Hexamethyldisiloxane (MM/HMDS) MSDS

1. Product Name and Identification

Product Name: Hexamethyldisiloxane (MM/HMDS)
Synonyms: HMDS, 1,1,1,3,3,3-Hexamethyldisiloxane
Chemical Formula: C6H18OSi2
CAS Number: 107-46-0
Recommended Use: Solvent, water repellant applications, chemical intermediate
Manufacturer/Supplier Contact Information:

- Address: [Insert specific address]
- Phone Number (for emergencies): [Insert appropriate phone number]

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2. Composition/Ingredients

Chemical Composition:

- **Substance Name:** Hexamethyldisiloxane
- **Concentration:** >99%
- **CAS Number:** 107-46-0
- **Additional Identifiers:** No additional components deemed hazardous per OSHA standards.

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3. Hazards Identification

Hazard Classification:

- Flammable liquid (Category 2)
- Eye irritation (Category 2A)
- Acute toxicity if inhaled (Category 5)

GHS Label Elements:

- **Pictograms:**
  ![Flammable Symbol]
  ![Exclamation Mark]
- **Signal Word:** Danger
- **Hazard Statements:**
  - H225 Highly flammable liquid and vapor.

    - H319 Causes serious eye irritation.
    - H333 May be harmful if inhaled.
- **Precautionary Statements:**
    - Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
    - Avoid breathing fumes or vapor.
    - Wear protective gloves, clothing, and eye/face protection.

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4. First Aid Measures

General Advice: If exposed or feeling unwell, seek medical advice promptly. Show this SDS to the treating physician.

Eye Contact: Immediately flush eyes with plenty of water for 15 minutes. Remove contact lenses if present and easy to do. Seek medical attention.

Skin Contact: Remove contaminated clothing. Wash affected area with soap and water. If irritation develops, get medical advice.

Inhalation: Immediately move the exposed person to fresh air. If symptoms persist or breathing is difficult, seek medical attention.

Ingestion: Rinse mouth thoroughly with water. Do not induce vomiting unless directed by medical personnel. Get immediate medical help.

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5. Handling and Storage

Handling:

- Use in a well-ventilated area.
- Avoid inhalation of vapors and contact with skin or eyes.
- Keep away from ignition sources. Ground all equipment when transferring material.

Storage:

- Store in tightly closed containers in a cool, dry, and well-ventilated location.
- Keep away from incompatible materials such as strong oxidizers.

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6. Exposure Controls/Personal Protection

Exposure Limits: No occupational exposure limits established.

Engineering Controls: Use proper ventilation to keep airborne levels below recommended limits. Explosion-proof equipment may be required.

Personal Protective Equipment (PPE):

- **Eye Protection:** Safety goggles or face shield.
- **Skin Protection:** Chemical-resistant gloves (e.g., nitrile).
- **Respiratory Protection:** NIOSH-approved respirator if exposure levels exceed limits.

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7. Physical and Chemical Properties

- **Appearance:** Clear, colorless liquid
- **Odor:** Slight, characteristic odor
- **Odor Threshold:** No data available
- **pH:** Not applicable
- **Melting Point/Freezing Point:** Approx. -68°C (-90°F)
- **Boiling Point:** Approximately 100°C (212°F) at 760 mmHg
- **Flash Point:** -1°C (30°F) (Closed cup)
- **Flammability:** Highly flammable
- **Vapor Pressure:** Approx. 50 mmHg at 25°C
- **Vapor Density:** >1 (air = 1)
- **Relative Density:** 0.76 g/cm³ at 20°C
- **Solubility in Water:** Negligible (<0.1%)
- **Partition Coefficient (n-octanol/water):** 4.1
- **Auto-Ignition Temperature:** Approx. 300°C (572°F)
- **Decomposition Temperature:** No data available

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8. Stability and Reactivity

Stability: Stable under normal conditions of use and storage.

Hazardous Reactions: May form explosive mixtures with air.

Conditions to Avoid: Heat, sparks, open flames, and static discharge.

Materials to Avoid: Strong oxidizing agents, acids, and bases.

Hazardous Decomposition Products: Silica, carbon oxides, and traces of formaldehyde during combustion.

9. Toxicological Information

Acute Toxicity:

- **Oral LD50 (Rat):** >4,000 mg/kg (low toxicity)
- **Dermal LD50 (Rabbit):** >2,000 mg/kg (low toxicity)
- **Inhalation LC50 (Rat):** >50 mg/L (vapor, 4h)

Skin Corrosion/Irritation: Mild irritant effect with prolonged exposure.

Eye Damage/Irritation: Causes serious eye irritation.

Carcinogenicity: No evidence of carcinogenic effects based on available data.

Other Information: Prolonged exposure may cause central nervous system effects such as dizziness or headaches.

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10. Disposal Considerations

Waste Management: Dispose of product in accordance with local, state, and federal environmental regulations.

Unused Product: Unused materials should be disposed of through a licensed waste disposal contractor.

Packaging: Containers should not be reused. Dispose of them properly in accordance with applicable regulations.