

SECTION 1: Identification of Product and Company

1.1. Product identifier

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
Recommended use	: Food additive, Speciality chemical
Restrictions on use	: No additional information available

1.2. Company identification

Supplier

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

Supplier

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

Initial Supplier Identifier
Données relatives au fournisseur

Univar Solutions Canada Ltd.

64 Arrow Road
North York, ON M9M 2L9
Telephone: 1-866-686-4827

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to GHS BR (ABNT NBR 14725)

Skin corrosion/irritation, Category 1C

Serious eye damage/eye irritation, Category 1

2.2. Label elements

GHS BR labelling

Hazard pictograms (GHS BR)



GHS05

Signal word (GHS BR)	: Danger
Hazard statements (GHS BR)	: H314 - Causes severe skin burns and eye damage.
Precautionary statements (GHS BR)	: P260 - Do not breathe vapours, mist. P280 - Wear protective gloves, protective clothing, eye protection, face protection. 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/shower. P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P363 - Wash contaminated clothing before reuse.

2.3. Other hazards not contributing to the classification

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	Conc. (% w/w)
L-(+)-lactic acid	(CAS-No.) 79-33-4	≥ 50

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician immediately.
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. Do not induce vomiting. Drink some glasses of water. Call a physician immediately.

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

Symptoms/effects	: Causes severe skin burns and eye damage.
Symptoms/effects after skin contact	: Burns. Rednesses. Pain.
Symptoms/effects after eye contact	: Burning sensation. Pain. Redness. Tears.
Symptoms/effects after ingestion	: Burns to the gastric/intestinal mucosa.

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

Notes to physician	: Treat symptomatically
Other medical advice or treatment	: Treat symptomatically. If breathing is difficult, give oxygen. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

5.1. 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. Special hazards arising from the substance or mixture

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

5.3. Advice for firefighters

Firefighting instructions	: Evacuate personnel to a safe area. Use water spray or fog for cooling exposed containers. Prevent fire fighting water from entering the 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	: Avoid contact with skin and eyes.
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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 vapours, 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 : Stop leak if safe to do so. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

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. Notify authorities if product enters sewers or public waters. 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. Flush contaminated areas with plenty of water. Never return spills in original containers for possible later re-use.

Other information : Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment. Do not breathe vapours, mist. Handle in accordance with good industrial hygiene and safety procedures.

Handling temperature : < 200 °C

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. Store locked up.

Incompatible materials : Oxidizing agent. Bases. Acids. Metals.

Storage temperature : < 200 °C

Storage area : Store according to local legislation.

Packaging materials : Store always product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls : 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. Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Personal protective equipment

Hand protection:					
Protective gloves					
Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Protective gloves	Butyl rubber, Chloroprene rubber (CR), Polyvinylchloride (PVC)	6 (> 480 minutes)	0.5		EN 374
Protective gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0.35		EN 374
Protective gloves	Fluoroelastomer (FKM)	6 (> 480 minutes)	0.4		EN 374

Eye protection:			
Safety goggles. If there is a risk of liquid being splashed: Face shield			
Type	Field of application	Characteristics	Standard
Safety goggles	Droplet, Aerosols		EN 166
Face shield	Droplet, Aerosols		EN 166
Skin and body protection:			
Wear suitable protective clothing			
Type	Standard		
Long sleeved protective clothing	EN 13034		
Safety boots (above ankles)	EN 13832		
Large amounts, If there is a risk of liquid being splashed: Apron	EN 14605		
Respiratory protection:			
During spraying wear suitable respiratory equipment. Open systems			
Device	Filter type	Condition	Standard
Full face mask	Type A - High-boiling (>65 °C) organic compounds	Aerosols, Droplet	EN 136, EN 14387

Personal protective equipment symbol(s):



Environmental exposure controls:

Avoid release to the environment.

Other information:

Handle in accordance with good industrial hygiene and safety procedures. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Avoid contact with skin, eyes and clothing. Workers must be trained in the proper use and handling of this product as required under applicable regulations. Regular cleaning of equipment, work area and clothing.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear.
Colour	: Colourless, Yellowish
Odour	: Characteristic
Odour threshold	: Not available
pH	: < 1,2 (25°C)
Melting point	: Not available
Freezing point	: Not available
Boiling point	: 120 – 130 °C
Flash point	: Not available
Relative evaporation rate (butylacetate=1)	: Not available
Flammability (solid, gas)	: Not available
Explosive limits	: Not available

Vapour pressure	: Not available
Relative vapour density at 20 °C	: Not available
Relative density	: Not available
Density	: 1,2 g/cm ³
Solubility	: Miscible with water.
Partition coefficient n-octanol/water (Log Pow)	: -0,62
Partition coefficient n-octanol/water (Log Kow)	: Not available
Auto-ignition temperature	: > 400 °C (93% w/w)
Decomposition temperature	: > 200 °C
Viscosity, kinematic	: Not available
Viscosity, dynamic	: 5 – 60 mPa·s (25°C)

9.2. Other information

Additional information	: Surface tension : 44 - 50 mN/m @50 - 90%
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SECTION 10: Stability and reactivity

Chemical stability	: Stable under normal conditions
Conditions to avoid	: Do not expose to temperatures above 200 °C / 392 °F
Hazardous decomposition products	: Under fire conditions, hazardous fumes will be present: Carbon dioxide, Carbon monoxide
Incompatible materials	: Oxidizing agent,Bases,Acids,Metals
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use
Reactivity	: The product is non-reactive under normal conditions of use, storage and transport
Handling temperature	: < 200 °C

