



Centre Anti-Poison pour le Québec: (800) 463-5060

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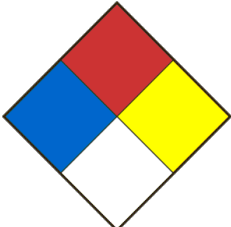
Fax. (Qc): (418) 660-8998

## SAFETY DATA SHEET

### SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

|                                                                                                                                            |                                                                 |                                             |                        |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------|------------------------|
| Product Identifier<br>HEXAMETHYLENEDIAMINE                                                                                                 |                                                                 | Product Use<br>Laboratory use               |                        |
| Chemical formula<br>H <sub>2</sub> N(CH <sub>2</sub> ) <sub>6</sub> NH <sub>2</sub>                                                        |                                                                 | Product code<br>HP-0128; HR-0128            | Molar weight<br>116,21 |
| Chemical name / Commercial name / Synonymous<br>HEXAMETHYLENEDIAMINE, 1,6-HEXANEDIAMINE, 1,6-HEXAMETHYLENEDIAMINE, 1,6-DIAMINOHEXANE, HMDA |                                                                 |                                             |                        |
| Supplier's name<br>Laboratoire MAT                                                                                                         |                                                                 | Address-Street<br>610, Adanac Street        |                        |
| City<br>Québec                                                                                                                             |                                                                 | Province<br>Québec                          |                        |
| Postal code<br>G1C 7B7                                                                                                                     | Internet<br>www.labmat.com                                      | Phone number<br>418-660-8666 / 800-890-8666 |                        |
| Emergency phone                                                                                                                            | CANUTEC: 613-996-6666 CENTRE ANTI-POISON DU QUÉBEC 800-463-5060 |                                             |                        |
| Date SDS<br>12/20/2023                                                                                                                     | SDS Prepared by<br>Laboratoire MAT                              | E-Mail<br>labmat@labmat.com                 |                        |

## SECTION 02 - HAZARDS IDENTIFICATION

|                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Classification WHIMS / GHS</b>                                                   | <p>Skin corrosion/irritation - Skin corrosion category 1B</p> <p>Serious eye damage/eye irritation - Serious eye damage category 1</p> <p>Acute toxicity - Oral category 4</p> <p>Acute toxicity - Dermal category 4</p> <p>Specific target organ toxicity - Single exposure category 3</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Signal Word</b>                                                                  | DANGER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Hazards statements (H)</b>                                                       | <p>H302 Harmful if swallowed.</p> <p>H312 Harmful in contact with skin.</p> <p>H314 Causes severe skin burns and eye damage.</p> <p>H318 Causes serious eye damage.</p> <p>H335 May cause respiratory irritation.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Precautionary statements (P)</b>                                                 | <p>P260 Do not breathe dust / fume / gas / mist / vapors / spray.</p> <p>P261 Avoid breathing dust / fume / gas / mist / vapors / spray.</p> <p>P264 Wash the areas of the body that have been in contact with the product after handling.</p> <p>P270 Do not eat, drink or smoke when using this product.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P280 Wear protective gloves/protective clothing/eye protection/face protection.</p> <p>P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.</p> <p>P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.</p> <p>P302 + P352 IF ON SKIN: Wash with plenty of soap and water.</p> <p>P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.</p> <p>P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.</p> <p>P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P310 Immediately call a POISON CENTER or doctor/physician.</p> <p>P312 Call a POISON CENTER or doctor/physician if you feel unwell.</p> <p>P321 Specific treatment (see section 4 of the SDS and on this label).</p> <p>P330 Rinse mouth.</p> <p>P362 + P364 Take off contaminated clothing and wash it before reuse.</p> <p>P363 Wash contaminated clothing before reuse.</p> <p>P403 + P233 Store in a well-ventilated place. Keep container tightly closed.</p> <p>P405 Store locked up.</p> <p>P501 Dispose of contents and container in accordance with local, regional and national regulations, or contact a specialist waste disposal company.</p> |
| <b>PICTOGRAMS</b>                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Other dangers</b>                                                                | NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Significant; 4=Extreme)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|  | <p><b>Health</b> 3</p> <p><b>Fire</b> 2</p> <p><b>Reactivity</b> 1</p> <p><b>Special danger</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

## SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

| Ingrédients (Dénomination chimique / synonymes) | Numéro CAS et tout identificateur unique | Concentration (%) |
|-------------------------------------------------|------------------------------------------|-------------------|
| Hexaméthylènediamine                            | 124-09-4                                 | <=100             |

## SECTION 04 - FIRST AID MEASURES

|                                                                        |                                                                                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eye contact</b>                                                     | 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.                                                                                                                                            |
| <b>Skin contact</b>                                                    | Wash skin with plenty of water for at least 15 minutes. Remove soiled clothing. If irritation persists, seek medical attention.                                                                                                                                                                     |
| <b>Inhalation</b>                                                      | Move the unwell person to the fresh air. If breathing is difficult, give oxygen. Consult a physician.                                                                                                                                                                                               |
| <b>Ingestion</b>                                                       | 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.                                                                                                                                         |
| <b>Most important symptoms and effects (acute and delayed)</b>         | Main symptoms of high exposure: Skin, eye and respiratory system irritation. Causes burns, regardless of exposure routes. Dermatitis. Check the absence of Stomach or esophageal perforation, as ingestion causes severe swelling, severe tissue damage and danger of perforation. Ref. section 11. |
| <b>Immediate medical attention and special treatment, if necessary</b> | In case of medical consultation, keep this sheet available.                                                                                                                                                                                                                                         |
| <b>General advice</b>                                                  | Show this safety data sheet to the doctor in attendance.                                                                                                                                                                                                                                            |

## SECTION 05 - FIREFIGHTING MEASURES

|                                                                      |                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Flammability</b>                                                  | Yes                                                                                                                                                                                                                                                       |
| <b>Ignition conditions</b>                                           | Combustible material. Heat, sparks and open flame.                                                                                                                                                                                                        |
| <b>Suitable extinguishing media</b>                                  | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.                                                                                                                                                                                  |
| <b>Unsuitable extinguishing media</b>                                | Data not available.                                                                                                                                                                                                                                       |
| <b>Hazardous combustion products</b>                                 | Hazardous combustion products formed under fire conditions: Carbon oxides, Nitrogen oxides (NOx).                                                                                                                                                         |
| <b>Special fire and explosion hazards</b>                            | May form combustible dust concentrations in the air. May react violently with incompatible products (Ref Section 10).                                                                                                                                     |
| <b>Special protective equipment and precautions for firefighters</b> | 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

|                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Methods and materials for containment and cleaning up / Personnel precautions, protective equipment</b> | Evacuate personnel to safe areas. Ensure adequate ventilation. Use personal protective equipment. Use a respirator as needed. Pick up with a shovel or broom, taking care not to scatter dust. Do NOT use mineral-based or clay-based absorbents. Dispose of residues in a container provided for the disposal of hazardous materials. Do not let product enter drains. |
|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## SECTION 07 - HANDLING AND STORAGE

|                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Conditions for safe storage</b> | Store in a cool, dry place. Keep container tightly closed and store away from heat, moisture, and incompatible products. Protect from the sun's rays. Keep container tightly closed in a dry and well-ventilated place. Hygroscopic.                                                                                                                                                                                                     |
| <b>Methods of handling</b>         | Avoid contact with the skin, eyes and clothes. Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed. Wear personal protective equipment when handling. Always ensure good ventilation. Transport according to TDG (ref Section 14) Avoid ingestion and inhalation. 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                                                                                                                                   |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------|-------|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Hexamethylenedia mine | 124-09-4                                                                                                                               | TWA   | 0.500000 ppm<br>2.400000 mg/m3 | Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)                                                                     |
| Remarks               | Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required |       |                                |                                                                                                                                         |
|                       |                                                                                                                                        | TWA   | 0.500000 ppm                   | Canada. British Columbia OEL                                                                                                            |
|                       |                                                                                                                                        | TWAEV | 0.500000 ppm<br>2.300000 mg/m3 | Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants |
|                       |                                                                                                                                        | TWA   | 0.500000 ppm                   | USA. ACGIH Threshold Limit Values (TLV)                                                                                                 |

