

## SAFETY DATA SHEET

**Preparation Date:** No data available

**Revision Date:** 05/27/2015

**Revision Number:** G1

**Product identifier**

**Product code:**

ME120

**Product Name:**

METHENAMINE, GRANULAR

**Other means of identification**

**Synonyms:**

1,3,5,7-Tetrazaadamantane  
1,3,5,7-Tetraazatricyclo (3.3.1.1(3,7))decane  
1,3,5,7-Tetraazatricyclo(3.3.1.1(sup 3,7))decane  
1,3,5,7-Tetraazatricyclo(3.3.1.1(sup 37))decane  
Aceto HMT  
Aminoform  
Aminoformaldehyde  
Ammonoform  
Ammonioformaldehyde  
Antihydral  
Cystamin  
Cystogen  
Duirexol  
Ekagom H  
Esametilentetramina [Italian]  
Formamine  
Formin  
Formin (heterocycle)  
HMT  
Herax UTS  
Heterin  
Hexa (vulcanization accelerator)  
Hexa-Flo-Pulver  
Hexaform  
Hexaloids  
Hexamethylenamine  
Hexamethyleneamine  
Hexamethylenetetraamine  
Hexamethylenetetramine  
Hexamethylenetetraminum  
Hexamethylentetramin [German]  
Hexamethylentetramine  
Hexamethylentetraminum  
Hexamine  
Hexamine (heterocycle)  
Hexaminum  
Hexasan  
Hexasan (VAN)  
Hexilmethylenamine  
Metenamina [INN-Spanish]  
Methenamin  
Methenamine  
Methenaminum [INN-Latin]  
Metramine  
Nocceler H  
Preparation AF  
Resotropin  
S 4 (heterocycle)  
Sanceler H  
Uramin  
Uratrine  
Uritone  
Urodeine  
Urotropin  
Urotropine  
Vulkacit H 30  
Xametrin  
100-97-0  
MN4725000

**CAS #:****RTECS #****Product code:** ME120**Product name:** METHENAMINE,  
GRANULAR**2 / 14**

CI#: Not available

**Recommended use of the chemical and restrictions on use**

**Recommended use:** No information available.  
**Uses advised against** No information available

**Supplier:** Spectrum Chemicals and Laboratory Products, Inc.  
14422 South San Pedro St.  
Gardena, CA 90248  
(310) 516-8000

**Order Online At:** <https://www.spectrumchemical.com>

**Emergency telephone number** Chemtrec 1-800-424-9300  
**Contact Person:** Martin LaBenz (West Coast)  
**Contact Person:** Ibad Tirmiz (East Coast)

**2. HAZARDS IDENTIFICATION**

**Classification**

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

Serious eye damage/eye irritation	Category 2B
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Flammable solids	Category 2

**Label elements**

**Danger**

**Hazard statements**

May cause an allergic skin reaction  
May cause allergy or asthma symptoms or breathing difficulties if inhaled  
Causes eye irritation  
Flammable solids



**Hazards not otherwise classified (HNOC)**

Not Applicable

**Other hazards**

May be harmful if inhaled  
Causes mild skin irritation

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 In case of inadequate ventilation wear respiratory protection  
 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

**Precautionary Statements - Response**

Specific treatment (see ./? on this label)  
 In case of fire: Use CO2, dry chemical, or foam to extinguish.  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.  
 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  
 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

<b>3. COMPOSITION/INFORMATION ON INGREDIENTS</b>
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Components	CAS-No.	Weight %	Trade Secret
Methenamine 100-97-0	100-97-0	100	*

<b>4. FIRST AID MEASURES</b>
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**First aid measures****General Advice:**

Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126).

**Skin Contact:**

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops. Consult a physician if necessary.

**Eye Contact:**

Flush eye with water for 15 minutes. Get medical attention.

**Inhalation:**

Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion:**

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

**Most important symptoms and effects, both acute and delayed****Symptoms**

Causes eye irritation. Mild skin irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and wheezing. Dyspnea (Shortness of breath and difficulty breathing). May cause abdominal pain, nausea, vomiting, diarrhea.

