



UNITECH SCIENTIFIC LLC

LMA UniFlex Reagent MSDS LMA-F

EC-MATERIAL SAFETY DATA SHEET (according 91/155/EWG)

1. CHEMICAL IDENTIFICATION and COMPANY CONTACT INFORMATION

Product trade name: L-Malic Acid UniFlex Reagent	Supplier:	Unitech Scientific LLC
Product No. : LMA F		19912 Corby Av
Field of Application: Food analysis		Lakewood, CA 90715, USA
Date of Issue: 12-2002	Information, Operations:	562 924-5150
Date of Revision: 01 Jan 2010	Information in case of Emergency:	562 924-5150

2. COMPOSITION/INFORMATION ON INGREDIENTS

The product described is a pure substance: no

Chemical Characterization:	As below
(Dangerous) Components:	None in the amounts used
ML Buffer:	Contains no risk components
NAD Solution:	Contains no risk components
GOT & MDH Enzymes:	Contains no risk components
LMA Standard	Designation: Sodium azide Content<0.1% Kb 1: T+ Kb 2: N Kb 3: N/A CAS-No.: 26628-22-8 Risk reg. comp.: 28-32-50/53

3. HAZARD IDENTIFICATION

Based on the concentrations in the composition, this is not a hazardous product in terms of directive 00/45/EC

4. FIRST AID MEASURES

If inhaled:	Remove to fresh air
In case of skin contact:	Flush with copious amount of water
In case of contact with eyes:	Flush with copious amount of water while separating the eyelids with fingers. If irritations appear and persist, call a physician
If swallowed:	Flush with copious amount of water. Call a physician

5. FIRE FIGHTING

Extinguishing media: Water, CO₂, foam, powder

6. SPILLAGE, ACCIDENTAL RELEASE

Personal precautions:	Avoid swallowing; do not store together with food
Environmental precautions:	Avoid release into sewers
Procedures for clean-up/absorption:	Sweep up with cellulose and hold for waste disposal

7. HANDLING AND STORAGE

Handling:	No special requirements
Storage:	Dry. At +2°C to +10° C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Threshold value for maintenance of industrial health and safety standards:
Application of minimum protective standards is mandatory

Personal protection:	Protection wear according to national laboratory regulations are sufficient for personal safety (coat, safety goggles, shoes, disposable (latex) gloves. Wash hands after finishing work.
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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	ML Buffer Glycylglycine, clear liquid NAD, clear liquid GOT & MDH Enzymes, clear or opalescent liquid solutions/suspensions
Color:	ML Buffer and NAD, colorless GOT Enzyme, yellow; MDH Enzyme, colorless
Odor:	no data available
pH:	Glycylglycine-buffer: 10.0; others not determined
Boiling point/-range, Vapor pressure, Relative density:	not determined
Flammability:	not flammable
Explosive Properties:	not explosive
Solubility in water:	water soluble

10. STABILITY AND REACTIVITY

Avoidable conditions & substances, Dangerous decomposition products: nothing known

Further declarations: none

11. TOXICOLOGICAL INFORMATION

Toxicity data: Sodium azide (toxicological determining component)
 TDLo (oral, men): 0.71mg/kg
 TD50 (oral, rat): 27 mg/kg
 LD50 (dermal, rabbit): 20 mg/kg

Further toxicological effects statement: The components in the preparation are used in such low concentrations that with proper handling and use, no toxicological effects are expected.

12. ECOLOGICAL INFORMATION

Ecotoxicological effects: Quantitative data of the ecological impact of this composition are not known

Biological degradability: Not known

Biological effects: Sodium azide: Azides are toxic for water organisms
 Fish: Lepomis macrochirus toxic from 1.5 ppm in 24 hrs
 Acute ca. toxicity for invertebrates: 5 mg/L
 Acute toxicity for cold blooded animals: 1 mg/L

Referring to this data, especially the presence of sodium azide (present concentration in this product is <0.1% in standard), this component should not get into environmental waters, sewage or soil. Quantities present pose a minor hazard. In case of accidental release flush or dilute with copious amounts of water.

13. DISPOSAL CONSIDERATIONS

Product: There are no uniform regulations for disposal of chemicals within the EC. Contact a licensed professional waste disposal service for disposal of this material. Observe all federal, state and local environmental regulations.

Packaging: Dispose according to the regulations of the public authorities. Contaminated packaging has to be treated like the composition. If not otherwise regulated by public authorities, non-contaminated packaging can be treated like household waste or brought to recycling procedures.

14. TRANSPORT INFORMATION

Land transport: GGVS, GGVE, ADR, RID
 class, designation: ---

Inland ship transport: AND, ADN
 class: ---

Ocean shipping transport: IMDG, GGVSee
 class, EmS, MFAG, designation: ---

Air transport: ICAO, IATA
 class, designation: ---

This product is not subject to current regulations for transportation of hazardous goods (GGVS/ADR, GGVE/RID, IMDG, IATA/ICAO).

15. REGULATORY INFORMATION

Indication following EC directives:

Symbols, risk regulations, safety regulations: ---

Note: This product must be labeled in accordance with EC directive 67/548/EEC and 99/45/EC.

16. OTHER INFORMATION

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