



MATERIAL SAFETY DATA SHEET

REF: 91/155/EEC AND AMENDMENTS WITH RESPECTIVE NATIONAL IMPLEMENTATIONS

LACTIC ACID 88% FCC and LACTIC ACID 88% USP

1.0 SUBSTANCE IDENTIFICATION

- 1.1 Commercial product name: Lactic Acid
- 1.2 Chemical characterisation: Organic acid - 2-hydroxypropionic acid
- 1.3 Formula: $C_3H_6O_2$ in H_2O
- 1.4 Molecular weight: 90.08
- 1.5 CAS No: 79-33-4 (General 50-21-5) (lactic acid, 88%)
7732-18-5 (water)
- 1.6 EINECS No.: 200-018-0 (lactic acid)
231-711-2 (water)
- 1.7 **FOR USE IN FOOD (E 270)**
- 1.8 Manufactured by: Archer Daniels Midland Company, 4666 Faries Parkway,
Decatur, Illinois 62526, U.S.A.
- 1.9 Supplied in the Australia by: ADM Australia Pty Ltd, PO Box 281, Suite 1003, Level 10,
1 Newland Street, Bondi Junction, NSW 2022
- 1.10 **Australian Emergency Telephone Number: 1 800 608 755 (24 hours)**
- 1.11 **U.S. Emergency Telephone Number (24 hours): +1 217 424 5200**

2.0 COMPOSITION

- 2.1 88% w/w solution of lactic acid in water.

3.0 HAZARDS IDENTIFICATION

- 3.1 **LACTIC ACID IS CORROSIVE. CAUSES BURNS AND SKIN IRRITATION.**
- 3.2 Exposure to mist may cause coughing, irritation to the mucous membranes and eyes. The liquid is irritating to the skin and eyes and may cause severe burns. Local contact may cause corneal necrosis, dental erosion and eczema. If ingested, lactic acid will burn the mouth, throat, and stomach and may cause nausea, vomiting, sweating, shortness of breath, cyanosis, and vascular collapse.

4.0 FIRST AID MEASURES

- 4.1 In each instance below, seek medical attention.
- 4.2 Skin or eye contact -flush with water for at least 15 minutes while removing contaminated clothing.
- 4.3 If inhaled - remove person to fresh air.
- 4.4 If ingested -do not induce vomiting, have victim drink water or milk. Never give anything by mouth if victim is unconscious .

5.0 FIRE FIGHTING MEASURES

- 5.1 Extinguishing media - water fog, carbon dioxide, dry chemicals or foam.
- 5.2 Water may be used to keep fire-exposed containers cool until fire is out.
- 5.3 Wear self-contained breathing apparatus with full face piece operated in the positive pressure demand mode when fighting fires.
- 5.4 There are no known unusual fire or explosion hazards.
- 5.5 The product is not considered flammable but the residue may burn in the presence of a strong ignition source after the water has evaporated.

6.0 ACCIDENTAL RELEASE MEASURES

- 6.1 After spillage/leakage, contain spill to prevent discharge into environment. Cover spill with sodium bicarbonate or soda ash. Mix and add water if necessary to form a slurry. Scoop slurry into a suitable container and neutralize with 6M ammonium hydroxide. Observe all labelled safeguards until the container is cleaned, reconditioned or destroyed.

7.0 HANDLING AND STORAGE

- 7.1 Store in a cool, dry, well-ventilated area.
- 7.2 Industrial hygiene - protect container from physical damage and keep tightly closed. Avoid breathing Use only with adequate ventilation. Do not allow contact vapours.
with skin, eyes or clothing. Wash thoroughly after handling.
- 7.3 Avoid direct contact with concrete, carbon steels or cuprous metal surfaces.

8.0 EXPOSURE CONTROLS / PERSONAL PROTECTION

- 8.1 Respiratory protection: Acid fume respirator
- 8.2 Hand protection: Impervious gloves
- 8.3 Eye protection: Safety glasses and face shield
- 8.4 Other: Skin protection required

9.0 PHYSICAL AND CHEMICAL PROPERTIES

- 9.1 Appearance: Colourless/slightly yellow syrupy liquid
- 9.2 Odour: None
- 9.3 pH: 0.3
- 9.4 Boiling point (at 14-15mm Hg): 122°C
- 9.5 Specific gravity (25°C): 1.21
- 9.6 Solubility in water (25 °C): 100%

10.0 STABILITY AND REACTIVITY

- 10.1 Shelf life : Lactic acid is chemically stable for many years if stored under cool conditions. Re-test prior to use is recommended after three (3) years.
- 10.2 Hazardous decomposition prods: Carbon dioxide, carbon monoxide, soot and smoke
- 10.3 Hazardous reaction: Lactic acid will react with alkaline substances. In contact with reactive metal surfaces it may form hydrogen which can form explosive mixtures.
- 10.4 Incompatible with: Nitric and hydrofluoric acids

11.0 TOXICOLOGICAL INFORMATION

11.1	LD ₅₀ (rat):	> 3730 mg/kg
11.2	Dermal LD ₅₀ (rat):	> 7940 mg/kg
11.3	Rabbit eye irritation:	750 mg, severe irritation
11.4	Rabbit skin irritation:	500 mg/24 hrs severe irritation

12.0 ECOLOGICAL INFORMATION

12.1 Lactic acid is fully biodegradable.

13.0 DISPOSAL CONSIDERATIONS

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

14.0 TRANSPORT INFORMATION

14.1 Classified "Corrosive Liquid, Acidic, Organic, Not Otherwise Specified". 14.2 UN Substance Identification Number: 3265 14.3 Dangerous Goods Classification Number: 8 14.4 US DOT Packing Group Number: III

15.0 REGULATORY INFORMATION

15.1 Lactic acid is an EU permitted Food Additive (E270) and may be used *quantum satis*, unless otherwise stated. The US Food and Drug Administration classifies lactic acid as a GRAS (Generally Recognised As Safe) food ingredient. 15.2 Under the Classification and Labelling of Dangerous Substances Regulations according to Directive 67/548 EEC and Amendments: C - Corrosive R34 - Causes burns S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice S36 - Wear suitable protective clothing

16.0 ADDITIONAL INFORMATION

16.1 See Product Data Sheet. 16.2 This Safety Data Sheet is based upon a limited review of ADM files and standard Toxicological handbooks.