

Hexamethylenetetramine MSDS

1. Product Name and Identification

Product Name: [Hexamethylenetetramine](#)

Synonyms: Methenamine, Urotropine, Hexamine

CAS Number: 100-97-0

Molecular Formula: C₆H₁₂N₄

Manufacturer's Name: [Fill in as Applicable]

Emergency Contact: [Fill in Emergency Number]

2. Composition/Ingredients

- **Chemical Name:** Hexamethylenetetramine
- **CAS Number:** 100-97-0
- **Purity:** ≥ 99%
- **EC Number:** 202-905-8
- **Hazardous Ingredients:** None beyond classification thresholds.

3. Hazards Identification

Classification:

- Flammable solid (Category 2)
- Skin sensitizer (Category 1)

Label Elements:

- **Signal Word:** Warning
- **Hazard Statements:**
 - Flammable solid.
 - May cause an allergic skin reaction.
- **Precautionary Statements:**
 - Keep away from heat, sparks, open flames, and hot surfaces.
 - Avoid breathing dust.
 - Wear protective gloves and clothing.

Potential Health Effects:

- **Eye Contact:** May cause mild irritation.
- **Skin Contact:** May cause sensitization after repeated exposure.
- **Inhalation:** Excessive exposure to dust may cause respiratory irritation.
- **Ingestion:** May cause gastrointestinal disturbances if swallowed in large amounts.

4. First Aid Measures

Eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present. If irritation persists, seek medical attention.

Skin: Wash with plenty of soap and water. Remove contaminated clothing. If rash develops or irritation persists, get medical advice.

Inhalation: Move the person to fresh air. If symptoms develop or breathing becomes difficult, consult a physician.

Ingestion: Rinse mouth thoroughly with water. Do not induce vomiting. Seek medical advice if symptoms occur.

5. Handling and Storage

Handling:

- Minimize dust generation and accumulation.
- Use only in well-ventilated areas.
- Avoid direct contact with skin and eyes.

Storage:

- Store in a cool, dry, and well-ventilated space.
- Keep containers tightly closed.
- Keep away from incompatible materials and ignition sources.

6. Exposure Controls/Personal Protection

Exposure Limits: No specific exposure limits have been established.

Engineering Controls:

- Ensure adequate ventilation to keep airborne concentrations below permissible limits.

Personal Protective Equipment (PPE):

- **Eye Protection:** Safety goggles or glasses with side-shields.
- **Skin Protection:** Wear chemical-resistant gloves and clothing.
- **Respiratory Protection:** Use an approved dust mask or respirator in case of inadequate ventilation.
- **Hygiene Measures:** Wash hands and affected skin thoroughly after handling. Avoid eating, drinking, or smoking while handling this product.

7. Physical and Chemical Properties

- **Appearance:** White crystalline powder
- **Odor:** Odorless or slight amine-like odor
- **Melting Point:** 280°C (sublimes)
- **Boiling Point:** Not applicable (sublimes without boiling)
- **Solubility in Water:** Soluble (~85 g/L at 20°C)
- **Density:** Approximately 1.33 g/cm³
- **Flash Point:** ~250°C (closed cup, for dust)
- **Vapor Pressure:** Not relevant at standard conditions

8. Stability and Reactivity

Stability: Stable under normal storage and handling conditions.

Hazardous Reactions: None under recommended conditions.

Conditions to Avoid: Heat, sparks, and open flames. Moisture exposure may degrade the product.

Incompatible Materials: Strong oxidizing agents, strong acids.

Hazardous Decomposition Products: Nitrogen oxides, formaldehyde, and ammonia under high heat.

9. Toxicological Information

Acute Toxicity:

- **Oral (LD50):** ~9200 mg/kg (rat)
- **Dermal:** Not acutely toxic.

Chronic Toxicity:

- Prolonged or excessive exposure may cause skin sensitization.

Routes of Exposure: Skin and eye contact, inhalation of dust, incidental ingestion.

Symptoms of Overexposure: May include respiratory irritation, dermatitis, or gastrointestinal discomfort (if ingested).

10. Disposal Considerations

Waste Disposal:

- Dispose in accordance with local, regional, and national guidelines.
- Do not allow disposal into drains, water supplies, or soil.

Empty Containers: Ensure thorough cleaning before disposal or recycling. Follow regulatory requirements.
