

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 ingredients 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. Get 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. Get medical attention.

Oral Exposure: If swallowed, get 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/m ³ 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: >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

Revision #4: 1-5-26

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