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified.
Acute toxicity (dermal)	: Not available
Acute toxicity (inhalation)	: Not available

L-(+)-lactic acid (79-33-4)	
LD50 oral rat	3543 mg/kg bodyweight (EPA OPP 81-1 method)
LD50 dermal rabbit	> 2000 mg/kg bodyweight (EPA OPP 81-2 method)

Skin corrosion/irritation	: Causes severe skin burns. pH: < 1,2 (25°C)
Serious eye damage/irritation	: Causes serious eye damage. pH: < 1,2 (25°C)
Respiratory or skin sensitisation	: Not available
Germ cell mutagenicity	: Not available
Carcinogenicity	: Not available
Reproductive toxicity	: Not available
STOT-single exposure	: Not available
STOT-repeated exposure	: Not available
Aspiration hazard	: Not available
Potential adverse human health effects and symptoms	: Redness, pain. Burns. Causes serious eye damage.

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

Symptoms/effects	: Causes severe skin burns and eye damage.
Symptoms/effects after skin contact	: Burns. Rednesses. Pain.
Symptoms/effects after eye contact	: Burning sensation. Pain. Redness. Tears.

Symptoms/effects after ingestion : Burns to the gastric/intestinal mucosa.

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not available

Hazardous to the aquatic environment, long-term (chronic) : Not available

L-(+)-lactic acid (79-33-4)	
LC50 - Fish [1]	130 – 320 mg/l
EC50 - Crustacea [1]	130 – 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.
L-(+)-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
L-(+)-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

Other adverse effects : May cause pH changes in aqueous ecological systems. Before neutralisation, the product may represent a danger to aquatic organisms.

SECTION 13: Disposal considerations

Regional legislation (waste) : Law No. 12.305 on the National Policy on Solid Waste Management, 02 August 2010.
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.
Additional information : Do not re-use empty containers.

SECTION 14: Transport information

14.1 National and international Regulations

Overland transport

UN-No.(RES 5232) : 3265
Proper Shipping Name (RES 5232) : LÍQUIDO CORROSIVO, ÁCIDO, ORGÂNICO, N.E. (Lactic acid)
Class (RES 5232) : 8 - Corrosive substances
Risk Number (Res 5232) : 80 - Corrosive or slightly corrosive substance
Packing group (Res 5232) : III - Substances presenting low danger
Special provisions(Res 5232) : 223,274

Transport by sea

UN-No. (IMDG) : 3265
Proper Shipping Name (IMDG) : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Lactic acid)
Class (IMDG) : 8 - Corrosive substances
Packing group (IMDG) : III - substances presenting low danger

EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-B - SPILLAGE SCHEDULE Bravo - CORROSIVE SUBSTANCES
Marine pollutant (IMDG)	: No
Special provisions (IMDG)	: 223,274

Air transport

UN-No. (IATA)	: 3265
Proper Shipping Name (IATA)	: Corrosive liquid, acidic, organic, n.o.s. (Lactic acid)
Class (IATA)	: 8 - Corrosives
Packing group (IATA)	: III - Minor Danger
Special provisions (IATA)	: A3,A803

14.2 Other information

No additional information available

SECTION 15: Regulatory information

Brazil Local Regulations	: Standard ABNT NBR 14725. Federal Decree no. 2.657, of 3 July 1998 – Promulgates Convention no. 170 of the WLO, relating to Safety in the Use of Chemicals in the Workplace, signed in Geneva, on 25 June 1990. Ministerial Order no. 229, of 24 May 2011 – Modifies Regulatory Standard no. 26 Federal Decree no. 96.044, of 18 May 1988 - Approves Regulations for Road Transportation of Hazardous Materials Resolution no. 5232, of 14 December 2016, approving the supplementary instructions to the Regulation on the Inland Transport of Dangerous Goods and other provisions.
Regulatory reference	: Not listed on the United States TSCA (Toxic Substances Control Act) inventory

SECTION 16: Other information

Abbreviations and acronyms	: ATE - Acute Toxicity Estimate BCF - Bioconcentration factor BLV - Biological limit value BOD - Biochemical oxygen demand (BOD) CAS-No. - Chemical Abstract Service number COD - Chemical oxygen demand (COD) DMEL - Derived Minimal Effect level EC50 - Median effective concentration IATA - International Air Transport Association IMDG - International Maritime Dangerous Goods LC50 - Median lethal concentration LD50 - Median lethal dose LOAEL - Lowest Observed Adverse Effect Level NOAEC - No-Observed Adverse Effect Concentration NOAEL - No-Observed Adverse Effect Level NOEC - No-Observed Effect Concentration OECD - Organisation for Economic Co-operation and Development OEL - Occupational Exposure Limit RID - Regulations concerning the International Carriage of Dangerous Goods by Rail SDS - Safety Data Sheet STP - Sewage treatment plant ThOD - Theoretical oxygen demand (ThOD) TLM - Median Tolerance Limit VOC - Volatile Organic Compounds N.O.S. - Not Otherwise Specified
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Indication of changes:

Classification. Label elements. Composition/information on ingredients. First aid measures. Exposure controls/personal protection. Toxicological information.



Corbion

L-lactic acid

Safety Data Sheet

According to ABNT NBR 14725-4

Ecological information. Transport information.

Corbion SDS Brazil

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.