Benzyldimethyl[2-[(1-oxoallyl)oxy]ethyl]ammonium chloride MSDS

Important Notice: This Material Safety Data Sheet (MSDS) is for informational purposes and is intended for use by trained personnel. The information provided is based on current knowledge and is believed to be accurate, but it is the user's responsibility to evaluate its suitability for their specific application and to adhere to all safety protocols and regulations.

1. Product Name and Identification

- **Product Name:** Benzyldimethyl[2-[(1-oxoallyl)oxy]ethyl]ammonium chloride
- **CAS Number:** 46830-22-2
- **Synonyms:** Acryloyloxyethyl-dimethyl-benzylammonium chloride
- **Chemical Formula:** $C_{14}H_{20}ClNO_2$

2. Composition/Ingredients

- **Chemical Name:** Benzyldimethyl[2-[(1-oxoallyl)oxy]ethyl]ammonium chloride
- **Purity:** Typically supplied at ≥98% concentration. May be found in solutions.
- **Hazardous Component:** Yes

3. Hazards Identification

- **Physical Hazards:** Not classified as a physical hazard. The substance is not expected to be flammable or explosive under normal conditions.
- **Health Hazards:** Harmful if swallowed. Causes skin irritation and serious eye irritation. May cause respiratory irritation if inhaled as dust or mist. Potential for skin sensitization upon repeated contact.
- **Environmental Hazards:** Toxic to aquatic life. Long-term adverse effects in the aquatic environment are possible. Spills and releases should be prevented from entering drains and water bodies.

4. First Aid Measures

- **Inhalation:** Immediately relocate the individual to an area with fresh air. If the person experiences breathing difficulties, coughing, or other respiratory symptoms, seek medical assistance.
- **Skin Contact:** Remove all contaminated clothing and footwear at once. Wash the affected skin area with soap and a large volume of water for at least 15 minutes. If irritation develops or persists, consult a physician.

- **Eye Contact:** Immediately flush the eyes with plenty of clean, lukewarm water for a minimum of 15 minutes. Hold the eyelids open to ensure the entire surface is rinsed. Remove contact lenses if present and easy to do so. Seek immediate medical attention.
- **Ingestion:** Do not induce vomiting. If the individual is conscious and able to swallow, have them rinse their mouth with water. Contact a poison control center or seek immediate medical help. Never give anything by mouth to an unconscious person.

5. Handling and Storage

- **Handling:** Use in a well-ventilated area to minimize inhalation of dust or mists. Avoid direct contact with skin, eyes, and clothing. Wear the appropriate personal protective equipment (PPE). Wash hands and exposed skin thoroughly after handling. An eyewash station and safety shower should be available in the work area.
- **Storage:** Store in a tightly closed, original container. Keep in a cool, dry, and well-ventilated place, away from direct sunlight and heat sources. Store separately from incompatible materials such as strong oxidizing agents and strong bases.

6. Exposure Controls/Personal Protection

- **Exposure Limits:** No specific occupational exposure limits (OELs) have been established. Follow general guidelines for nuisance dusts or mists where applicable.
- **Engineering Controls:** Use local exhaust ventilation or other engineering controls to maintain airborne levels below recommended exposure limits and to minimize worker exposure.
- **Personal Protective Equipment (PPE):**
    - **Eye/Face Protection:** Wear chemical safety goggles or a face shield where splashing is possible.
    - **Skin Protection:** Wear impervious gloves (e.g., nitrile or neoprene), a lab coat, or other protective clothing to prevent skin contact.
    - **Respiratory Protection:** If engineering controls do not maintain airborne concentrations at a low level, a NIOSH-approved particulate respirator may be required.

7. Physical and Chemical Properties

- **Appearance:** Typically a solid or viscous liquid.
- **Odor:** Data not available.
- **Boiling Point:** Data not available.
- **Melting Point:** Data not available.
- **Flash Point:** Data not available.
- **Solubility:** Soluble in water.

- **Specific Gravity:** Data not available.
- **pH:** Data not available.

8. Stability and Reactivity

- **Stability:** Stable under recommended storage and handling conditions.
- **Reactivity:** The substance contains a polymerizable acrylic group. Uncontrolled polymerization may occur if exposed to heat, light, or initiators.
- **Conditions to Avoid:** Exposure to high temperatures, direct sunlight, and sources of ignition. Contact with incompatible materials.
- **Incompatible Materials:** Strong oxidizing agents, strong bases, and polymerization initiators.
- **Hazardous Decomposition Products:** Upon thermal decomposition, may release toxic and irritating fumes, including carbon oxides (CO, CO_2), nitrogen oxides (NOx), and hydrogen chloride gas.

9. Toxicological Information

- **Acute Effects:**
    - **Oral:** Harmful if ingested. May cause gastrointestinal irritation, nausea, and vomiting.
    - **Dermal:** Causes skin irritation. Absorption through the skin may contribute to systemic effects.
    - **Inhalation:** May cause irritation to the respiratory tract if inhaled.
    - **Eyes:** Causes serious eye irritation, with potential for redness, pain, and damage to eye tissue.
- **Chronic Effects:** Prolonged or repeated skin contact may lead to dermatitis or sensitization, causing an allergic skin reaction in some individuals upon subsequent exposure. Data on long-term systemic effects is limited.

10. Disposal Considerations

- **Disposal Method:** Dispose of waste material and containers in accordance with all applicable federal, state, and local environmental regulations. This material should not be discharged into sewers, drains, or water systems. Disposal should be carried out by a licensed waste management company. Contaminated packaging should be treated as hazardous waste and disposed of accordingly.