2-Hydroxyethyl Acrylate MSDS

1. Product Name and Identification

Product Name: 2-Hydroxyethyl Acrylate

CAS Number: 818-61-1

Synonyms: HEA, Acrylic acid 2-hydroxyethyl ester

Recommended Use: Industrial applications, production of resins, coatings, adhesives, or related laboratory research.

Restrictions on Use: Not for use in food, drug, or cosmetic applications.

2. Composition/Ingredients

Chemical Name: 2-Hydroxyethyl Acrylate

Molecular Formula: C5H8O3

Molecular Weight: 116.12 g/mol

Concentration: 100% (pure substance)

3. Hazards Identification

Classification of the Substance:

- **Health Hazards:**
    - Causes severe skin and eye irritation
    - May cause respiratory irritation
    - Harmful if inhaled or absorbed through the skin

GHS Signal Word: Danger

Hazard Statements:

- H315: Causes skin irritation
- H319: Causes serious eye irritation
- H335: May cause respiratory irritation
- H312 + H332: Harmful in contact with skin or if inhaled

Precautionary Statements:

- P261: Avoid breathing vapors or mists
- P264: Wash thoroughly after handling
- 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 person to fresh air and keep comfortable

4. First Aid Measures

- **Eyes:** Immediately rinse eyes with water for at least 15 minutes, lifting the eyelids to ensure full flushing. Seek medical attention immediately.
- **Skin:** Remove contaminated clothing and wash skin thoroughly with soap and water. Seek medical advice if irritation persists.
- **Inhalation:** Move to fresh air and keep the victim comfortable. If breathing is difficult, provide oxygen and get medical assistance promptly.
- **Ingestion:** Rinse mouth with water. Do not induce vomiting. Consult a physician immediately.

5. Handling and Storage

Handling:

- Use in well-ventilated areas to minimize vapor exposure.
- Avoid direct contact with skin, eyes, and clothing.
- Do not eat, drink, or smoke in areas where the substance is handled.

Storage:

- Store in sealed containers in a cool, dry, and well-ventilated area.
- Keep away from heat, sparks, open flames, and strong oxidizing agents.
- Protect containers from physical damage.

6. Exposure Controls/Personal Protection

Exposure Limits: No established occupational exposure limits.

Engineering Controls: Use a fume hood or appropriate exhaust ventilation to maintain exposure below acceptable levels.

Personal Protective Equipment (PPE):

- **Eye/Face Protection:** Safety goggles or face shield.
- **Skin Protection:** Chemical-resistant gloves and protective clothing are recommended.
- **Respiratory Protection:** Use a NIOSH-approved respirator in poorly ventilated areas or when required by workplace regulations.

7. Physical and Chemical Properties

Appearance: Clear, colorless to pale yellow liquid

Odor: Mild, acrid odor characteristic of esters

Odor Threshold: Not available

pH: Not applicable

Boiling Point: ~82 °C (at 10 mmHg)

Melting Point: Not available

Flash Point: ~79 °C (174 °F, closed cup)

Solubility: Soluble in water

Density: Approximately 1.12 g/cm³ at 20 °C

Vapor Pressure: Low

Viscosity: Low viscosity

8. Stability and Reactivity

Reactivity: May polymerize upon exposure to heat, light, or incompatible materials.

Stability: Stable under recommended handling and storage conditions.

Hazardous Reactions: Polymerization can occur with heat or contamination.

Conditions to Avoid: Exposure to heat, light, and strong oxidizing agents.

Decomposition Products: Carbon oxides (CO, CO2), acrid fumes.

9. Toxicological Information

Acute Toxicity:

- **Oral (LD50):** ~540 mg/kg (rat)
- **Dermal (LD50):** ~600 mg/kg (rabbit)
- **Inhalation (LC50):** Not available

Health Effects:

- Causes irritation to skin, eyes, and mucous membranes
- May cause coughing, shortness of breath, and respiratory discomfort upon inhalation.

Chronic Exposure: Prolonged or repeated exposure may lead to sensitization or other chronic health effects, including dermatitis.

Carcinogenicity: Not classified as a known or suspected carcinogen.

10. Disposal Considerations

Waste Treatment Methods:

- Dispose of this material as a hazardous waste.
- Follow all local, state, and national regulations for chemical disposal.
- Do not flush into sewers or waterways.

Disclaimer: This MSDS is based on information available at the time of creation and is intended for informational purposes only. Users must handle and dispose of this chemical in compliance with applicable regulations.