Fisher Scientific

Part of Thermo Fisher Scientific

# SAFETY DATA SHEET

**Creation Date** 21-Oct-2009 **Revision Date** 12-May-2014 **Revision Number** 1

## 1. Identification

**Product Name** **Hexamethylenetetramine**

**Cat No. :** **H288-500, H290-500**

**Synonyms** HMTA; Hexamine; Methenamine

**Recommended Use** Laboratory chemicals.

**Uses advised against** No Information available

**Details of the supplier of the safety data sheet**

**Company**
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

**Emergency Telephone Number**
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

## 2. Hazard(s) identification

**Classification**
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|---|---|
| Flammable solids | Category 2 |
| Skin Sensitization | Category 1 |

**Label Elements**

**Signal Word**
Warning

**Hazard Statements**
Flammable solid
May cause an allergic skin reaction

**Precautionary Statements**
**Prevention**
Avoid breathing dust/fume/gas/mist/vapors/spray
Contaminated work clothing should not be allowed out of the workplace
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/equipment
Wear protective gloves/protective clothing/eye protection/face protection
**Skin**
IF ON SKIN: Wash with plenty of soap and water
If skin irritation or rash occurs: Get medical advice/attention
Wash contaminated clothing before reuse
**Fire**
In case of fire: Use CO2, dry chemical, or foam for extinction
**Disposal**
Dispose of contents/container to an approved waste disposal plant
**Hazards not otherwise classified (HNOC)**
May form combustible dust concentrations in air

## 3. Composition / information on ingredients

| Component | CAS-No | Weight % |
|---|---|---|
| Methenamine | 100-97-0 | >95 |

## 4. First-aid measures

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.

**Inhalation** Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.

**Ingestion** Do not induce vomiting. Obtain medical attention.

**Most important symptoms/effects** May cause 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

**Notes to Physician** Treat symptomatically

## 5. Fire-fighting measures

**Suitable Extinguishing Media** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.

**Unsuitable Extinguishing Media** No information available

**Flash Point** 250 °C / 482 °F

**Method -** No information available

**Autoignition Temperature** 400 °C / 752 °F

**Explosion Limits**
**Upper** No data available
**Lower** No data available
**Sensitivity to Mechanical Impact** No information available
**Sensitivity to Static Discharge** No information available

**Specific Hazards Arising from the Chemical**
Flammable. Containers may explode when heated. Dust can form an explosive mixture in air.

**Hazardous Combustion Products**
Carbon monoxide (CO) Carbon dioxide ($CO_2$) Nitrogen oxides (NOx) Ammonia Formaldehyde
**Protective Equipment and Precautions for Firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

| Health | Flammability | Instability | Physical hazards |
|---|---|---|---|
| 2 | 2 | 1 | N/A |

## 6. Accidental release measures

**Personal Precautions** Use personal protective equipment. Avoid dust formation. Remove all sources of ignition. Take precautionary measures against static discharges.

**Environmental Precautions** Should not be released into the environment. See Section 12 for additional ecological Information.

**Methods for Containment and Clean Up** Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

## 7. Handling and storage

**Handling** Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid ingestion and inhalation. Avoid dust formation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Use explosion-proof equipment. Take precautionary measures against static discharges.

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place. Flammables area. Keep away from heat and sources of ignition.

## 8. Exposure controls / personal protection

**Exposure Guidelines**

| Component | Quebec | Mexico OEL (TWA) | Ontario TWAEV |
|---|---|---|---|
| Methenamine 100-97-0 ( >95 ) | | | STEL: 0.35 ppm STEL: 2 mg/m³ |

**Engineering Measures** Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment.

**Personal Protective Equipment**

**Eye/face Protection** 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 and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

| | |
|---|---|
| **Physical State** | Solid |
| **Appearance** | White |
| **Odor** | Odorless |
| **Odor Threshold** | No information available |
| **pH** | 8.5 - 9.5 10% aq. solution |
| **Melting Point/Range** | No data available |
| **Boiling Point/Range** | No information available |

| | |
|---|---|
| **Flash Point** | 250 °C / 482 °F |
| **Evaporation Rate** | Not applicable |
| **Flammability (solid,gas)** | No information available |
| **Flammability or explosive limits** | |
| **Upper** | No data available |
| **Lower** | No data available |
| **Vapor Pressure** | 0.0035 hPa @ 20 °C |
| **Vapor Density** | Not applicable |
| **Relative Density** | 1.330 |
| **Solubility** | Soluble in water |
| **Partition coefficient; n-octanol/water** | No data available |
| **Autoignition Temperature** | 400 °C / 752 °F |
| **Decomposition temperature** | 260 (sublimation) °C |
| **Viscosity** | Not applicable |
| **Molecular Formula** | C6 H12 N4 |
| **Molecular Weight** | 140.19 |

## 10. Stability and reactivity

**Reactive Hazard** None known, based on information available

**Stability** Stable under normal conditions. Moisture sensitive.

**Conditions to Avoid** Avoid dust formation. Keep away from open flames, hot surfaces and sources of ignition. Incompatible products. Excess heat. Exposure to moisture.

