



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: 30 Mar 2008	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.

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

Unitech Scientific LLC provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. Unitech Scientific makes no presentations or warranties, either express or implied, including without limitation any warranties of merchantability, fitness for a particular purpose with respect to the information set forth herein or the product to which the information refers. Accordingly, Unitech Scientific will not be responsible for damages resulting from use of or reliance upon this information.

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Unitech Scientific shall not be held liable for any damage resulting from handling or from contact with the above product. Copyright 2005 Unitech Scientific. License granted to make unlimited paper copies for internal use only.