



Centre Anti-Poison pour le Québec: (800) 463-5060
Tél. (Qc): (418) 660-8666 / 800-890-8666
Fax. (Qc): (418) 660-8998

SAFETY DATA SHEET

SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier METHENAMINE		Product Use Laboratory use	
Chemical formula C ₆ H ₁₂ N ₄		Product code HR-0104	Molar weight 140,19
Chemical name / Commercial name / Synonyms MÉTHÉNAMINE, HMT, HEXAMINE, 1,3,5,7-TETRAAZAADAMANTANE, HEXAMETHYLENEAMINE, AMINOFORM, AMMOFORM, CYSTAMIN, CYSTOGEN, FORMIN, URITONE, UROTROPIN			
Supplier's name Laboratoire MAT		Address-Street 610, Adanac Street	
City Québec		Province Québec	
Postal code G1C 7B7	Internet www.labmat.com	Phone number 418-660-8666 / 800-890-8666	
Emergency phone	CANUTEC: 613-996-6666	CENTRE ANTI-POISON DU QUÉBEC 800-463-5060	
Date SDS 10/23/2019	SDS Prepared by Laboratoire MAT	E-Mail labmat@labmat.com	

SECTION 02 - HAZARDS IDENTIFICATION

Classification WHIMS / GHS	Flammable solids category 2 Respiratory or skin sensitization - Skin sensitize category 1
Signal Word	WARNING
Hazards statements (H)	H228 Flammable solid. H317 May cause an allergic skin reaction.
Precautionary statements (P)	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 / vapours / spray. P280 Wear protective gloves/protective clothing/eye protection/face protection. P362 + P364 Take off contaminated clothing and wash it before reuse. P501 Dispose of contents/container in accordance with local / regional / national / international regulations or contact a specialist waste disposal company. P272 Contaminated work clothing should not be allowed out of the workplace. P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P321 Specific treatment (see section 4 of the SDS and on this label). P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
PICTOGRAMS	
Other dangers	NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Signifiant; 4=Extreme)
	Health 2 Fire 2 Reactivity 0 Special danger

SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
Hexaméthylènetétramine	100-97-0	<=100

SECTION 04 - FIRST AID MEASURES

Eye contact	Wash eyes with large amounts of water for at least 15 minutes while holding eyelids apart to rinse eyes. If irritation persists, seek medical attention.
Skin contact	Wash skin with plenty of water for at least 15 minutes. Remove soiled clothing. If irritation persists, seek medical attention.
Inhalation	Move the unwell person to the fresh air. If breathing is difficult, give oxygen. Consult a physician.
Ingestion	Do NOT induce vomiting. If the person is conscious, rinse the mouth with water. Never give anything by mouth to an unconscious person. Consult a physician.
Most important symptoms and effects (acute and delayed)	Ref. section 11.
Immediate medical attention and special treatment, if necessary	In case of medical consultation, keep this sheet available.
General advice	Show this safety data sheet to the doctor in attendance.

SECTION 05 - FIREFIGHTING MEASURES

Flammability	Yes
Ignition conditions	Heat, sparks and open flame. Flammable in the presence of a source of ignition, through friction or retained heat.
Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	Data not available.
Hazardous combustion / decomposition products	Hazardous decomposition products formed under fire conditions. Carbon oxides, Nitrogen oxides (NOx). Toxic vapors of formaldehyde.
Special fire and explosion hazards	May react violently with incompatible products (Ref Section 10). Explosive reaction with the following mixture: acetic acid - acetic anhydride - ammonium nitrate - nitric acid. Violent reaction with sodium peroxide. Dust can form an explosive mixture with air.
Special protective equipment and precautions for firefighters	Discard incompatible substances if this can be done without risk. Firefighters should be equipped with standard protective equipment, fireproof clothing, face mask, gloves, protective boots and, where appropriate, self-contained breathing apparatus.

SECTION 06 - ACCIDENTAL RELEASE MEASURES

Methods and materials for containment and cleaning up / Personnel precautions, protective equipment	Evacuate personnel to safe areas. Ensure adequate ventilation. Use personal protective equipment. Pick up with a shovel or broom, taking care not to scatter dust. Dispose of residues in a container provided for the disposal of hazardous materials. Do not let product enter drains. Remove all sources of ignition.
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SECTION 07 - HANDLING AND STORAGE

Conditions for safe storage	Keep container tightly closed and store away from heat, moisture and incompatible products. Store in a cool, dry place. Store in a well-ventilated area. Hygroscopic.
Methods of handling	Always open containers slowly to allow any excess pressure to vent. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust or vapor is formed. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. Wear personal protective equipment when handling. Always ensure good ventilation. Transport according to TDG (ref Section 14)

SECTION 08 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Hexamethylenetetramine	100-97-0	STEL	0.350000 ppm 2.000000 mg/m ³	Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.

