

# Safety Data Sheet

## Methenamine, Solid

### (Hexamethylenetetramine)

#### Section 1 - Chemical Product and Company Identification

**SDS Name:** Methenamine, Solid

**Catalog Numbers:** SO-1018

**Company Identification:** Transene Company, Inc., DBA ROWLEY BIOCHEMICAL, Inc.  
10 ELECTRONICS AVENUE  
DANVERS, MA 01923

**For information, call:** 978-739-4883

**Emergency Number:** 800-424-9300

**For CHEMTREC assistance, call:** 800-424-9300

#### Section 2 - Hazards Identification

#### GHS Classifications

H228-Flammable solids: 2

H317-Sensitisation, skin: 1

Consists of unknown acute inhalation toxicity.

#### Pictograms or Hazard symbols and Hazard statement(s):



Signal Word: Warning

#### Hazard Statements:

H228-Flammable solid

H317-May cause an allergic skin reaction

#### 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.  
P241-Use explosion-proof electrical/ventilating/lighting equipment.  
P261-Avoid breathing dust/fume/gas/mist/vapours/spray.  
P272- Contaminated work clothing should not be allowed out of the workplace.  
P280-Wear protective gloves/protective clothing/eye protection/face protection.  
P302+P352-If on skin: Wash with plenty of soap and water.  
P333+P313-If skin irritation or rash occurs: Get medical advice/attention.  
P362+P364-Take off contaminated clothing and wash it before reuse.  
P370+P378-In case of fire: Use dry chemical, carbon dioxide, dry sand, water spray, or alcohol-resistant foam to extinguish.  
P501-Dispose of contents/container in accordance with local/regional/national/international regulations.

### Section 3 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent
100-97-0	Methenamine (Hexamethylenetetramine)	≥99 w/w

### Section 4 - First Aid Measures

**Eye Exposure:** In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Seek medical attention.

**Dermal Exposure:** In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Seek medical attention.

**Oral Exposure:** If swallowed, seek medical attention. Rinse mouth with water and drink small quantities of water (stop if the exposed person feels sick as vomiting may be dangerous).

**Inhalation Exposure:** If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

### Section 5 - Fire Fighting Measures

**General Information:** Flammable solid. Containers may explode when heated. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Dust can form an explosive mixture with the air. Fine dust dispersed in the air may ignite. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

**Extinguishing Media:** Use dry chemical, carbon dioxide, dry sand, water spray or alcohol-resistant foam. Suppress (knock down) gases/vapors/mists with a water spray jet. Avoid release of fire extinguishing water to drains or environment.

**Hazardous Combustion Products:** Carbon oxides, nitrogen oxides, ammonia, formaldehyde, hydrogen cyanide, irritating and toxic fumes and gases.

**Flash Point:** 250°C (482°F) Closed Cup  
**Autoignition Temperature:** 400°C (752°F)  
**Explosion Limits, Lower:** Not available  
**Upper:** Not available  
**NFPA Rating:** (estimated) Health: 2; Flammability: 2; Instability: 1

## Section 6 - Accidental Release Measures

### **Procedure(s) of Personal Precaution(s):**

Wear personal protective gear. Do not ingest or inhale. Do not get on skin or clothing. Do not get in eyes. Ensure adequate ventilation. Keep away from heat. Eliminate all sources of ignition. Avoid dust formation

**Methods for Cleaning up:** Carefully sweep up and containerize for proper disposal. Minimize dust generation and accumulation. Take precautionary measures against static discharges. Do not release to the environment. Do not release to drains.

## Section 7 - Handling and Storage

Use care when handling. Wear personal protective equipment. Wash thoroughly after handling. Ensure adequate ventilation. Do not ingest or inhale. Do not get on skin or clothing. Do not get in eyes. Avoid dust formation. Keep in a tightly closed container. Store in a cool, dry, and well-ventilated area. Protect from moisture. **Hygroscopic.** Protect from heat and sources of ignition. Take precautionary measures against static discharge. Use explosion-proof equipment. Keep away from incompatible materials.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

### **Personal Protective Equipment**

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

**Exposure Limits:**

Chemical Name	ACGIH - TLV	NIOSH - IDLH	OSHA - Final PELs
Methenamine (Hexamethylenetetramine) CAS#100-97-0	1 mg/m3 TWA	Not listed	Not listed