|                            |                                                                                                                                                                                                |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ventilation</b>         | Fan.                                                                                                                                                                                           |
| <b>Respiratory</b>         | If work under the hood is not possible, or if the permissible levels are exceeded, use a mechanical filter / cartridge against NIOSH vapors or a respirator with air supply.                   |
| <b>Gloves</b>              | Handle with gloves.                                                                                                                                                                            |
| <b>Eyes</b>                | Safety goggles with safety shutters.                                                                                                                                                           |
| <b>Shoes</b>               | Safety shoes.                                                                                                                                                                                  |
| <b>Clothing</b>            | Labcoat. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.                                     |
| <b>Engineering control</b> | 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

|                                              |                                                                   |
|----------------------------------------------|-------------------------------------------------------------------|
| <b>Physical state</b>                        | Solid.                                                            |
| <b>Appearance</b>                            | Incolore.                                                         |
| <b>Odour</b>                                 | Dérivés aminés.                                                   |
| <b>pH</b>                                    | 12 (soln 1%).                                                     |
| <b>Melting point / Freezing point</b>        | 42-45°C                                                           |
| <b>Initial boiling point</b>                 | 204-205°C                                                         |
| <b>Flash point</b>                           | 81°C                                                              |
| <b>Evaporation rate</b>                      | Non-applicable.                                                   |
| <b>Flammability</b>                          | Yes                                                               |
| <b>Lower flammable / Explosive limit</b>     | 0.7%                                                              |
| <b>Upper flammable / Explosive limit</b>     | 6.3%                                                              |
| <b>Vapour pressure</b>                       | 2.0 mmbar @ 50°C.                                                 |
| <b>Vapour density</b>                        | Non-applicable-                                                   |
| <b>Relative density</b>                      | Data not available                                                |
| <b>Solubility</b>                            | Très soluble dans l'eau. Peu soluble dans l'alcool et le benzène. |
| <b>Partition coefficient water/n-octanol</b> | Data not available                                                |
| <b>Auto-ignition temperature</b>             | 310°C                                                             |
| <b>Decomposition temperature</b>             | Data not available                                                |
| <b>Viscosity</b>                             | Data not available                                                |

## SECTION 10 - STABILITY AND REACTIVITY

|                                                                                                  |                                                                                                                                                                                                                                                                             |
|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reactivity</b>                                                                                | May react violently with incompatible substances. Vapor/air-mixtures are explosive at intense warming.                                                                                                                                                                      |
| <b>Chemical stability</b>                                                                        | Hygroscopic. Air sensitive. Sensitive to heat.                                                                                                                                                                                                                              |
| <b>Possibility of hazardous reactions</b>                                                        | On contact with certain metals, the product may generate hydrogen gas. Vapors may form explosive mixtures with air when heated.                                                                                                                                             |
| <b>Conditions of instability (Including sensitivity to shock / static discharge / vibration)</b> | Heat, flames and sparks. Exposure to the air. This product quickly absorbs moisture from the air. Vapors can form an explosive mixture with air.                                                                                                                            |
| <b>Incompatible material</b>                                                                     | Ketones. Aldehydes. Nitrates. Isocyanates. Strong oxidizing agents (nitric acid, perchloric acid, peroxides, chlorates and perchlorates), strong acids, acid chlorides and anhydrides, carbon dioxide, heat and humidity. Phenol. Phenols. Monomers. Chlorinated compounds. |
| <b>Hazardous decomposition products</b>                                                          | Toxic vapors of nitrogen oxides, monoxide and carbon dioxide.                                                                                                                                                                                                               |

