2-Methoxyethyl Methacrylate (MEMA) MSDS

1. Product Name and Identification

Product Name: 2-Methoxyethyl Methacrylate (MEMA)
Synonyms: 2-Methoxyethoxyethyl Methacrylate
Product CAS Number: 3126-63-4
Recommended Use: Used as a raw material in polymer production.
Manufacturer/Distributor: [Insert Manufacturer Details Here]
Emergency Contact: [Insert Emergency Contact Information Here]

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2. Composition/Ingredients

Chemical Name: 2-Methoxyethyl Methacrylate
CAS Number: 3126-63-4
Chemical Formula: $C8H14O4$
Percentage Composition: 100% MEMA (in pure form).
Impurities/Additives: None reported (if applicable, specify here).

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3. Hazards Identification

Classification of the Substance:

- Flammable Liquids (Category 3)
- Skin Irritation (Category 2)
- Serious Eye Irritation (Category 2A)
- Specific Target Organ Toxicity (Single Exposure) (Category 3, respiratory tract irritation)

Label Elements:

- **Signal Word:** Warning
- **Hazard Statements:**
    - H226: Flammable liquid and vapor.
    - H315: Causes skin irritation.
    - H319: Causes serious eye irritation.
    - H335: May cause respiratory irritation.

Precautionary Statements:

- **Prevention:**
  - Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
  - Avoid breathing vapors. Use in a well-ventilated area.
  - Wash hands thoroughly after handling.
- **Response:**
  - IF ON SKIN (or hair): Remove contaminated clothing and rinse skin immediately with water.
  - IF IN EYES: Flush cautiously with water for several minutes. Remove contact lenses if present.
- **Storage and Disposal:**
  - Store in a cool, well-ventilated place.
  - Dispose of contents and container in accordance with local/regional regulations.

Other Hazards:

Vapors may form explosive mixtures with air in confined spaces. Prolonged exposure may cause central nervous system effects (e.g., headache, dizziness).

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4. First Aid Measures

General Advice:

Seek medical attention immediately if symptoms persist. Show this MSDS to attending physician.

- **Eye Contact:** Rinse immediately with plenty of clean water for at least 15 minutes. Seek medical advice urgently if irritation persists.
- **Skin Contact:** Wash thoroughly with mild soap and water. Remove contaminated clothing. If irritation develops, consult a physician.
- **Inhalation:** Move the person to fresh air. Keep the individual at rest and provide oxygen if breathing is difficult. Seek medical attention if symptoms worsen.
- **Ingestion:** Do NOT induce vomiting. Rinse mouth with water and drink small amounts of water if the person is conscious. Contact medical professionals immediately.

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5. Handling and Storage

Handling:

- Handle in a well-ventilated area or under local exhaust.
- Avoid breathing vapors or contact with skin and eyes.
- Keep products away from open flames and hot surfaces. Use explosion-proof equipment where necessary.

Storage:

- Store in tightly closed containers in a cool, dry place away from sunlight.
- Avoid temperatures exceeding 30°C (86°F).
- Keep away from incompatible materials like strong acids, bases, or oxidizing agents.

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6. Exposure Controls/Personal Protection

Control Parameters:

- **Exposure Limits:** No specific occupational exposure limits available. Use appropriate monitoring and engineering controls.

Engineering Controls:

- Ensure proper ventilation to minimize vapor buildup.
- Install emergency shower and eyewash stations.

Personal Protective Equipment (PPE):

- **Eye/Face Protection:** Safety goggles or face shields.
- **Skin Protection:** Neoprene or nitrile gloves. Wear protective clothing to prevent skin exposure.
- **Respiratory Protection:** Use a respirator approved for organic vapors when ventilation is inadequate.

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7. Physical and Chemical Properties

- **Appearance:** Colorless, clear liquid
- **Odor:** Faint, ester-like odor
- **Odor Threshold:** Not determined
- **pH:** Not applicable
- **Melting Point:** <-70°C
- **Boiling Point:** 182-184°C
- **Flash Point:** 72°C
- **Evaporation Rate:** Slow

- **Flammability:** Flammable liquid
- **Vapor Pressure:** ~0.2 mmHg at 20°C
- **Relative Density:** 1.03 g/cm^3
- **Solubility:** Partially soluble in water
- **Viscosity:** Low viscosity liquid

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8. Stability and Reactivity

Stability:

Stable under recommended conditions of use and storage.

Reactivity:

Can react with strong oxidizers, acids, and bases.

Hazardous Reactions:

May polymerize if exposed to sunlight, heat, free radicals, or peroxides.

Decomposition Products:

Thermal decomposition may produce smoke, irritating vapors, and formaldehyde.

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9. Toxicological Information

Acute Toxicity:

- **Oral:** LD50 (rat): 500-2000 mg/kg (approximate).
- **Dermal:** No specific data available, may cause skin irritation after prolonged contact.
- **Inhalation:** Overexposure may lead to irritation of the respiratory tract, headache, or dizziness.

Chronic Effects:

May cause damage to organs with prolonged exposure.

Skin and Eye Exposure:

Prolonged or repeated contact may cause skin sensitization and serious eye irritation.

Carcinogenicity:

No data available to determine carcinogenic potential.

Other Information:

Prolonged exposure may affect the central nervous system or liver.

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10. Disposal Considerations

- Dispose of waste material in accordance with federal, state, and local environmental regulations.
- Empty containers should not be reused unless properly cleaned. Residual vapors may be flammable.
- Avoid discharge into soil, waterways, or drains.