**Indication of any immediate medical attention and special treatment needed****Notes to Physician:**

Treat symptomatically

**Protection of first-aiders**

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

## 5. FIRE-FIGHTING MEASURES

### Extinguishing Media

**Suitable Extinguishing Media:** Dry chemical. Carbon dioxide (CO<sub>2</sub>). Water spray. Foam.

**Unsuitable Extinguishing Media:** No information available.

### Specific hazards arising from the chemical

**Hazardous Combustion Products:** Carbon oxides; Nitrogen oxides

**Specific hazards:** Flammable  
Will be easily ignited by heat, sparks or flames  
Container explosion may occur under fire conditions or when heated  
Vapors may travel to source of ignition and flash back  
Most vapors are heavier than air. Vapors may spread along ground and collect in low or confined areas (sewers, basements, tanks)  
Fire may produce irritating and/or toxic gases

### Special Protective Actions for Firefighters

**Specific Methods:** Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out.

**Special Protective Equipment for Firefighters:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal Precautions:** Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Pay attention to flashback. All equipment used when handling the product must be grounded. Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

### Methods and material for containment and cleaning up

**Methods for containment** Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading. Prevent dust cloud.

**Methods for cleaning up** Use appropriate tools to put the spilled solid in a suitable waste disposal container. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

## 7. HANDLING AND STORAGE

### Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Keep away from incompatible materials. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.

### Safe Handling Advice:

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapours/dust. Do not ingest. Do not smoke. Keep away from heat and sources of ignition. Protect from moisture. Use only in well-ventilated areas. Handle in accordance with good industrial hygiene and safety practice.

### Conditions for safe storage, including any incompatibilities

### Technical Measures/Storage Conditions:

Hygroscopic. Do not store above 25°C/77°F. Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Store in a segregated and approved area. Store away from incompatible materials.

### Incompatible Materials:

Oxidizing agents. Sodium Peroxide. Iodine. 1-bromopentaborane. Iodoform. Hydrochloric acid. Sulfuric acid. Nitric acid. Metals. Aluminum. Zinc. Sodium hydroxide. Potassium hydroxide.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

### National occupational exposure limits

#### United States

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Methenamine - 100-97-0	None	None	None	None

#### Canada

Components	Alberta	British Columbia	Ontario	Quebec
Methenamine - 100-97-0	None	None	0.35 ppm STEL 2 mg/m <sup>3</sup> STEL	None

#### Australia and Mexico

Components	Australia	Mexico
Methenamine 100-97-0	None	None

### Appropriate engineering controls

#### Engineering measures to reduce exposure:

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

### Individual protection measures, such as personal protective equipment

#### Personal Protective Equipment

**Eye protection:** Goggles. Safety glasses with side-shields.

**Skin and body protection:** Chemical resistant apron. Long sleeved clothing. Gloves.

**Respiratory protection:** Wear respirator with dust filter.. Be sure to use an approved/certified respirator or equivalent..

**Hygiene measures:** Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Solid.	<b>Appearance:</b> Crystalline powder.	<b>Color:</b> Colorless. White.
<b>Odor:</b> Odorless.	<b>Taste</b> No information available	<b>Molecular/Formula weight:</b> 140.19
<b>Formula:</b> C6H12N4	<b>Flash point (°C):</b> 250°C	<b>Flashpoint (°C/°F):</b> 250°C/ 482°F
<b>Flash Point Tested according to:</b> Closed cup	<b>Lower Explosion Limit (%):</b> No information available	<b>Upper Explosion Limit (%):</b> No information available
<b>Autoignition Temperature (°C/°F):</b> > 371°C/ > 700°F	<b>pH:</b> No information available	<b>Melting point/range(°C/°F):</b> 263-280°C/ 505.4-536°F
<b>Boiling point/range(°C/°F):</b> No information available	<b>Decomposition temperature(°C/°F):</b> No information available	<b>Bulk density:</b> No information available
<b>Specific gravity:</b> 1.33	<b>Vapor pressure @ 20°C (kPa):</b> No information available	<b>Density (g/cm3):</b> No information available
<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> 4.9	<b>VOC content (g/L):</b> No information available
<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> -2.84	<b>Viscosity:</b> No information available
<b>Miscibility:</b> No information available	<b>Solubility:</b> Soluble in cold water Insoluble in diethyl ether Insoluble in Chloroform Insoluble in alcohol Soluble in Ethanol	