## SECTION 11 - TOXICOLOGICAL INFORMATION

### HEXAMETHYLENEDIAMINE

|                                                  |                                                                                                                                                                                                                                                                                      |
|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Routes of exposure</b>                        | Inhalation, skin and eyes.                                                                                                                                                                                                                                                           |
| <b>Acute exposition effects / symptoms:</b>      | By exposure route below.                                                                                                                                                                                                                                                             |
| <b>- Eyes</b>                                    | Severe irritation and burning may cause permanent eye damage.                                                                                                                                                                                                                        |
| <b>- Skin</b>                                    | Severe irritation and tissue burn. Contact dermatitis.                                                                                                                                                                                                                               |
| <b>- Inhalation</b>                              | Spasms, irritation and inflammation of the nose, throat and lungs. Edema of the larynx and bronchi. Chemical pneumonitis and pulmonary edema that can lead to death.                                                                                                                 |
| <b>Acute toxicity (Ingestion)</b>                | Irritation and burning of the mouth, throat, esophagus and abdominal wall. Dysphagia, liver and kidney damage, abdominal pain, cramps, diarrhea, melena, sweating, salivation, nausea and vomiting, tremors, convulsions, stupor, loss of consciousness, coma and can lead to death. |
| <b>Chronic exposure effects / symptoms</b>       | Burning sensation, nervous disorders, liver, kidney and lung damage, chest pain, cough, dyspnea, laryngitis, headache, dizziness, confusion, irritability, sweating, salivation, tremor, fatigue, weight loss and loss of appetite, convulsions, nausea and vomiting.                |
| <b>DL50 (specify species and route of entry)</b> | LD50 Oral - Rat - 750 mg/kg. LD50 Dermal - Rabbit - 1100 mg/kg.                                                                                                                                                                                                                      |
| <b>CL50 (specify species and route of entry)</b> | LC50 Inhalation - Rat - 4h - >0.95mg/L.                                                                                                                                                                                                                                              |

## SECTION 12 - ECOLOGICAL INFORMATION

|                                      |                                                                                                                                                                                                                                                                                                                                |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ecotoxicity</b>                   | Toxicity to fish: Static test LC50 - Pimephales promelas (fathead minnow) - 1.825mg/L - 96h. Toxicity to daphnia and other aquatic invertebrates: Static test EC50 - Daphnia magna (Water flea): 19.8mg/L - 48h. Toxicity to algae: CE50r - Pseudokirchneriella subcapitata (algues vertes) - static test - > 100 mg/L - 72 h. |
| <b>Persistence and degradability</b> | Persistence is unlikely based on information available. Biodegradability aerobic - Duration of exposure 28 days - 82 % - Readily biodegradable.                                                                                                                                                                                |
| <b>Bioaccumulative potential</b>     | Data not available.                                                                                                                                                                                                                                                                                                            |
| <b>Mobility in soil</b>              | Probable mobility in the environment due to its solubility in water.                                                                                                                                                                                                                                                           |
| <b>Other adverse effects</b>         | Avoid release to the environment.                                                                                                                                                                                                                                                                                              |

## SECTION 13 - DISPOSAL CONSIDERATIONS

|                               |                                                                                                                                                |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Waste Disposal Method</b>  | Dispose of contents and container in accordance with local, regional and national regulations, or contact a specialist waste disposal company. |
| <b>Contaminated Packaging</b> | Dispose of as unused product.                                                                                                                  |

## SECTION 14 - TRANSPORT INFORMATION

|                            |                             |
|----------------------------|-----------------------------|
| UN Number                  | 2280                        |
| UN Proper shipping name    | HEXAMÉTHYLÈNEDIAMINE SOLIDE |
| Transport hazard class(es) | 8 Corrosive substances      |
| Packing group              | III                         |
| Limited quantity index     | 5kg                         |
| ERAP Index                 | -                           |
| Special precautions        | -                           |

## SECTION 15 - REGULATORY INFORMATION

|              |                                                                                                                                                                                                                                                                                             |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WHIMS CANADA | <p>Skin corrosion/irritation - Skin corrosion category 1B</p> <p>Serious eye damage/eye irritation - Serious eye damage category 1</p> <p>Acute toxicity - Oral category 4</p> <p>Acute toxicity - Dermal category 4</p> <p>Specific target organ toxicity - Single exposure category 3</p> |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 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.

Last Update: 12/20/2023