

Ferrous Lactate

REVISION DATE 26/06/06
REF. SD0160/2006-01

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND THE COMPANY / UNDERTAKING

# Product name	PURAMEX® FE		
Use of the substance	Food additive, Specialty chemical		
# Supplier	PURAC biochem Arkelsedijk 46 NL-4206 AC Gorinchem The Netherlands	PURAC bioquímica Gran Vial 19-25 08160 Montmelo-Barcelona Spain	
# Telephone	+31 183 695695	+34 93 568 6300	
# Fax	+31 183 695604	+34 93 568 3955	
# Emergency Telephone	+31 183 695695	+34 93 568 6300 (Ext 222)	

2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical nature of the substance	Iron(II) (S)-2-hydroxy propanoate dihydrate		
Synonyms	Ferrous -L-Lactate Lactic Acid Ferrous salt		
Components	EC-No.	CAS-No.	Weight, %
Ferrous Lactate	227-608-0	85993-25-5	± 87
Water			balance

Hazard classification

The product contains no substances which at their given concentration are considered to be hazardous to health.

3. HAZARDS IDENTIFICATION

Most important hazards May cause eye irritation with susceptible persons.

4. FIRST AID MEASURES

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Move to fresh air.
Skin contact	Wash off with plenty of water.
Eye contact	Rinse thoroughly with plenty of water, also under the eyelids.
Ingestion	Drink water.
Major effects of exposure	May cause eye irritation with susceptible persons.

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5. FIRE-FIGHTING MEASURES

Suitable extinguishing media Water, carbon dioxide (CO₂), foam.
Extinguishing media which must not be used for safety reasons None.
Specific hazards Risk of dust explosion.
Special protective equipment for firefighters None.
Specific methods Standard procedure for chemical fires.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions Insure adequate ventilation. Do not breathe vapors/dust.
Environmental precautions No special environmental precautions required.
Methods for cleaning up Shovel into suitable container for disposal. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Handling
Technical measures/ Precautions Insure adequate ventilation.
Safe handling advice Do not breathe dust.

Storage
Technical measures/ Storage conditions Keep in a dry place.
Packaging material Paper bags, plastic containers, fiber drums or boxes.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure Insure adequate ventilation, especially in confined areas.
Control parameters ACGIH TLV 1 mg/m³ (as Fe) for soluble Fe salts.

Personal protection equipment
Respiratory protection Effective dust mask.
Hand protection Gloves.
Eye protection Safety glasses with side-shields.
Skin and body protection Lightweight protective clothing.
Hygiene measures Handle in accordance with good industrial hygiene and safety practice.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Form	crystalline / powder
Color	light green
Odor	slight, characteristic
pH	4.5 - 6 (2% aqueous solution) @ 68°F (20°C)
Molecular Weight	270
Melting point/range	302 - 338°F (150 -170°C) (melting in closed cup: dissolves in water of crystallization) > 392°F (200°C) (Anhydrous)
Decomposition temperature	> 392°F (200°C)
Autoignition temperature	none.
Flash point	not applicable
Explosion properties	
Max. Explosion overpressure: 6.2 Bar	Min. Ignition Temperature: 340°C
Max. Pressure increase rate: 225 bar/s	Min. Ignition Energy: > 8,700 mJ
Dust Explosion Constant: 61 bar. m/s	Dust Explosion Class: ST 1
Bulk density	680 kg/m ³
Solubility	Water solubility: 1.9 g in 100g water @ 77°F (25°C)

10. STABILITY AND REACTIVITY

Stability	Stable at normal conditions.
Materials to avoid	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Acute toxicity	LD50/oral/mouse = 147 mg/kg, LD50/oral/rat > 2000mg/kg LDLo Subcutaneous Rabbit = 578 mg/kg. LDLo Intravenous Rabbit = 287 mg/kg.
Local effects	Contact with eyes may cause irritation. General toxicity of soluble Ferrous salts.
Specific effects	Based on tests with L-lactic acid and its salts, there is no evidence to suggest carcinogenic nor mutagenic properties from lactic acid itself nor from the lactate portion of its metal salts.

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SAFETY DATA SHEET

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12. ECOLOGICAL INFORMATION

Mobility Soluble.
Persistence / degradability Product is a salt of lactic acid which is readily biodegradable, according to appropriate OECD test.
Bioaccumulation Unlikely.
Ecotoxicity General ecotoxicity of soluble Ferrous salts.

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products Can be disposed as waste water, when in compliance with local regulations. Can be landfilled or incinerated, when in compliance with local regulations.
Contaminated packaging Clean container with water. Empty containers should be taken for local recycling, recovery or waste disposal.

14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

15. REGULATORY INFORMATION

US Regulations TSCA Inventory Status: Y
SARA III: N
California Proposition 65: N
Carcinogenic status: OSHA: N. NTP: N, IARC: N
FDA: GRAS

EU Status
According to National equivalent of EC-Dir. 67/548, as amended, the product does not need to be labeled.

EEC Food additive: E 585

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16. OTHER INFORMATION

NFPA Ratings (Scale 0-4): 0(health)-0(flammability)-0(reactivity)
HMIS Rating: 0(health)-0(flammability)-0(reactivity)-A (protective equipment)

CAS-No. 5905-52-2 (general) **EC-No** 227-608-0 (general)

Further information on the safety assessment of lactic acid and its salts can be obtained in a CFTA Report of June 6th 1997.

Additional data on the calculated ecotoxicity of lactic acid and its salts and esters can be obtained in a report entitled 'The ecotoxicity and biodegradability of lactic acid, alkyl lactate esters and lactic acid salts' by Bowmer et al. (Reference: Chemosphere 37: 1317-1333 (1998))

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