## 10. STABILITY AND REACTIVITY

### **Reactivity**

Explosive reaction with acetic acid + acetic anhydride + ammonium nitrate + nitric acid  
Reactive with oxidizing agents  
Reacts violently with sodium peroxide, 1-bromopentaborane, iodine, iodoform. Incompatible with metals (aluminum and zinc) and strong bases (sodium hydroxide and potassium hydroxide)

### **Chemical stability**

**Stability:** Hygroscopic. Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Heat. Ignition sources. Incompatible materials. Exposure to moisture.

**Incompatible Materials:** Oxidizing agents. Sodium Peroxide. Iodine. 1-bromopentaborane. Iodoform. Hydrochloric acid. Sulfuric acid. Nitric acid. Metals. Aluminum. Zinc. Sodium hydroxide. Potassium hydroxide.

**Hazardous decomposition products:** Carbon oxides. Nitrogen oxides (NOx).

**Other Information**

**Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available

**11. TOXICOLOGICAL INFORMATION**

**Information on likely routes of exposure**

**Principal Routes of Exposure:**

Inhalation. Ingestion.

**Acute Toxicity**

**Component Information**

*Methenamine - 100-97-0*

**LD50/oral/rat** = 9200 mg/kg Oral LD50 Rat

**LD50/oral/mouse** = 569 mg/kg

**LD50/dermal/rat** = No information available

**LD50/dermal/rabbit** = No information available

**LC50/inhalation/rat** = No information available

**LC50/inhalation/mouse** = No information available

**Other LD50 or LC50 information** = No information available

**Product Information**

**LD50/oral/rat =**

**VALUE- Acute Tox Oral** = 9200mg/kg

**LD50/oral/mouse =**

**Value - Acute Tox Oral** = 569mg/kg

**LD50/dermal/rabbit**

**VALUE-Acute Tox Dermal** = No information available

**LD50/dermal/rat**

**VALUE -Acute Tox Dermal** = No information available

**LC50/inhalation/rat**

**VALUE-Vapor** = No information available

**VALUE-Gas** = No information available

**VALUE-Dust/Mist** = No information available

**LC50/Inhalation/mouse**

**VALUE-Vapor** = No information available

**VALUE - Gas** = No information available

**VALUE - Dust/Mist** = No information available



## Symptoms

**Skin Contact:** Mild skin irritation.

**Eye Contact:** Mild eye irritation.

**Inhalation** Causes respiratory tract (nose, throat, lungs), and mucous membrane irritation. It may affect the urinary system. May affect metabolism.

**Ingestion** Causes gastrointestinal tract irritation/distress with anorexia, nausea, abdominal pain/cramps, vomiting and diarrhea. May affect the urinary system (bladder, kidneys-dysuria), behavior/central nervous system (headache, excitement, muscle contraction, spasticity, tremor). May affect respiration (dyspnea). May cause muscle cramps.

**Aspiration hazard** No information available

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

**Chronic Toxicity** Skin: Sensitizer. May cause allergic skin reaction (allergic contact dermatitis).  
Inhalation: May cause allergic respiratory reaction (occupational asthma).

**Sensitization:** May cause sensitization by inhalation May cause sensitization by skin contact

**Mutagenic Effects:** May affect genetic material  
Experiments with bacteria and/or yeast have shown mutagenic effects

**Carcinogenic effects:** Not considered carcinogenic

Components	ACGIH - Carcinogens	IARC	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Methenamine	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

**Reproductive toxicity** No data is available

**Reproductive Effects:** No information available  
**Developmental Effects:** No information available  
**Teratogenic Effects:** No information available

## Specific Target Organ Toxicity

**STOT - single exposure** No information available  
**STOT - repeated exposure** No information available  
**Target Organs:** No information available

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

**Ecotoxicity effects:** May be harmful to the aquatic environment.

Methenamine - 100-97-0

**Freshwater Fish Species Data:** 44600-55600 mg/L LC50 Pimephales promelas 96 h flow-through 1

**Water Flea Data:** 29868 - 43390 mg/L EC50 Daphnia magna 48 h

**Persistence and degradability:** 22% (by BOD), 48% (by HPLC), 45% (by TOC)

**Bioaccumulative potential:** No information available

**Mobility:** No information available

### 13. DISPOSAL CONSIDERATIONS

#### Disposal Methods

**Waste from residues / unused products:**

Waste must be disposed of in accordance with Federal, State and Local regulation.

