



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

Tél. (Qc): (418) 660-8666 / 800-890-8666

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

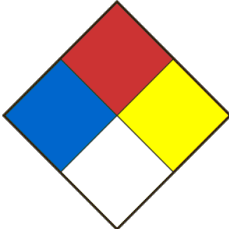
SAFETY DATA SHEET

SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier ETHYLENEDIAMINE		Product Use Laboratory use	
Chemical formula C ₂ H ₈ N ₂		Product code ER-0112	Molar weight 60,1
Chemical name / Commercial name / Synonymous ETHYLENEDIAMINE, 1,2-ETHYLENEDIAMINE, 1,2-ETHANEDIAMINE, 1,2-DIAMINOETHANE, DIAMINO-1,2 ETHANE, DIMETHYLENEDIAMINE			
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 12/12/2019	SDS Prepared by Laboratoire MAT	E-Mail labmat@labmat.com	

SECTION 02 - HAZARDS IDENTIFICATION

Classification WHIMS / GHS	Flammable liquids category 3 Serious eye damage/eye irritation - Serious eye damage category 1 Respiratory or skin sensitization - Respiratory sensitizer category 1 Acute toxicity - Oral category 4 Acute toxicity - Dermal category 3 Acute toxicity - Inhalation category 4 Respiratory or skin sensitization - Skin sensitizer category 1 Specific target organ toxicity - Single exposure category 3 Skin corrosion/irritation - Skin corrosion category 1	
Signal Word	DANGER	
Hazards statements (H)	H226 Flammable liquid and vapour. H302 Harmful if swallowed. H311 Toxic in contact with skin. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H332 Harmful if inhaled. H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 May cause respiratory irritation. H314 Causes severe skin burns and eye damage.	
Precautionary statements (P)	P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking. P233 Keep container tightly closed. P240 Ground/bond container and receiving equipment. P241 Use explosion-proof electrical/ventilating/lighting equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P261 Avoid breathing dust / fume / gas / mist / vapours / spray. P264 Wash the areas of the body that have been in contact with the product after handling. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P272 Contaminated work clothing should not be allowed out of the workplace. P280 Wear protective gloves/protective clothing/eye protection/face protection. P284 Wear respiratory protection. P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER or doctor/physician. P312 Call a POISON CENTER or doctor/physician if you feel unwell. P321 Specific treatment (see section 4 of the SDS and on this label). P330 Rinse mouth. P333 + P313 If skin irritation or rash occurs: Get medical advice/attention. P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. P361 + P364 Take off immediately all contaminated clothing and wash it before reuse. P362 + P364 Take off contaminated clothing and wash it before reuse. P370 + P378 In case of fire: Use CO ₂ , dry chemical, or foam for extinction. P403 + P233 Store in a well-ventilated place. Keep container tightly closed. P403 + P235 Store in a well-ventilated place. Keep cool. P405 Store locked up.	

	P501 Dispose of contents/container in accordance with local / regional / national / international regulations or contact a specialist waste disposal company. P260 Do not breathe dust / fume / gas / mist / vapours / spray. P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P363 Wash contaminated clothing before reuse.
PICTOGRAMS	
Other dangers	NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Significant; 4=Extreme)
	Health 3 Fire 3 Reactivity 1 Special danger

SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
Éthylènediamine	107-15-3	<=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	If the person is conscious, rinse the mouth with water. Do NOT induce vomiting. 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	Strong oxidizing agents, heat, sparks and open flame.
Suitable extinguishing media	Carbon dioxide, dry chemical powder and polymer foam.
Unsuitable extinguishing media	Do not use a heavy water stream.
Hazardous combustion / decomposition products	Ammonia. Nitrogen oxides (NOx). Hydrogen cyanide (cyanhydric acid). Carbon monoxide, carbon dioxide.
Special fire and explosion hazards	Steam can travel a great distance and ignite on sources of ignition such as heaters, electrical appliances, cigarettes, sparks, etc. Containers exposed to fire may explode. Contact with strong oxidizing agents may cause fire. Vapors may form explosive mixtures with air. 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

Methods and materials for containment and cleaning up / Personnel precautions, protective equipment	Evacuate personnel to safe areas. Cut off all sources of ignition. Cover the residues with sodium carbonate or calcium oxide to neutralize the product. Dilute residues with water, clean and rinse. Ensure a good ventilation of the premises. Dispose of residues in a container provided for the disposal of hazardous materials. When handling, wear appropriate safety equipment. Use a respirator as needed. Do not let product enter drains.
--	---

SECTION 07 - HANDLING AND STORAGE

Conditions for safe storage	Store in a cool, dry place. Keep container tightly closed and store away from heat, sparks and open flame. Use venting and electrical equipment that is grounded and does not produce ignition sources (sparks). Protect from the sun's rays.
Methods of handling	Bottle in glass containers only. Avoid inhalation of vapour or mist. 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	No.-CAS	Control	Value	Basis
ETHYLENEDIAMINE	107-15-3	TWA	10ppm 25mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarques	Substance may be readily absorbed through intact skin			
		TWAEV	10ppm 25mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
	Skin (percutaneous) Sensitizer			
		TWA	10ppm	Canada. British Columbia OEL

