



SAFETY DATA SHEET

SECTION 01 - IDENTIFICATION

Product Identifier	POTASSIUM REFERENCE SOLUTION 1000 PPM
Other identification (Chemical name, Commercial name, Synonymous)	-
Product code	AA-3500
Chemical formula	Mélange
Molar weight	
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	2025-10-24

SECTION 02 - HAZARDS IDENTIFICATION

WHIMS CANADA

- Skin corrosion/irritation - Skin corrosion - category 1
- Serious eye damage/eye irritation - Eye irritation - category 1

PICTOGRAMS



Signal Word

DANGER

Hazards statements (H)

- Causes severe skin burns and eye damage
- Causes serious eye damage

Precautionary statements (P)

- Do not breathe mists, gases, vapors and other fumes, or the product itself.
- Wear protective gloves (nitrile, butyle, neoprene), protective clothing and eye and face protection.
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse with water.
- IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
- Immediately call a POISON CENTER or a physician.
- 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.

Other dangers

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

Health 2
Fire 0
Reactivity 0
Special danger

SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Component	No. CAS	% Weight
Nitric acid	7697-37-2	4%
Nitrate de potassium	7757-79-1	0.26

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: The product is a corrosive material. Chemical burns of the skin, eyes and respiratory and digestive mucous membranes. Skin, eye and respiratory system irritation. Pneumonia. Pulmonary edema. Tooth erosion. The corrosive effect will outweigh the toxicity for the concentrated product. Cyanosis (blue to black coloring of the skin and nails). Neurological disorders. Gastrointestinal disorders. Headaches. Dizziness. Nausea and vomiting. Convulsions. Fatigue. Anemia. Irritability. Dermatitis. Cough. Methemoglobinemia (methemoglobin level too high in the blood). Kidney damage. Confusion. 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, or carbon dioxide.
Unsuitable extinguishing media	Do not use dry chemical.
Combustion products	Potassium oxides. Hazardous combustion products formed under fire conditions: Nitrogen oxides (NOx).
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	Keep combustibles (wood, paper, oil, etc.) away from spilled material. 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.
Methods and materials for containment and cleaning up	Do NOT use combustible absorbents. 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. Discharge into the environment must be avoided.

SECTION 07 - HANDLING AND STORAGE

Conditions for safe storage	Keep container tightly closed and store away from heat, water, moisture, and incompatible products (ref. section 10). Store in a cool, dry, and well-ventilated place. Protect from light and sunlight.
Methods of handling	Do not bottle in a metal container. This product is corrosive to metals. Avoid ingestion and inhalation. Avoid contact withh eyes, skin and clothing. 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.	Value	Control parameters	Basis
Nitric acid	7697-37-2	TWA	2.000000 ppm 5.200000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		STEL	4.000000 ppm 10.000000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWA	2.000000 ppm	Canada. British Columbia OEL
		STEL	4.000000 ppm	Canada. British Columbia OEL
		TWAEV	2.000000 ppm 5.200000 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		STEV	4.000000 ppm 10.000000 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	2.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		STEL	4.000000 ppm	USA. ACGIH Threshold Limit Values (TLV)

Component	CAS-No.	Value
Potassium nitrate	7757-79-1	No occupational exposure limits established by region-specific regulators - Quebec, Alberta, Ontario, British Columbia.

Data origin Sigma-Aldrich (Millipore Sigma)

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 Gloves resistant to acidic corrosive materials. Suggested material: Nitrile. Neoprene. Butyl. 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	Liquid
Color	Colorless
Odour	Data not available
Odour threshold	Data not available
Melting point and freezing point	-7°C
Boiling point	102°C
Flammability	No
Lower flammable / Explosive limit	Data not available
Upper flammable / Explosive limit	Data not available
Flash point	Data not available
Auto-ignition temperature	Data not available
Decomposition temperature	Data not available
pH	<1
Kinematic viscosity	Data not available
Solubility	Soluble in water
Partition coefficient water/n-octanol	Data not available
Vapour pressure	Data not available
Relative density	1.02g/ml
Vapour density	Data not available
Particle characteristics	Not applicable

SECTION 10 - STABILITY AND REACTIVITY

Reactivity	Acid product, reacts strongly with strong bases. Reacts strongly with metals.
Chemical stability	Light sensitive. Air sensitive.
Possibility of hazardous reactions	May react violently with incompatible substances.
Conditions to avoid	Avoid moisture. Avoid contact with incompatible materials and extreme temperatures. Nitric acid is yellowish in color when exposed to light. Old inventories of nitric acid (10 years and over) or yellowish-colored batches form a nitroze compound with a very explosive potential.
Incompatible materials	When pure, the products react with the following products: Bases. Metals. Alkali metals. Metal powders. Metal oxides. Organic materials. Reducing agents. Organic anhydrides. Alcohols. Aldehydes. Ketones. Combustible materials. Paper. Charcoal. Acrylonitrile. Ether. Wood. Sulfides. Nonmetallic hydrides. Acetylenides. Carbides. Strong acids. Sodium thiosulfate. Phosphorus. Alkyl esters. Antimony trisulfide. Metal powders. Arsenic disulfide. Sodium acetate. Sodium hypophosphite. To our knowledge, the product has not been fully evaluated.
Hazardous decomposition products	Nitrogen oxides (NO _x). Potassium oxides.

