

**PURAC® LM 25 HiPure**Revision Date: 28/10/2004  
Ref. SD0141/2004-02**1. IDENTIFICATION OF THE  
SUBSTANCE /  
PREPARATION  
AND THE  
COMPANY /  
UNDERTAKING**

**Product name** PURAC® LM  
**Use of the Preparation** Food additive, Specialty chemical  
**# Supplier** PURAC bioquimica  
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**2. COMPOSITION /  
INFORMATION ON  
INGREDIENTS**

**Chemical nature of  
the preparation** Buffered L(+)-Lactic Acid Formulation

**Hazardous components**

Chemical Name	EC No.	CAS-No.	Weight %	Classification
L(+)-Lactic Acid	201-196-2	79-33-4	25-54%	Xi, R41, R38

For the full text of the R phrases mentioned in this Section, see Section 16.

**3. HAZARDS IDENTIFICATION**

**Classification** Xi, R38-41

**Most important hazards** Irritating to eyes and skin. Risk of serious damage to eyes.

**4. FIRST AID MEASURES****General advice**

Show this safety data sheet to the doctor in attendance.

**Inhalation**

Immediate medical attention is not required. Move to fresh air.

**Skin contact**

Immediate medical attention is not required Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

**Eye contact**

Immediate medical attention is not required Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist.

**Ingestion**

Immediate medical attention is required. Drink plenty of water. Do not induce vomiting. Call a physician immediately.

**Protection of first-aiders**

Wear personal protective equipment.

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Ref. SD0141/2004-02**5. FIRE-FIGHTING MEASURES****Suitable extinguishing media**Water, carbon dioxide (CO<sub>2</sub>), foam.**Extinguishing media which must not be used for safety reasons**

None.

**Specific hazards**

Thermal decomposition can lead to release of irritating gases and vapours.

**Special protective equipment for firefighters**

Use personal protective equipment.

**Specific methods**

Standard procedure for chemical fires.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions**Use personal protective equipment.  
Avoid contact with skin and eyes.**Environmental precautions**

Prevent further leakage or spillage. No special environmental precautions required.

**Methods for cleaning up**Neutralize with soda or sodium carbonate and flush with plenty of water.  
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labelled containers.  
After cleaning, flush away traces with water.**7. HANDLING AND STORAGE****Handling****Technical measures/Precautions**

Avoid temperatures above 200°C.

**Safe handling advice**Wear personal protective equipment.  
Do not breathe spray mist.**Storage****Technical measures/Storage conditions**

Keep container tightly closed. Keep in properly labelled containers.

**Incompatible products**

No data available.

**Packaging material**

Plastic or stainless steel 316 L containers.

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PERSONAL PROTECTION**Engineering measures to reduce exposure**

Ensure adequate ventilation, especially in confined areas.

**Control parameters**

None.

**Personal protection equipment****Respiratory protection**

Not required; except in case of aerosol formation.

Breathing apparatus needed only when aerosol or mist is formed.

**Hand protection**

Rubber gloves. Break through time &gt; 8 hours.

**Eye protection**

Face-shield.

**Skin and body protection**

Long sleeved clothing, chemical resistant apron boots.

**Hygiene measures**

Avoid contact with skin. When using, do not eat, drink or smoke.

Remove and wash contaminated clothing before re-use.

9. PHYSICAL AND CHEMICAL  
PROPERTIES

<b>Form</b>	aqueous solution
<b>Colour</b>	colourless/yellow
<b>Odour</b>	characteristic
<b>pH</b>	< 2.3 - 2.5 @ 25 °C
<b>Boiling point/range</b>	> 100°C
<b>Decomposition temperature</b>	> 200°C
<b>Flash point</b>	not applicable
<b>Autoignition temperature</b>	none
<b>Explosion limits</b>	not applicable
<b>Density</b>	no data available
<b>Solubility</b>	Water solubility: completely soluble Partition coefficient (n-octanol/water) no data available
<b>Viscosity</b>	no data available

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REACTIVITY**Stability**

Stable at normal conditions. Hazardous polymerisation does not occur.

**Conditions to avoid**

Avoid temperatures above 200°C.

**Materials to avoid**

Oxidizing agents.

**Hazardous decomposition products**

Thermal decomposition can lead to release of irritating gases and vapours.

11. TOXICOLOGICAL  
INFORMATION**Acute toxicity (lactic acid)**

LD50/oral/rat = 3730 mg/kg

LD50/oral/mouse = 4875 mg/kg

LD50/dermal/rabbit &gt; 2000mg/kg

**Local effects**

Irritating to eyes and skin.

Risk of serious damage to eyes.

Inhalation of mist causes irritation of respiratory system.

**Specific effects (lactic acid)**

Did not show carcinogenic effects in animal experiments.

Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

12. ECOLOGICAL  
INFORMATION**Mobility**

Completely soluble.

**Persistence / degradability (Lactic acid)**

Readily biodegradable, according to appropriate OECD test.

Biochemical oxygen demand (BOD)<sub>5</sub> = 0.45 mg O<sub>2</sub> /mgBiochemical oxygen demand (BOD)<sub>20</sub> = 0.60 mg O<sub>2</sub> /mgChemical oxygen demand (COD) = 0.90 mg O<sub>2</sub> /mg**Bioaccumulation**

None.

**Ecotoxicity (lactic acid)**

EC50/48h/Daphnia = 240mg/l

LC50/48h/Fish = 320 mg/l

EC50/Algae = 3500 mg/l (neutral)

## PURAC® LM 25 HiPure

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Ref. SD0141/2004-0213. 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.

**Further information**

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

14. TRANSPORT  
INFORMATION

Not classified as dangerous in the meaning of transport regulations.

15. REGULATORY  
INFORMATION

The product is classified in accordance with Annex VI to Directive 67/548/EEC.

**Symbols** Xi - Irritant

**R- Phrases** R41 - Risk of serious damage to eyes.  
R38 - Irritating to skin.

**S-Phrases** S24 - Avoid contact with skin.  
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S37/39 - Wear suitable gloves and eye/face protection.

German Water Hazard Class (WGK): 1

## 16. OTHER INFORMATION

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))

# Indicates updated section.