SECTION 1: Identification

1.1. Identification

Product form : Mixture

Name : L-lactic acid

Trade name : PURAC® 50-100
PURAC® 80 FG
PURAC® 88-LT, 88-T
PURAC® FCC 50, FCC 80, FCC 85, FCC 88
PURAC® FIT Plus 90
PURAC® HiPure 51, HiPure 90
PURAC® HS 50, HS 80, HS 88, HS 90, HS 93, HS 95, HS 100
PURAC® PF 90
PURAC® PH 91
PURAC® UltraPure 50, UltraPure 90
PURAC® Vin
PURAC® DEX 185
PURAC® HS Pure 90
PURAC® HS Pure 50

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Food additive
Speciality chemical
See annex for more detailed information.

Recommended use : Food additive, Speciality chemical

Restrictions on use : No additional information available

1.3. Supplier

Supplier
Purac Biochem bv
46 Arkelsedijk
Gorinchem, 4206 AC - The Netherlands
T +31 183 695695 - F +31 183 695604
sds@corbion.com

Supplier
Purac America, Inc.
8250 Flint Street
Lenexa, KS 66214 - USA
T +1 800 669 4092 - F +1 913 888 4970
sds@corbion.com

1.4. Emergency telephone number

Emergency number : Call CHEMTREC: +1 703-741-5970 / 1-800-424-9300 CCN 18135

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Skin corrosion/irritation Category 2 — Causes skin irritation

Serious eye damage/eye irritation Category 1 — Causes serious eye damage

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger

Hazard statements (GHS US) : Causes skin irritation
Causes serious eye damage

Precautionary statements (GHS US) : Wash hands, forearms and face thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin: Wash with plenty of water.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a poison center or doctor.
Take off contaminated clothing and wash it before reuse.

2.3. Other hazards which do not result in classification

Other hazards which do not result in classification : No additional information.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	Conc. (% w/w)	GHS US classification
S-lactic acid	CAS-No.: 79-33-4	≥ 50	Skin Irrit. 2, H315 Eye Dam. 1, H318

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

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Call a poison center/doctor/physician if you feel unwell. Wash contaminated clothing before reuse.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

First-aid measures after ingestion : Rinse mouth. Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms	:	Causes serious eye damage. Redness, pain. Burns. Causes skin irritation. irritation (itching, redness, blistering).
Symptoms/effects after skin contact	:	Irritation. irritation (itching, redness, blistering).
Symptoms/effects after eye contact	:	Serious damage to eyes. Redness, pain. Burns.
Symptoms/effects after ingestion	:	May be harmful if swallowed.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically. If breathing is difficult, give oxygen. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	:	Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	:	Do not use a solid water stream as it may scatter and spread fire.

5.2. Specific hazards arising from the chemical

Fire hazard	:	No fire hazard.
Explosion hazard	:	No direct explosion hazard.
Hazardous decomposition products in case of fire	:	Under fire conditions, hazardous fumes will be present: Carbon monoxide, Carbon dioxide.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	:	Evacuate personnel to a safe area. Move containers from fire area if it can be done without personal risk. Use water spray or fog for cooling exposed containers. Prevent fire-fighting water from entering environment.
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

General measures : No additional information.

6.1.1. For non-emergency personnel

Protective equipment	:	Wear recommended personal protective equipment.
Emergency procedures	:	Evacuate unnecessary personnel. Ventilate spillage area. Do not touch or walk on the spilled product. Avoid breathing vapors, mist. Avoid contact with skin and eyes.

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

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak if safe to do so.

Methods for cleaning up	:	Large amounts: Cover spill with non combustible material, e.g.: sand, earth, vermiculite. Shovel or sweep up and put in a closed container for disposal. Flush contaminated areas with plenty of water. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. After cleaning, flush traces away with water. Notify authorities if product enters sewers or public waters. Never return spills in original containers for possible later re-use.
Other information	:	Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Handle in accordance with good industrial hygiene and safety procedures. Wear personal protective equipment. Ensure good ventilation of the work station. Avoid breathing vapors, mist. Avoid contact with skin and eyes.
Hygiene measures	:	Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	:	Keep container tightly closed in a cool, well-ventilated place.
Incompatible materials	:	Strong oxidizing agents.
Storage area	:	Store according to local legislation.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

L-lactic acid
No additional information available

S-lactic acid (79-33-4)
No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls	:	Ensure good ventilation of the work station. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Do not expose to temperatures above 200 °C / 392 °F.
Environmental exposure controls	:	Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Hand protection:				
Protective gloves				
Type	**Material**	**Permeation**	**Thickness (mm)**	**Penetration**
Protective gloves	butyl rubber	6 (> 480 minutes)	0.5	

Eye protection:		
Chemical goggles or face shield. Safety glasses		
Type	**Field of application**	**Characteristics**
Safety goggles	Droplet, Aerosols	
Face shield	Droplet, Aerosols	

