SAFETY DATA SHEET

SECTION 01 - IDENTIFICATION

Product Identifier	PIPERAZINE
Other identification (Chemical name, Commercial name, Synonymous)	PIPERAZIDINE; N,N-DIETHYLENEDIAMINE; 1,4-DIAZACYCLOHEXANE; N,N-DIETHYLENE DIAMINE; HEXAHYDROPYRAZINE; PIPERAZINE ANHYDROUS.
Product code	PR-0161
Chemical formula	$C_4H_{10}N_2$
Molar weight	86.14
Recommended use and Restrictions on use	For laboratory, school, commercial or industrial use. Not for medical or household use. Do not use for medical, food or household purposes.
Supplier	LABORATOIRE MAT 610, rue Adanac Québec Québec G1C 7B7 418-660-8666 Mon-Fri 8h-16h www.labmat.com labmat@labmat.com
Emergency phone	418-660-8666 Mon-Fri 8h-16h CENTRE ANTI-POISON DU QUÉBEC 800-463-5060
Date SDS	2026-09-02

SECTION 02 - HAZARDS IDENTIFICATION

WHIMS CANADA

- Flammable solids - category 1
- Skin corrosion/irritation - Skin corrosion - category 1B
- Serious eye damage/eye irritation - Eye irritation - category 1
- Respiratory or skin sensitization - Respiratory sensitizer - category 1B
- Reproductive toxicity - category 2

PICTOGRAMS



Signal Word

DANGER

Hazards statements (H)

- Flammable solid
- Causes severe skin burns and eye damage
- Causes serious eye damage
- May cause allergy or asthma symptoms or breathing difficulties if inhaled
- Suspected of damaging fertility or the unborn child

Precautionary statements (P)

- Keep away from heat, sparks, open flames, hot surfaces. — No smoking.
- Ground and bond container and receiving equipment.
- Use explosion-proof equipment.
- Wear protective gloves (nitrile, butyl, neoprene), protective clothing and eye and face protection.
- In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.
- Do not breathe mists, gases, vapors and other fumes, or the product itself.
- Wash thoroughly after handling.
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse with water.
- Wash contaminated clothing before reuse.
- IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
- Immediately call a POISON CENTER or a physician.
- Specific treatment (see section 4 on the SDS on this label).
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Store locked up.
- Dispose of contents and container in accordance with local, regional and national regulations, or contact a specialist waste disposal company.
- Avoid breathing mists, gases, vapors and other fumes, or the product itself.
- Wear respiratory protection.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- IF exposed or if you feel unwell: Call a POISON CENTER or a physician.

Other dangers

NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Signifiant; 4=Extreme)

Health	3
Fire	2
Reactivity	0
Special danger	

SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Component	No. CAS	% Weight
PIPERAZINE	110-85-0	<=100%

SECTION 04 - FIRST AID MEASURE

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 contaminated 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	If the person is conscious, give water to drink. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician.
Most important symptoms and effects (acute and delayed)	Main symptoms of high exposure: Skin, eye and respiratory system irritation. The product is a corrosive material. Necrosis. Blindness. Respiratory sensitizer. Skin sensitizer. Ref. section 11.
Immediate medical attention and special treatment, if necessary	Treat according to symptoms. Show this sheet to the attending physician.

SECTION 05 - FIREFIGHTING MEASURES

Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	Data not available.
Combustion products	Hazardous combustion products formed under fire conditions: Nitrogen oxides (NOx). Carbon oxides. Carbon dioxide.
Specific hazards of the dangerous product	May react violently with incompatible products (Ref Section 10).
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

Personal precautions, protective equipment and emergency measures	Evacuate personnel to safe areas. When handling, wear appropriate safety equipment (reference Section 8 for protective equipment to be used). Ensure a good ventilation. Use NIOSH cartridge respiratory protection if necessary or for larger spills. Cut off all sources of ignition.
Methods and materials for containment and cleaning up	Absorb the product with sand or vermiculite. Dilute residues with water, clean and rinse. Dispose of residues in a container for disposal of hazardous materials. Dispose of residues in a container for disposal of hazardous materials. When handling, wear suitable safety equipment. Discharge into the environment must be avoided.

SECTION 07 - HANDLING AND STORAGE

Conditions for safe storage	Store in a cool, dry, and well-ventilated place. Keep container tightly closed and store away from heat, water, moisture, and incompatible products (ref. section 10). Hygroscopique Protect from light and sunlight. Keep away from sources of ignition - No smoking. Take measures to prevent the accumulation of electrostatic charges. Store under inert gas.
Methods of handling	Avoid contact withh eyes, skin and clothing. Avoid ingestion and inhalation. Wear personal protective equipment (ref. section 8) when handling. Always ensure good ventilation. Apply the usual standard hygiene rules: Wash your hands after use. Do not eat or drink during use.