Data source	Sigma-Aldrich (Millipore Sigma)
Ventilation	Use 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	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	Liquid.
Appearance	Liquide visqueux incolore.
Odour	Odeur similaire à l'ammoniac.
Odour threshold	10.2ppm
pH	11.9.
Melting point / Freezing point	8.5°C
Initial boiling point	118°C
Boiling range	Data not available
Flash point	33°C
Evaporation rate	0.91%
Flammability	Yes
Lower flammable / Explosive limit	4.2%
Upper flammable / Explosive limit	14.4%
Vapour pressure	10.0 mm @ 20°CmmHg
Vapour density	2.07 (Air=1)-
Relative density	0.899g/cm ³
Solubility	Miscible avec l'eau en toutes proportions. Miscible avec l'alcool.
Partition coefficient water/n-octanol	1.54-
Auto-ignition temperature	380°C
Decomposition temperature	
Viscosity	0.0154 cP @ 25 deg C.

SECTION 10 - STABILITY AND REACTIVITY

Reactivity	Non-reactive under normal conditions.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	May react violently with incompatible substances.
Conditions of instability (Including sensitivity to shock / static discharge / vibration)	This product absorbs carbon dioxide from the air to form nonvolatile carbonates. Avoid excessive heat. Avoid the accumulation of static electricity. Avoid contact with incompatible materials and extreme temperatures.
Incompatible material	Ethylenediamine reacts violently with the following products: vinyl acetate, acetic acid, chlorosulfonic acid, acrylic acid, hydrochloric acid, nitric acid, sulfuric acid, acrolein, acrylonitrile, acetic anhydride, allyl chloride, carbon disulfide, epichlorohydrin ethylene chlorohydrin, mesityl oxide, oleum and perchlorates.
Hazardous decomposition products	Toxic vapors of hydrogen cyanide. Toxic vapors of ammonia and oxides of nitrogen. Carbon monoxide (CO), Carbon dioxide (CO ₂)

SECTION 11 - TOXICOLOGICAL INFORMATION

ETHYLENEDIAMINE

Routes of exposure	Ingestion, inhalation, skin and eyes.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	Severe irritation and burning of the eye tissue that may lead to corneal ulceration and blindness.
- Skin	Severe irritation and tissue burn. May cause an allergic and inflammatory reaction of the skin as erythematous lesions.
- Inhalation	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.
Acute toxicity (Ingestion)	Irritation and burning of the mouth, throat, esophagus and abdominal wall. Abdominal pain, liver and kidney damage, cramps, diarrhea, melena, hematemesis, sweating, salivation, convulsions, stupor, tachycardia, cardiac arrest, coma and can lead to death.
Chronic exposure effects / symptoms	Burning sensation, nerve disorders, liver, kidney and lung damage, respiratory and skin allergy, chest pain, cough, dyspnea, laryngitis, asthma, watery eyes, choking, headache, diarrhea, dizziness, tiredness, irritability, confusion, paresthesia, nystagmus, sweating, salivation, erythema, tachycardia, muscle weakness, weight loss and loss of appetite, seizures, nausea and vomiting.
DL50 (specify species and route of entry)	LD50 Oral - Rat - 866mg/kg. LD50 Dermal - Rabbit - 560 mg/kg.
CL50 (specify species and route of entry)	LC50 Inhalation - Rat - 4h - 14.7 mg/L.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity	Toxicity to fish: LC50 - Pimephales promelas (fathead minnow) - 115.7 mg/l - 96 h. Toxicity to daphnia and other aquatic invertebrates: Static test EC50 - Daphnia magna (Water flea): 16.7 mg/l - 48 h. Toxicity to algae: Static test EC50 - Pseudokirchneriella subcapitata - 645 mg/l - 72 h. Toxicity to bacteria: Static test EC50 - 3.2 mg/l - 2 h. Bacteria -
Persistence and degradability	Persistence is unlikely.
Bioaccumulative potential	Data not available.
Mobility in soil	Probable mobility in the environment due to its solubility in water.
Other adverse effects	Avoid release to the environment. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

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	1604
UN Proper shipping name	ÉTHYLÈNEDIAMINE
Transport hazard class(es)	8 Corrosive substances 3 Flammable liquids
Packing group	II
Limited quantity index	1L
ERAP Index	1000
Special precautions	-

SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	Flammable liquids category 3 Serious eye damage/eye irritation - Serious eye damage category 1 Respiratory or skin sensitization - Respiratory sensitizer category 1 Acute toxicity - Oral category 4 Acute toxicity - Dermal category 3 Acute toxicity - Inhalation category 4 Respiratory or skin sensitization - Skin sensitize category 1 Specific target organ toxicity - Single exposure category 3 Skin corrosion/irritation - Skin corrosion category 1
---------------------	---

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: 12/12/2019