

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

**Trade Name:** EnzyChrom™ L-Arginine Assay Kit  
**Item Number:** EAGN-100  
**Manufacturer:** BioAssay Systems  
 3191 Corporate Place  
 Hayward, CA 94545. USA  
 Tel: 510-782-9988; Fax: 510-782-1588  
 Email: info@bioassaysys.com

**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**

Skin irritation (Category 2), H315

Eye irritation (Category 2A), H319

**GHS Label elements, including precautionary statements****Pictogram**

**Signal word:** Danger

**Hazard statements**

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

**Precautionary statements**

P273 Avoid release to the environment.

P280 Wear protective gloves/clothing and eye/face protection.

P302 + P352: *If on skin:* Wash with plenty of soap and water.

P304 + P340: *If inhaled:* Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351 + P338: *If in eyes:* Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P312 Call a doctor/ physician if you feel unwell.

P332 + P313: *If skin irritation occurs:* Get medical advice/ attention.

P337 + P313: *If eye irritation persists:* Get medical advice/ attention.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

This product contains the following components and mixture of the following substances with non-hazardous additions.

**Assay Buffer: 5 mL Liquid**

Non-hazardous.

**Enzyme Mix: 100 µL Liquid**

Non-hazardous. Contains 40% Glycerol (CAS #: 56-81-5).

**Standard: 400 µL Liquid**

Non-hazardous.

**Mn Solution: 300 µL Liquid**

Contains 0.1-0.5% Manganese(II) sulfate monohydrate (CAS#: 10034-96-5).

**Reagent A: 12 mL Liquid**

Contains 10-20% Sulfuric acid (CAS #: 7664-93-9).

**Reagent B: 12 mL Liquid**

Contains 40-41% Sulfuric acid (CAS #: 7664-93-9) and 0.1-0.5% Boric acid (CAS#: 10043-35-3).

**SECTION 4. FIRST AID MEASURES**

**Eye:** Eye irritation. Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get immediate medical attention.

**Skin:** Itching or burning of the skin. Immediately flush the skin with plenty of water while removing contaminated clothing and shoes. Get immediate medical attention. Wash contaminated clothing before reuse.

**Inhalation:** Remove exposed person from source of exposure to fresh air. If not breathing, clear airway and start cardiopulmonary resuscitation (CPR). Avoid mouth-to-mouth resuscitation.

**Ingestion:** Get immediate medical attention. Do not induce vomiting unless directed by medical personnel.

**SECTION 5. FIRE FIGHTING MEASURES**

**Extinguishing media:** water spray, carbon dioxide, dry chemical powder or appropriate foam.

**Special firefighting procedures:** wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

**Unusual fire and explosion hazards:** emits toxic fumes under fire conditions.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Keep unnecessary people away; isolate hazard area and deny entry. Small spills: Take up with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: Dike far ahead of liquid spill for later disposal. Do not flush to sewer or waterways. Prevent release to the environment if possible.

**SECTION 7. HANDLING AND STORAGE**

Keep receptacles tightly sealed and store according to the instructions in the assay protocol.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Follow standard laboratory safety procedures, including wearing chemical safety goggles, face shield, gloves, NIOSH approved respiratory protection and protective clothing. Wash and dry hands.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Refer to 3. Composition/Information On Ingredients.

**SECTION 10. STABILITY AND REACTIVITY**

**Thermal Decomposition:** no decomposition if used according to specifications. **Dangerous Products of Decomposition:** nitrogen and sulfur oxides. **Dangerous Reactions:** none.

**SECTION 11. TOXICOLOGICAL INFORMATION**

The toxicological effects of this product have not been thoroughly studied. We recommend handling all chemicals with caution.

Manganese(II) sulfate monohydrate - Acute toxicity: LD50 Oral - Rat - male and female - 2,150 mg/kg; Symptoms: After uptake of large quantities: Nausea, Vomiting, Diarrhea, gastric pain, Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract. LC50 Inhalation - Rat - male and female - 4 h - > 4.45 mg/l - dust/mist. (OECD Test Guideline 403) Remarks: (anhydrous substance) Symptoms: Possible damages: mucosal irritations, tissue damage, Pneumonia. Dermal: No data available; Skin corrosion/irritation Skin - Rabbit: Result: No skin irritation - 4 h. Serious eye damage/eye irritation: Eyes - Rabbit, Result: Irreversible effects on the eye, (OECD Test Guideline 405), Remarks: (anhydrous substance); Respiratory or skin sensitization: No data available; Germ cell mutagenicity: Test Type: Ames test; Result: negative. Remarks: (National Toxicology Program). Carcinogenicity: IARC/NTP/OSHA: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen. Reproductive toxicity: No data available; Specific target organ toxicity - single exposure: No data available. Specific target organ toxicity - repeated exposure, Inhalation - May cause damage to organs through prolonged or repeated exposure. - Brain. Aspiration hazard, No data available.

Sulfuric acid - Acute toxicity LD50 Oral rat: 2.140 mg/kg; Inhalation rat: 2h 510 mg/m<sup>3</sup>; Dermal: no data available; Skin corrosion/irritation: Extremely corrosive and destructive to tissue; Serious eye damage/eye irritation: Corrosive to eyes.

Boric acid - Acute toxicity, LD50 Oral - Rat - male and female - 3,450 mg/kg. LC50 Inhalation - Rat - male and female - 4 h - > 2.12 mg/l - dust/mist. LD50 Dermal - Rabbit - male and female - > 2,000 mg/kg. Skin corrosion/irritation, Skin - Rabbit, Result: No skin irritation - 24 h. Serious eye damage/eye irritation, Eyes - Rabbit, Result: No eye irritation - 24 h. Respiratory or skin sensitization: Buehler Test - Guinea pig. Result: negative. Germ cell mutagenicity, Result: negative

**SECTION 12. ECOLOGICAL INFORMATION**

Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.

**SECTION 13. DISPOSAL INFORMATION**

Dispose in accordance with local, state or national regulations.

**SECTION 14. TRANSPORT INFORMATION**

Proper Shipping Name: Sulfuric acid, aqueous solution with 41% sulfuric acid.

DOT (US) - UN 2796; Class: 8; Packing group: II.

IMDG - UN 2796; Class: 8; Packing group: II. Marine pollutant: Yes.



IATA – UN 2796; Class: 8; Packing group: II.

*Additional Transport Information:* transport in accordance with local, state and national regulations.

#### **SECTION 15. REGULATORY INFORMATION**

*OSHA Hazards:* Target Organ Effect.

*SARA 311/312 Hazards:* Chronic Health Hazard.

#### **SECTION 16. OTHER INFORMATION**

*The above information is believed to be accurate, but does not purport to be all inclusive and shall be used only as a guide. BioAssay Systems makes no warranty, express or implied, and assumes no responsibility as to the accuracy or suitability of such information or application to the User's intended purpose or for consequences of its use. The Users should make independent decisions regarding the completeness of information based on all sources available.*