SECTION 08 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Workplace control parameters

Components	CAS-No.	Control parameters	Value	Basis
PIPERAZINE	110-85-0	-	-	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks				
		TWA	0,03ppm	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	0,03ppm	Canada. Ontario Reg.833
		TWA STEL	0,3mg/m3 1mg/m3	Canada. British Columbia OEL

Data origin	RSST. Alberta OELs. Ontario Regulation 833. Worksafebc.com
Respiratory	If work under the hood is not possible, or if the permissible levels are exceeded, use NIOSH cartridge respiratory protection, or an air-supplied respirator.
Gloves	Handle with protective gloves. Suggested material: Nitrile. Butyl. Neoprene. The type, thickness and length of the glove must be chosen according to the use, the concentration of the product, as well as the duration of use. Replace gloves regularly for better protection.
Eyes	Safety goggles with safety shutters.
Shoes	Use safety shoes.
Clothes	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	Use fan. 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.
Color	Colorless to yellow.
Odour	Odor amine.
Odour threshold	Data not available.
Melting point and freezing point	106 °C.
Boiling point	146 °C.
Flammability	Yes.
Lower flammable / Explosive limit	4% at 25 °C.
Upper flammable / Explosive limit	14% at 25 °C.
Flash point	81 °C open cup.
Auto-ignition temperature	320 °C.
Decomposition temperature	Data not available.
pH	pH = 10.8-11.8 (10% aqueous solution).
Kinematic viscosity	Data not available.
Solubility	Freely soluble in water.
Partition coefficient water/n-octanol	17.
Vapour pressure	0.16 [mmHg].
Relative density	1,1 g/ml at 20 °C.
Vapour density	3.0 (air = 1).
Particle characteristics	Not applicable.

SECTION 10 - STABILITY AND REACTIVITY

Reactivity	May react violently with incompatible substances.
Chemical stability	Stable under recommended storage conditions. Light sensitive. Hygroscopic.
Possibility of hazardous reactions	May react violently with incompatible substances.
Conditions to avoid	Avoid moisture. Avoid contact with incompatible materials and extreme temperatures. Heat, flames and sparks.
Incompatible materials	Strong acids. Acid chlorides. Acid anhydrides. Strong oxidizers. Can form an explosive mixture with: Aluminium. Magnesium. Zinc.
Hazardous decomposition products	Carbon monoxide (CO), Carbon dioxide (CO2). Nitrogen oxides (NOx).

SECTION 11 - TOXICOLOGICAL INFORMATION

PIPERAZINE

Routes of exposure	Ingestion, inhalation, skin and eye contact.
Acute exposition effects / symptoms:	By exposure route below. The symptoms may vary depending on the duration and concentration of the product.
- Eyes	Irritation. Causes burns to the eyes. Blindness. To our knowledge, the chemical, physical and toxicological properties have not been fully investigated.
- Skin	Irritation. Severe burns and tissue ulcerations. Formation of vesicular lesions.
- Inhalation	Irritation of the mucous membranes and respiratory tract. Respiratory sensitizer. To our knowledge, the chemical, physical and toxicological properties have not been fully investigated.
Acute toxicity (Ingestion)	Acute absorption can lead to: Headaches. Nausea and vomiting. Diarrhea. Lethargy. Tremors. Visual problems.
Chronic exposure effects / symptoms	Irritation of the mucous membranes. Asthma. Cough. Bronchitis To our knowledge, the chemical, physical and toxicological properties have not been fully investigated.
DL50 (specify species and route of entry)	LD50 Oral - Rat - 1900 mg/kg. LD50 Dermal - Rabbit - 4 mL/kg
CL50 (specify species and route of entry)	LC50 Inhalation - Mouse - 2h - 5,4 mg/L.

SECTION 12 - ECOLOGICAL INFORMATION

PIPERAZINE

Ecotoxicity	Toxicity to fish: LC50-Oryzias latipes: > 100 mg/l - 96 h. Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Water flea) - EC50 - 105.4 mg/l. Toxicity to algae: ErC50 - Pseudokirchneriella subcapitata - 72h. 153.1 mg/l.
Persistence and degradability	Biodegradability aerobic - Duration of exposure 28 days - 65 %.
Bioaccumulative potential	Bioaccumulation - 0.3. Exposure time: 6 weeks. Accumulation is not expected.
Mobility in soil	Data not available.
Other adverse effects	Data not available.

SECTION 13 - DISPOSAL CONSIDERATIONS

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

SECTION 14 - TRANSPORT INFORMATION

UN Number	2579
UN Proper shipping name	PIPERAZINE
Transport hazard class(es)	Corrosive materials 8
Packing group	III
Limited quantity index	5 kg
ERAP Index	
Special precautions	-

SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA

- Flammable solids - category 1
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SECTION 16 - OTHER INFORMATION

CNESST: Commission des normes, de l'équité et de la santé et sécurité au travail
NIH: National institute of health (U.S. Naltional Library of Medecine)
ECHA: Agence Européenne de Chimie
ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
VECD: Valeur d'exposition courte durée
VEMP: Valeur d'exposition moyenne pondérée
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TLV : Threshold limit value
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling
RSST: Règlement sur la santé et sécurité au travail (Québec)
INRS: l'Institut national de recherche et de sécurité pour la prévention des accidents du travail et des maladies professionnelles (France)

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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