



MATERIAL SAFETY DATA SHEET

GALACID 50%-90%

1. IDENTIFICATION.

Commercial Name	GALACID®, All Grades
GALACTIC® References	LAIDL50, LAIDL70, LAIDL80, LAFBL80, LAFCL80, LAFTL50, LAFTL80, LAFTL85, LAFTL88, LAFTL90, LAHSL50, LAHSL80, LAHSL88, LAHSL90, LAPHL90, LAPIL90
Chemical name	2 - Hydroxypropionic Acid
Formula	CH ₃ CH OH COOH
Molecular weight	90
EEC Code	E-270
CAS Nr	50-21-5 79-33-4 (L(+)) lactic acid)
Custom Code	29.18.11.00
Manufactured by	Galactic sa Place d'Escanaffles, 23 BE-7760 Escanaffles Belgium Tel: 32.69.45.49.21 Fax: 32.69.45.49.26

2. COMPOSITION.

50%, 55%, 80%, 85%, 88% and 90% w/w and 50% vol/vol aqueous solutions of lactic acid L(+).

3. HAZARDS IDENTIFICATION.

GALACID solutions are corrosive, irritating and may cause burns.
Avoid contact with clothing, skin and eyes.
Inhalation of lactic acid vapours or mist may irritate the nose and throat.



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4. FIRST AID MEASURES.

Inhalation	Remove into fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is difficult, give oxygen. Call a physician.
Ingestion	If swallowed, do not induce vomiting. Give large quantities of water. Never give anything by mouth to an unconscious person. Call a physician.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists, call a physician.
Skin contact	Immediately flush with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse. If irritation persists, call a physician.

5. FIRE FIGHTING MEASURES.

Extinguishing media	Water spray, foam, dry powder (Sand or Met-L-X), carbon dioxide.
Special measures	Use water to keep fire-exposed containers and equipment cool until fire is out.
Fire fighting instructions	Fire fighters and others who may be exposed to products of combustion should wear full protective clothing and self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.
Fire and explosion hazards	Hazardous gases/vapours produced in fire are carbon monoxide, carbon dioxide, smoke, and soot.
Inflammability	The product is considered non-flammable. Dry residue may burn in presence of strong ignition source after the water has evaporated.

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6. ACCIDENTAL RELEASE MEASURES.

Spillage / Leakage	Contain spill to prevent discharge into environment. Prevent liquid from entering sewers, waterways, or low areas. Cover spill with sodium bicarbonate, soda ash or calcium carbonate. Mix and add water if necessary to form a slurry. Observe all labelled safeguards until the container is cleaned, reconditioned or destroyed.
Waste disposal	Treatment, storage, transportation, and disposal must be in accordance with applicable local regulations.

7. HANDLING AND STORAGE.

Storage	Store in a dry, cool, well-ventilated area. Keep container tightly closed. Use type 316 stainless steel or polyethylene drums. Use only manufacturer original packaging. Keep away from strong bases storage areas.
Handling	Protect drums from physical damage and keep tightly closed. Avoid breathing vapours and avoid contact with clothing, skin or eyes. Use only with adequate ventilation. Do not smoke, eat or drink while handling.

8. EXPOSURE / PERSONAL PROTECTION.

Respiratory protection	Acid fume respirator
Hand protection	Rubber gloves
Eye protection	Safety glasses and face shield.
Skin protection	Wear protective clothing to prevent skin contact. Wash thoroughly the clothing after handling.



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9. PHYSICAL AND CHEMICAL PROPERTIES.

Appearance	Water-white / slightly yellow hygroscopic and syrupy liquid.
Odour	Mild acid
pKa (at 22°C)	3.857
pH	at 10% w/w : 1.75 at 50% w/w : 1.0 at 80% w/w : 0.5 at 88% w/w : 0.3
Boiling point (100% solution)	122°C (115 mm Hg)
Specific gravity (20°C)	1,22
Solubility in water	Totally soluble
Flash point	> 74°C (closed cup, 88% w/w solution)

10. STABILITY AND REACTIVITY.

Shelf-life	<p>GALACID is stable if stored under conditions recommended at point 7. The edible grade may however become yellower due to temperature variations.</p> <p>Re-test prior to use is recommended after two years.</p> <p>GALACID has an acid function and an alcohol function. This means that Lactic Acid interacts with itself to form "oligomers" or small polyester chains. This reaction is accompanied by the releasing of a water molecule. There is thus a thermodynamic equilibrium in each Lactic Acid solution which determines the ratio: water/Lactic Acid (monomer) and polymer. When equilibrium is reached, a concentrated solution of Lactic Acid contains up to 30% in weight of polymers.</p>
Reactivity	<p>Strong with any oxidising agent (hydrogen peroxide, permanganate, ...) with production of vapours.</p> <p>Exothermic reaction with alkaline substances.</p> <p>In contact with reactive metals surfaces, it may form hydrogen which may form explosives mixtures.</p>
Dangerous reactions	None

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11. TOXICOLOGICAL INFORMATION.

LD 50 (rat, oral)	3.500 - 7600 mg/kg
LD 50 (rabbit, dermal)	7.900 mg/kg
Human health effects	<p>Prolonged skin contact may cause skin burns or ulceration.</p> <p>Prolonged eye contact may cause severe eye irritation with discomfort, tearing, or blurring of vision.</p> <p>Prolonged inhalation of the vapours may cause irritation of the upper respiratory passages and mucous membranes, with coughing and discomfort.</p> <p>Ingestion may cause gastrointestinal tract irritation with upper abdominal pain, "heartburn", nausea, vomiting, and diarrhoea.</p>

12. ECOLOGICAL INFORMATION.

Mobility	Totally soluble in water
Biodegradability	L(+) lactic acid is rapidly degraded in water and carbon dioxide and meets the OECD criteria's on biodegradability.
Biological Oxygen Demand (BOD)	0,45 mg O ₂ /mg
Chemical Oxygen Demand (COD)	0,90 mg O ₂ /mg
Bioaccumulation	No data available
Ecotoxicity	No data available
Additional information	L(+) lactic acid is a constituent in animal and human blood and muscle tissues. L(+) lactic acid is found in molasses (due to partial conversion of sugars), in apples and other fruits, tomato juice, beer, wines, and several higher plants, especially during germination.

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13. DISPOSAL INFORMATION.

Flush neutralised waste down drain with large amounts of water, depending upon local regulations.

Do not use the original packing for another product. Consult your distributor for possible re-use.

14. TRANSPORT INFORMATION.

GALACID is not listed in the list of the Dangerous Goods (ADR/RID) and is not registered under an IMDG-code (marine transportation).

15. REGULATORY INFORMATION.

The product is not listed under "Dangerous products" by EEC regulation (Directive 93/72/EEC)

Lactic acid edible grade is permitted by the EC as a Food Additive under reference E-270 and meets Food Chemical Codex specifications.

In the USA, lactic acid is FDA approved and has the GRAS status.

16. ADDITIONAL INFORMATION.

Any additional information is available at **GALACTIC**'s Commercial Department.

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