SECTION 11 - TOXICOLOGICAL INFORMATION

POTASSIUM REFERENCE SOLUTION 1000 PPM

Routes of exposure	Ingestion, inhalation, skin and eye contact.
Acute exposition effects / symptoms:	By exposure route below. The corrosive effect will outweigh the toxicity for the concentrated product.
- Eyes	Irritation. Tearing Severe burns and destruction of ocular tissue that can lead to corneal ulceration and blindness.
- Skin	Severe burns and tissue ulcerations.
- Inhalation	To our knowledge, the chemical, physical and toxicological properties have not been fully investigated. Irritation and inflammation of the nose, throat and lungs.
Acute toxicity (Ingestion)	Corrosion and ulceration of the mouth, throat, esophagus, stomach and abdominal wall. To our knowledge, the chemical, physical and toxicological properties have not been fully investigated.
Chronic exposure effects / symptoms	Dental enamel abrasion (erosion). To our knowledge, the chemical, physical and toxicological properties have not been fully investigated.
DL50 (specify species and route of entry)	LD50 Oral - Data not available. LD50 Dermal - Data not available.
CL50 (specify species and route of entry)	ETA Mix (Estimated Acute Toxicity) LC50 Inhalation - 4h - 1619 ppm. Undefined species.

NITRIC ACID 68.0-70.0%

Routes of exposure	Ingestion, inhalation, skin and eye contact.
Acute exposition effects / symptoms:	By exposure route below. The corrosive effect will outweigh the toxicity for the concentrated product.
- Eyes	Irritation. Tearing Severe burns and destruction of ocular tissue that can lead to corneal ulceration and blindness.
- Skin	Severe burns and tissue ulcerations.
- Inhalation	Irritation and inflammation of the nose, throat and lungs. Cough. Dyspnoea. Spasms. Chest pain. Edema of the larynx and bronchi. Chemical pneumonitis. Can lead to death.
Acute toxicity (Ingestion)	Corrosion and ulceration of the mouth, throat, esophagus, stomach and abdominal wall.
Chronic exposure effects / symptoms	Dental enamel abrasion (erosion). To our knowledge, the chemical, physical and toxicological properties have not been fully investigated.
DL50 (specify species and route of entry)	LD50 Oral - Data not available. LD50 Dermal - Data not available.
CL50 (specify species and route of entry)	LC50 Inhalation - Rat - 4 h - 2.65mg/L. LC50 Inhalation - Mouse - 4 h - 67ppm.

POTASSIUM NITRATE

Routes of exposure	Ingestion, inhalation, skin and eye contact.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	Irritation. Tearing
- Skin	Irritation. Dermatitis.
- Inhalation	Irritation of the mucous membranes and respiratory tract. Nervous disorders. Chest pain. Cough. Dyspnoea. Headaches. Dizziness. Watery eyes. Fever. Nausea and vomiting.
Acute toxicity (Ingestion)	Irritation of the esophagus and digestive tract. Mucous membrane irritation. Gastrointestinal disorders. Cramps. Diarrhea. Headaches. Dizziness. Nausea and vomiting. Convulsions.
Chronic exposure effects / symptoms	Is recognized as probably carcinogenic agent for humans (class 2A IARC) - Group 2A. Cyanosis (blue to black coloring of the skin and nails). Burning sensation. Dermatitis. Nervous disorders. Kidney damage. Chest pain. Cough. Dyspnoea. Laryngitis. Headache. Dizziness. Tearing. Confusion. Irritability. Fatigue. Anemia. Methemoglobinemia (methemoglobin level too high in the blood). Nausea and vomiting.
DL50 (specify species and route of entry)	LD50 Oral - Rat - 2000mg/kg. LD50 Dermal - Rat - 5000mg/kg.
CL50 (specify species and route of entry)	LC50 Inhalation - Rat - 4 h - 527 mg/m³.

SECTION 12 - ECOLOGICAL INFORMATION

POTASSIUM REFERENCE SOLUTION 1000 PPM

Ecotoxicity	Data not available.
Persistence and degradability	Data not available.
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.

NITRIC ACID 68.0-70.0%

Ecotoxicity	Data not available.
Persistence and degradability	Data not available.
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.

POTASSIUM NITRATE

Ecotoxicity	Toxicity to fish: LC50 - <i>Gambusia affinis</i> (Mosquito fish) - 22.5 mg/l - 96 h. Static test - LC50 - <i>Poecilia reticulata</i> (guppy) - 378 mg/l - 96 h. Toxicity to daphnia and other aquatic invertebrates: EC0 - <i>Daphnia magna</i> (Water flea) - 226 mg/l - 72 h.
Persistence and degradability	Not applicable for inorganic substances.
Bioaccumulative potential	Data not available.
Mobility in soil	Probable mobility in the environment due to its solubility in water.
Other adverse effects	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life.

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	3264
UN Proper shipping name	LIQUIDE CORROSIF, ACIDE, INORGANIQUE, N.S.A. (acide nitrique)
Transport hazard class(es)	Matières corrosives 8
Packing group	III
Limited quantity index	5 L
ERAP Index	-
Special precautions	16

SECTION 15 - REGULATORY INFORMATION

WHIMIS CANADA

- Skin corrosion/irritation - Skin corrosion - category 1
- Serious eye damage/eye irritation - Eye irritation - category 1

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. National Library of Medicine)

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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