



# Material Safety Data Sheet (MSDS) – Hexamine

## Section 1: Chemical Product and Company Identification

- **Product Name:** Hexamine (Crystalline / Powder)
- **Chemical Name:** Hexamethylenetetramine
- **Synonyms:** Methenamine, Hexahydro-1,3,5,7-tetrazaacanthane, Formin, Urotropin
- **Chemical Formula:** C<sub>6</sub>H<sub>12</sub>N<sub>4</sub>
- **CAS Number:** 100-97-0
- **Recommended Use:** Industrial manufacturing curing agent, fuel tablet production, rubber vulcanization accelerator, and pharmaceutical intermediate.
- **Supplier Identification:** ATDM Brand Industrial Chemicals

## Section 2: Hazards Identification

### GHS Classification:

- Flammable Solids (Category 2)
- Skin Sensitization (Category 1)
- Respiratory Sensitization (Category 1)

**Signal Word:** DANGER

### Hazard Statements:

- H228: Flammable solid.
- H317: May cause an allergic skin reaction.
- H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

### Precautionary Statements:

- P210: Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
- P240: Ground and bond container and receiving equipment.
- P261: Avoid breathing dust/fume/gas/mist/vapors/spray.
- P280: Wear protective gloves, protective clothing, eye protection, and face protection.
- P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P333 + P313: If skin irritation or rash occurs: Get medical advice/attention.



### Section 3: Composition and Information on Ingredients

- **Hexamethylenetetramine** (CAS Number: 100-97-0 / EC Number: 202-905-8) -> Weight: greater than or equal to 99.0%
- **Anti-Caking Agent (Silica)** (CAS Number: 112926-00-8 / EC Number: 231-545-4) -> Weight: less than or equal to 1.0%

### Section 4: First Aid Measures

- **Eye Contact:** Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Get medical attention if irritation persists.
- **Skin Contact:** Wash skin instantly with soap and plenty of water. Remove contaminated clothing. If skin rash or allergic reactions occur, seek medical treatment.
- **Inhalation:** Move the exposed person to fresh air immediately. If breathing is difficult, give oxygen. If symptoms of airway irritation or asthma develop, seek instant medical attention.
- **Ingestion:** Do not induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person. Rinse mouth out thoroughly with water and seek medical help.

### Section 5: Fire Fighting Measures

- **Suitable Extinguishing Media:** Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.
- **Specific Hazards:** Flammable solid. Dust explosion hazard. When heated to decomposition, it emits toxic fumes of nitrogen oxides, formaldehyde, and ammonia.
- **Protective Equipment for Firefighters:** Wear self-contained breathing apparatus (SCBA) and full protective bunker gear for structural firefighting.

### Section 6: Accidental Release Measures

- **Personal Precautions:** Use full personal protective equipment. Avoid dust generation. Avoid breathing dust vapors. Eliminate all target ignition sources and hot surfaces.
- **Environmental Precautions:** Prevent material from washing into public waterways, sewers, or underground water tables.
- **Clean-up Methods:** Clean up spills with non-sparking tools or a vacuum equipped with an anti-static collector system. Place spilled material into clean, dry bags or drums for disposal.



## Section 7: Handling and Storage

- **Handling:** Ensure good room ventilation. Avoid contact with skin and eyes. Prevent airborne dust clouds. Ground all metal storage containers during product transfers to stop static sparks.
- **Storage:** Store raw product in original tightly sealed containers. Keep bags inside a dry, cool, well-ventilated space away from open fire, heat sparks, strong acids, and oxidizing goods. Protect from wet air.

## Section 8: Exposure Controls and Personal Protection

- **Engineering Controls:** Use enclosed process stations, local exhaust fans, or dust hoods to keep airborne dust counts below safe limit margins.
- **Eye/Face Protection:** Wear dust-proof chemical safety goggles.
- **Skin Protection:** Wear nitrile or neoprene chemical gloves and protective long-sleeve clothing.
- **Respiratory Protection:** Where airborne dust is common, use an approved dust filter mask or an air-purifying NIOSH respirator.