Skin and body protection:
Wear suitable protective clothing
Type
acid-resistant protective clothing, Boots

Respiratory protection:		
Where exposure through inhalation may occur from use, respiratory protection equipment is recommended		
Device	**Filter type**	**Condition**
Half-face mask (DIN EN 140)	Type A - High-boiling (>65 °C) organic compounds	Aerosols, Droplet, vapor

Personal protective equipment symbol(s):

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	clear.
Color	:	Colorless yellowish
Odor	:	characteristic
Odor threshold	:	No data available
pH	:	< 1.2 (25°C)
Melting point	:	Not applicable
Freezing point	:	No data available
Boiling point	:	249 – 266 °F
Flash point	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Flammability (solid, gas)	:	Not applicable.
Vapor pressure	:	No data available
Relative vapor density at 20 °C	:	No data available
Relative density	:	No data available
Density	:	1.2 g/cm³
Solubility	:	Miscible with water.
Partition coefficient n-octanol/water (Log Pow)	:	-0.62
Auto-ignition temperature	:	> 752 °F 93% w/w

Decomposition temperature	:	> 392 °F
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	5 – 60 mPa·s (25°C)
Explosion limits	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

Additional information : Surface tension : 44 - 50 mN/m @50 - 90%

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Do not expose to temperatures above 200 °C / 392 °F.

10.5. Incompatible materials

Strong oxidizing agents.

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
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

S-lactic acid (79-33-4)	
LD50 oral rat	3543 mg/kg body weight (EPA OPP 81-1 method)
LD50 dermal rabbit	> 2000 mg/kg body weight (EPA OPP 81-2 method)
ATE US (oral)	3543 mg/kg body weight

Skin corrosion/irritation : Causes skin irritation.
pH: < 1.2 (25°C)
Serious eye damage/irritation : Causes serious eye damage.
pH: < 1.2 (25°C)
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified

STOT-single exposure	:	Not classified
STOT-repeated exposure	:	Not classified
Aspiration hazard	:	Not classified
Viscosity, kinematic	:	No data available
Likely routes of exposure	:	Inhalation. Dermal.
Potential Adverse human health effects and symptoms	:	Causes serious eye damage. Redness, pain. Burns. Causes skin irritation. irritation (itching, redness, blistering).
Symptoms/effects after skin contact	:	Irritation. irritation (itching, redness, blistering).
Symptoms/effects after eye contact	:	Serious damage to eyes. Redness, pain. Burns.
Symptoms/effects after ingestion	:	May be harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

S-lactic acid (79-33-4)	
LC50 - Fish [1]	130 – 320 mg/l
EC50 - Crustacea [1]	320 – 750 mg/l
ErC50 algae	3500 mg/l
NOEC chronic algae	1900 mg/l

12.2. Persistence and degradability

L-lactic acid	
Persistence and degradability	Readily biodegradable.

S-lactic acid (79-33-4)	
Persistence and degradability	Readily biodegradable.

12.3. Bioaccumulative potential

L-lactic acid	
Partition coefficient n-octanol/water (Log Pow)	-0.62
Bioaccumulative potential	Bioaccumulation unlikely.

S-lactic acid (79-33-4)	
Partition coefficient n-octanol/water (Log Pow)	-0.54 (OECD 107 method)

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Sewage disposal recommendations : Disposal must be done according to official regulations.

Product/Packaging disposal recommendations : Empty containers should be taken for recycling, recovery or waste in accordance with local regulation.

SECTION 14: Transport information

In accordance with Department of Transport / Transportation of Dangerous Goods / IMDG / IATA

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT) : Not applicable

Proper Shipping Name (TDG) : Not applicable

Proper Shipping Name (IMDG) : Not applicable

Proper Shipping Name (IATA) : Not applicable

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT) : Not applicable

TDG

Transport hazard class(es) (TDG) : Not applicable

IMDG

Transport hazard class(es) (IMDG) : Not applicable

IATA

Transport hazard class(es) (IATA) : Not applicable

14.4. Packing group

Packing group (DOT) : Not applicable

Packing group (TDG) : Not applicable

Packing group (IMDG) : Not applicable

Packing group (IATA) : Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

DOT

No data available

TDG

No data available

IMDG

No data available

IATA
No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

CANADA

S-lactic acid (79-33-4)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

S-lactic acid (79-33-4)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

National regulations

S-lactic acid (79-33-4)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on KECL/KECI (Korean Existing Chemicals Inventory) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on the Japanese ISHL (Industrial Safety and Health Law) Listed on INSQ (Mexican National Inventory of Chemical Substances) Listed on the TCSI (Taiwan Chemical Substance Inventory) Listed on the NCI (National Chemicals Inventory)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date	:	02/16/2021
Training advice	:	Training staff on good practice.

Indication of changes:
Trade name. Full Layout. Exposure controls/personal protection.

SDS US (GHS HazCom 2012)

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.