


Section 1. Product and Company Identification

Product Name Hexamethylenetetramine
CAS Number 100-97-0

Parchem - fine & specialty chemicals
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New Rochelle, NY 10801

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EMERGENCY RESPONSE NUMBER
CHEMTEL

Toll Free US & Canada: 1 (800) 255-3924

All other Origins: 1 (813) 248-0585

Collect Calls Accepted

Section 2. Hazards Identification

Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable solids (Category 2), H228

Skin sensitization (Category 1), H317

GHS Label Elements

Pictograms:



Signal word: WARNING

Hazard and precautionary statements

Hazard Statements

H228 Flammable solid.

H317 May cause an allergic skin reaction.

Precautionary Statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P261 Avoid breathing dust/ fume/gas/mist/vapors/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.

P363 Wash contaminated clothing before reuse.

P370 + P378 In case of fire: Use dry sand, dry chemical, or alcohol-resistant foam to extinguish.

P501 Dispose of contents/container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) or not covered by GHS: None

Section 3. Composition / Information on Ingredients

Common Name Hexamethylenetetramine
Synonym(s) Urotropine; 1,3,5,7-Tetraazatricyclo[3.3.1.1^{3,7}]decane; Hexamine; Methenamine
Formula C₆H₁₂N₄
CAS Number 100-97-0

COMPONENT	CAS NUMBER	CONCENTRATION
Hexamethylenetetramine	100-97-0	<= 100%

Section 4. First Aid Measures

Description of first-aid measures

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Skin contact: Wash off with soap and plenty of water. Consult a physician.

Eye contact: Flush eyes with water as a precaution.

Ingestion: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

Indication of any immediate medical attention and special treatment needed: No data available

Section 5. Firefighting Measures

Extinguishing media

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture: Carbon oxides, Nitrogen oxides (NO_x), Hydrogen cyanide (hydrocyanic acid)

Advice for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

Further information: Use water spray to cool unopened containers.



Section 6. Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up: Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).

Reference to other sections: For disposal see section 13.

Section 7. Handling and Storage

Precautions for safe handling: Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Take measures to prevent the build-up of electrostatic charge. For precautions see section 2.

Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Hygroscopic
Storage class (TRGS 510): Flammable solid hazardous materials

Section 8. Exposure Controls / Personal Protection

Control parameters

Components with workplace control parameters: Contains no substances with occupational exposure limit values.

Exposure controls

Appropriate engineering controls: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection: Complete suit protecting against chemicals, Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance: Crystalline

Color: Colorless

Odor: Ammoniacal

Odor Threshold: No data available

pH: No data available

Melting point/freezing point: 280°C (536°F)

Initial boiling point and boiling range: No data available

Flash point (Closed Cup): 250°C (482°F)

Evaporation rate: No data available

Flammability (solid, gas): The substance or mixture is a flammable solid with the category 2.

Upper/lower flammability or explosive limits: No data available

Vapor pressure: < 0.01 hPa (< 0.01 mmHg) at 20°C (68°F)

Vapor density: No data available

Relative density: 1.331 g/cm³

Water solubility: Soluble

Partition coefficient (n-Octanol/water): log Pow: -2.179 at 20°C (68°F)

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity: No data available

Explosive properties: No data available

Oxidizing properties: No data available

Other safety information

Surface tension: 70.4 mN/m at 20°C (68°F)

Section 10. Stability and Reactivity

Reactivity: No data available

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: No data available

Conditions to avoid: Exposure to moisture. Heat, flames, and sparks.

Incompatible materials: Strong acids, Acids, Strong oxidizing agents

Hazardous decomposition products

Other decomposition products: No data available

In the event of fire: see section 5

Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

LD50 Oral - Rat: > 20,000 mg/kg

Inhalation: No data available

LD50 Dermal - Rat - male and female: > 2,000 mg/kg

(OECD Test Guideline 402)

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h

(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation

(OECD Test Guideline 405)

Respiratory or skin sensitization

Maximization Test (GPMT) - Guinea pig

Result: May cause sensitization by skin contact.

(OECD Test Guideline 406)

Germ cell mutagenicity

Salmonella typhimurium

Result: Negative

Mouse - male

Result: Negative

Carcinogenicity

IARC: No component of this product, present at levels greater than or equal to 0.1%, is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product, present at levels greater than or equal to 0.1%, is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product, present at levels greater than or equal to 0.1%, is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product, present at levels greater than or equal to 0.1%, is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: No data available

Specific target organ toxicity - single exposure: No data available

Specific target organ toxicity - repeated exposure: No data available

Aspiration hazard: No data available

Additional Information

Repeated dose toxicity

Rat - male - Oral - NOAEL: \geq 80 mg/kg

Rat - female - Oral - NOAEL: \geq 100 mg/kg

RTECS: MN4725000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Liver - Irregularities - Based on Human Evidence

Section 12. Ecological Information

Toxicity

Toxicity to fish

Static test LC50 - *Cyprinodon variegatus* (sheepshead minnow): 49,000 mg/l (96 h)
(OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates

Static test EC50 - *Daphnia magna* (Water flea): 36,000 mg/l (48 h)

Persistence and degradability

Biodegradability aerobic - Exposure time 28 d

Result: 35 % - According to the results of tests of biodegradability this product is not readily biodegradable.

(OECD Test Guideline 301D)

Bioaccumulative potential: No data available

Mobility in soil: No data available



Results of PBT and vPvB assessment: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects: No data available

Section 13. Disposal Considerations

Waste Treatment Methods: Dispose of product and contaminated packaging in accordance with all local, state, and federal environmental control regulations.

Section 14. Transport Information

DOT (US)

UN Number: 1328

Class: 4.1

Packing group: III

Proper shipping name: Hexamethylenetetramine

Reportable Quantity (RQ):

Poison Inhalation Hazard: No

IMDG

UN number: 1328

Class: 4.1

Packing group: III

EMS-No: F-A, S-G

Proper shipping name: Hexamethylenetetramine

IATA

UN Number: 1328

Class: 4.1

Packing group: III

Proper shipping name: Hexamethylenetetramine

Section 15. Regulatory Information

SARA 302 Components: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire Hazard, Chronic Health Hazard



Massachusetts Right to Know Components: No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right to Know Components

Hexamethylenetetramine (CAS-No. 100-97-0)

Revision Date: 2007-03-01

New Jersey Right to Know Components

Hexamethylenetetramine (CAS-No. 100-97-0)

Revision Date: 2007-03-01

California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

HMIS Rating

Health: 0*

Flammability: 2

Reactivity: 2

NFPA Rating

Health: 0*

Flammability: 1

Reactivity: 2

Section 16. Other Information

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.

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