**Contaminated packaging:**

Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Methenamine	None	None	None	None

### 14. TRANSPORT INFORMATION

#### DOT

**UN-No:** UN1328  
**Proper Shipping Name:** Hexamethylenetetramine  
**Hazard Class:** 4.1  
**Subsidiary Risk:**  
**Packing Group:** III  
**ERG No:** 133  
**Marine Pollutant:** No data available  
**DOT RQ (lbs):** No information available

**Symbol(s):**

#### TDG (Canada)

**UN-No:** UN1328  
**Proper Shipping Name:** Hexamethylenetetramine  
**Hazard Class:** 4.1  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Description:** No information available

#### ADR

**UN-No:** UN1328  
**Proper Shipping Name:** Hexamethylene-tetramine  
**Hazard Class:** 4.1  
**Packing Group:** III  
**Subsidiary Risk:** No information available  
**Classification Code:** No information available  
**Description:** No information available

## 14. TRANSPORT INFORMATION

**CEFIC Tremcard No:** No information available

### IMO / IMDG

**UN-No:** UN1328  
**Proper Shipping Name:** Hexamethylenetetramine  
**Hazard Class:** 4.1  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Description:** No information available  
**IMDG Page:** No information available  
**Marine Pollutant:** No information available  
**EMS:** F-A  
**MFAG:** No information available  
**Maximum Quantity:** No information available

### RID

**UN-No:** UN1328  
**Proper Shipping Name:** Hexamethylenetetramine  
**Hazard Class:** 4.1  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Classification Code:** No information available  
**Description:** No information available

### ICAO

**UN-No:** UN1328  
**Proper Shipping Name:** Hexamethylenetetramine  
**Hazard Class:** 4.1  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Description:** No information available

### IATA

**UN-No:** UN1328  
**Proper Shipping Name:** Hexamethylenetetramine  
**Hazard Class:** 4.1  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**ERG Code:** 3L  
**Description:** No information available

## 15. REGULATORY INFORMATION

### International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>Methenamine</i>	Present	Present KE-18615	Present	Present (5)-1155	Present	Present	Present 202-905-8

### U.S. Regulations

*Methenamine*

New Jersey RTK Hazardous Substance List: 0996

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

**Chemicals Known to the State of California to Cause Cancer:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

**Chemicals Known to the State of California to Cause Reproductive Toxicity:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Methenamine	Not Listed	Not Listed	Not Listed	Not Listed

**CERCLA/SARA**

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
Methenamine	None	None	None	None	None

**U.S. TSCA**

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Methenamine	Not Applicable	Not Applicable

**Canada****WHMIS hazard class:**

B4 Flammable solid

**Methenamine**

B4

**Canada Controlled Products Regulation:**

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Methenamine	0.1 %

**Inventory**

Components	Canada (DSL)	Canada (NDSL)
Methenamine	Present	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Methenamine	Not listed	Not listed

**EU Classification****R-phrases(s)**

R11 - Highly flammable.

R43 - May cause sensitization by skin contact.

**S -phrase(s)**

S 2 - Keep out of the reach of children.

S24 - Avoid contact with skin.

S37 - Wear suitable gloves.

Components	Classification	Concentration Limits:	Safety Phrases
Methenamine	F; R11 R43	No information	S2 S24 S37

The product is classified in accordance with Annex VI to Directive 67/548/EEC

**Indication of danger:**

F - Highly flammable.

F

**16. OTHER INFORMATION**

## 16. OTHER INFORMATION

**Revision Date:** 05/27/2015  
**Prepared by:** Sonia Owen

**Disclaimer:** All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**