**Incompatible Materials** Strong oxidizing agents, Strong acids

**Hazardous Decomposition Products** Carbon monoxide (CO), Carbon dioxide ($CO_2$), Nitrogen oxides (NOx), Ammonia, Formaldehyde

**Hazardous Polymerization** No information available.

**Hazardous Reactions** None under normal processing.

## 11. Toxicological information

**Acute Toxicity**

**Product Information**

**Component Information**

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Methenamine | 9200 mg/kg ( Rat ) | Not listed | Not listed |

**Toxicologically Synergistic Products** No information available

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Irritation** No information available

**Sensitization** May cause sensitization by skin contact

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|---|---|---|---|---|---|---|
| Methenamine | 100-97-0 | Not listed | Not listed | Not listed | Not listed | Not listed |

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** 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

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** See actual entry in RTECS for complete information.

## 12. Ecological information

**Ecotoxicity**

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| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|---|---|---|---|---|
| Methenamine | Not listed | Pimephales promelas: EC50=49.8 g/L/96h | Not listed | EC50 = 36 g/L/48h |

**Persistence and Degradability** Soluble in water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

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

| Component | log Pow |
|---|---|
| Methenamine | -2.2 |

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

**DOT**

**UN-No** UN1328
**Proper Shipping Name** HEXAMETHYLENETETRAMINE
**Hazard Class** 4.1
**Packing Group** III

**TDG**

**UN-No** UN1328
**Proper Shipping Name** HEXAMETHYLENETETRAMINE
**Hazard Class** 4.1
**Packing Group** III

**IATA**

**UN-No** UN1328
**Proper Shipping Name** Hexamethylenetetramine
**Hazard Class** 4.1
**Packing Group** III

**IMDG/IMO**

**UN-No** UN1328
**Proper Shipping Name** Hexamethylenetetramine
**Hazard Class** 4.1
**Packing Group** III

## 15. Regulatory information

**International Inventories**

| Component | TSCA | DSL | NDSL | EINECS | ELINCS | NLP | PICCS | ENCS | AICS | IECSC | KECL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Methenamine | X | X | - | 202-905-8 | - | | X | X | X | X | X |

**Legend:**

**X - Listed**

**E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.**

**F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.**

**N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.**

**P - Indicates a commenced PMN substance**

**R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.**

**S - Indicates a substance that is identified in a proposed or final Significant New Use Rule**

**T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.**

**XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B).**

**Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.**

**Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.**

## U.S. Federal Regulations

**TSCA 12(b)** Not applicable

**SARA 313** Not applicable

**SARA 311/312 Hazardous Categorization**

| | |
|---|---|
| **Acute Health Hazard** | Yes |
| **Chronic Health Hazard** | No |
| **Fire Hazard** | Yes |
| **Sudden Release of Pressure Hazard** | No |
| **Reactive Hazard** | No |

**Clean Water Act** Not applicable

**Clean Air Act** Not applicable

**OSHA** Occupational Safety and Health Administration
Not applicable

**CERCLA**
Not applicable

**California Proposition 65** This product does not contain any Proposition 65 chemicals

**State Right-to-Know**

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|---|---|---|---|---|---|
| Methenamine | - | X | - | - | - |

**U.S. Department of Transportation**

| | |
|---|---|
| Reportable Quantity (RQ): | N |
| DOT Marine Pollutant | N |
| DOT Severe Marine Pollutant | N |

**U.S. Department of Homeland Security**
This product does not contain any DHS chemicals.

## Other International Regulations

**Mexico - Grade** Slight risk, Grade 1

**Canada**
**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR**

**WHMIS Hazard Class** B4 Flammable solid
D2B Toxic materials

## 16. Other information

**Prepared By** Regulatory Affairs
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**Creation Date** 21-Oct-2009
**Revision Date** 12-May-2014
**Print Date** 12-May-2014
**Revision Summary** This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

**Disclaimer**
**The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.**

**End of SDS**