Data source	Sigma-Aldrich (Millipore Sigma)
Ventilation	Fan.
Respiratory	If the permissible levels are exceeded, use a mechanical filter / cartridge against NIOSH vapors or a respirator with air supply.
Gloves	Handle with gloves.
Eyes	Safety goggles with safety shutters.
Shoes	Use safety shoes.
Clothing	Labcoat. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Engineering control	Have safety showers and eyewash stations in the workplace in case of an emergency and a ventilation system to maintain the level of concentrations in the air below the exposure limit values.

SECTION 09 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid.
Appearance	Cristalline blanche.
Odour	ammoniacale.
Odour threshold	Data not available
pH	7-10 (solution aqueuse 10%).
Melting point / Freezing point	280°C
Initial boiling point	Data not available
Boiling range	Data not available
Flash point	250°C
Evaporation rate	Data not available
Flammability	Yes
Lower flammable / Explosive limit	Data not available
Upper flammable / Explosive limit	Data not available
Vapour pressure	<0.01 mmHg à 20°C.
Vapour density	4.9 (air=1)-
Relative density	1.33g/cm ³
Solubility	Soluble dans l'eau et l'alcool.
Partition coefficient water/n-octanol	log Pow : -2.179 à 20°C-
Auto-ignition temperature	400°C
Decomposition temperature	260 (Sublimation)°C
Viscosity	Data not available

SECTION 10 - STABILITY AND REACTIVITY

Reactivity	Non-reactive under normal conditions.
Chemical stability	Stable under recommended storage conditions. Hygroscopic.
Possibility of hazardous reactions	Stable under normal conditions. Contact with acids liberates very toxic gas.
Conditions of instability (Including sensitivity to shock / static discharge / vibration)	Heat, flames and sparks. This product quickly absorbs moisture from the air. In the presence of moisture, it gives off ammonia. With acids, there is release of formaldehyde, toxic.
Incompatible material	Strong oxidizing agents and moisture. Strong acids. Especially nitric acid. Ammonium nitrate, bromopentaborane, iodine, iodoform. Sodium peroxide.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. Toxic fumes of formaldehyde, carbon monoxide, carbon dioxide and nitrogen oxides. Toxic vapors of hydrogen cyanide. Ammonia.

SECTION 11 - TOXICOLOGICAL INFORMATION

METHENAMINE

Routes of exposure	Ingestion.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	Irritation.
- Skin	Irritation and dermatitis.
- Inhalation	Irritation of the mucous membranes and respiratory tract. Intense inhalation may cause respiratory allergy in certain susceptible individuals.
Acute toxicity (Ingestion)	Irritation and inflammation of the mucous membranes. To our knowledge, the product has not been fully studied.
Chronic exposure effects / symptoms	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. Inflammation and damage to the kidneys and bladder (albumin or blood in the urine), pain abdominal, diarrhea and vomiting.
DL50 (specify species and route of entry)	LD50 Oral - Rat - >5000 mg/kg. LD50 Dermal - Rat - > 2 000 mg/kg.
CL50 (specify species and route of entry)	LC50 - Inhalation - Data not available.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity	LC50 - Pimephales promelas (fathead minnow) - 44600-55600 - 96 h CL50-Cyprinodon variegatus 49000 mg/L - 96 h - static test EC50 - Daphnia magna (Water flea) - 36000 mg/L - 48 h - static test
Persistence and degradability	Biodegradability aerobic. Result: 35 % - According to the results of tests of biodegradability this product is not readily biodegradable. Method: OECD Test Guideline 301D.
Bioaccumulative potential	Data not available.
Mobility in soil	Probable mobility due to its solubility in water.
Other adverse effects	Data not available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal Method	Dispose of contents / container in accordance with local / regional / national / international regulations / or contact a specialist waste disposal company.
Contaminated Packaging	Dispose of as unused product.

SECTION 14 - TRANSPORT INFORMATION

UN Number	1328
UN Proper shipping name	HEXAMETHYLÈNETÉTAMINE
Transport hazard class(es)	4.1 Flammable solids
Packing group	III
Limited quantity index	5kg
ERAP Index	-
Special precautions	-

SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	Flammable solids category 2 Respiratory or skin sensitization - Skin sensitize category 1
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SECTION 16 - OTHER INFORMATION

Further information

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. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. It does not represent any guarantee of the properties of the product. Laboratoire MAT Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

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