**Section 9 - Physical and Chemical Properties****Physical State:** Solid**Appearance:** White**Odor:** Ammonia-like, fishy**Vapor Pressure:** <0.01 hPa at 20°C (68°F)**Odor Threshold:** Not available**Vapor Density:** Not available**pH:** 7-10 (10% aqueous solution)**Relative Density:** Not available**Melting point/freezing point:** 280°C (536°F)**Solubility:** Soluble in water**Boiling Point:** Not available**Flash Point:** 250°C (482°F) (closed cup)**Evaporation Rate:** Not available**Flammability (solid, gas):** Flammable solid**Partition coefficient: n-octanol/water:** log Pow: -2.18 at 20°C (68°F)

Bioaccumulation is not expected.

**Autoignition Temperature:** 400°C (752°F)**Decomposition Temperature:** 260°C (sublimation)**Viscosity:** Not applicable**Specific Gravity/Density:** 1.331 g/cm3 at 22°C (72°F)**Section 10 - Stability and Reactivity****Chemical Stability:** Stable under normal temperatures and pressures.**Conditions to Avoid:** Incompatible materials, ignition sources, hot surfaces, and excess heat. Avoid exposure to moisture. Avoid dust formation.**Incompatibilities with Other Materials:** Strong oxidizing agents, and strong acids. Avoid contact with nitrites, nitrates, and nitrous acid. Risk of explosion with halogenated hydrocarbons, nitric acid, acetic anhydride, iodine and iodoform (triiodomethane). Exothermic reactions and/or toxic gas formation with oxidizing agents, peroxi compounds, and acids.**Hazardous Decomposition Products:** Carbon oxides, nitrogen oxides, ammonia, formaldehyde, hydrogen cyanide, irritating and toxic fumes and gases.**Section 11 - Toxicological Information****CAS#100-97-0 Methenamine (Hexamethylenetetramine): RTECS#: MN4725000**

LD50 Oral: 9200 mg/kg (rat)

LD50 Dermal: &gt;2000 mg/kg (rat)

LC50 Inhalation: Not available

**Carcinogenicity:** Methenamine (Hexamethylenetetramine) CAS#100-97-0 is not listed by IARC, NTP, ACGIH, OSHA, or California Prop. 65.

**Information on the likely routes of exposure:** Routes of entry anticipated: oral, dermal, inhalation, and eye.

**Epidemiology:** Not available.

**Teratogenicity:** Not available.

**Reproductive Effects:** Not available.

**Developmental Effects:** Not available.

**Neurotoxicity:** Not available.

**Mutagenicity:** Ames test negative (s. typhimurium). Chromosome aberration test in vitro negative (Chinese hamster lung cells). Chromosome aberration test negative (mouse, bone marrow, oral).

**Specific Target Organ Toxicity, Single Exposure:** Not available.

**Specific Target Organ Toxicity, Repeated Exposure:** Not available.

**Symptoms associated with exposure:** May cause an allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Overexposure may cause liver irregularities.

**The toxicological properties of this material have not been thoroughly investigated.**

## Section 12 - Ecological Information

**Ecotoxicity:** Do not release to the environment. Do not release to drains.

**CAS#100-97-0 Methenamine (Hexamethylenetetramine):**

LC50, freshwater fish: 49000 mg/L 96h static (cyprinodont variegatus)(sheepshead minnow)

EC50, water flea: 36 g/L 48h

**Persistence and degradability:** Persistence is unlikely based on available information. Not readily biodegradable.

**Bio-accumulative potential:** Not available.

**Mobility:** Will likely be mobile in the environment due to its water solubility.

## Section 13 - Disposal Considerations

**DISPOSAL:** Dispose of in accordance with all federal, state, and local regulations.

Section 14 – Transport Information
------------------------------------

**DOT**

Proper shipping name: Hexamethylenetetramine

UN1328

PG III

Hazard class 4.1 (flammable solid)

Section 15 - Regulatory Information
-------------------------------------

**Canada Regulatory Information**

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the SDS contains all the information required by the CPR.

Section 16 - Additional Information
-------------------------------------

**SDS Creation Date:** 1-8-10

**Revision #1:** 12-2-14 RC

**Revision #2:** 4-26-22

**Revision #3:** 11-3-23

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Rowley Biochemical, Inc. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Rowley Biochemical, Inc. has been advised of the possibility of such damages.*