 79-33-4)	
Persistence and degradability	Readily biodegradable.

12.3. Bioaccumulative potential

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Lactic acid / (L+) lactic acid (50-21-5 / 79-33-4)	
Log Pow	-0.72 (20 °C)
Bioaccumulative potential	Not bioaccumulable.

12.4. Mobility in soil

Lactic acid / (L+) lactic acid (50-21-5 / 79-33-4)	
Mobility in soil	Small adsorption

12.5. Results of PBT and vPvB assessment

Component	
Lactic acid / (L+) lactic acid (50-21-5 / 79-33-4)	The product does not meet the PBT and vPvB classification criteria

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of in accordance with relevant local regulations.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Special transport precautions : No additional information available

- Overland transport

Not regulated

- Transport by sea

Not regulated

- Air transport

Not regulated

- Inland waterway transport

Not regulated

- Rail transport

Not regulated

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

Lactic acid / (L+) lactic acid is not on the REACH Candidate List

Lactic acid / (L+) lactic acid is not on the REACH Annex XIV List

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15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

Indication of changes:

SDS changed sections : 2.

Data sources : CSR (Chemical safety report). IUCLID. HSDB (Hazardous Substances Data Bank).

Full text of H- and EUH-statements:

Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
H315	Causes skin irritation.
H318	Causes serious eye damage.

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product