












255 Norman.
Lachine (Montreal), Que
H8R 1A3

Material Safety Data Sheet

EMERGENCY NUMBERS:

(USA) CHEMTREC : 1(800) 424-9300 (24hrs)
(CAN) CANUTEC : 1(613) 996-6666 (24hrs)
(USA) Anachemia : 1(518) 297-4444
(CAN) Anachemia : 1(514) 489-5711

WHMIS	Protective Clothing	TDG Road/Rail
WHMIS CLASS: E C D-1A		TDG CLASS: 8 PIN: UN2031 PG: II
  	    	

Section I. Product Identification and Uses

Product name	NITRIC ACID 60 - 70%	CI#	Not available.
Chemical formula	HNO ₃	CAS#	Not applicable.
Synonyms	Hydrogen nitrate, aqua fortis, azotic acid, AC-6525, AC-6525PG, AC-6525T, CD-6525, EG-6525, EP-6525, 62786, 62876, 62764, 62759, 62772, M-10831, M-11826	Code	AC-6525
Supplier	Anachemia Canada. 255 Norman. Lachine (Montreal), Que H8R 1A3	Formula weight	63.01
		Supersedes	
Material uses	For laboratory use only.		

Section II. Ingredients

Name	CAS #	%	TLV
1) NITRIC ACID	7697-37-2	60-70	Exposure limits: ACGIH TWA 2 ppm (5.2 mg/m ³); STEL 4 ppm (10 mg/m ³)
2) WATER	7732-18-5	Balance	Not established by ACGIH

Toxicity values of the hazardous ingredients

NITRIC ACID:
ORAL (LDLo): Acute: 430 mg/kg (Human).
UNREPORTED (LDLo): Acute: 110 mg/kg (Human).
INHALATION (LC50): Acute: 130 mg/m³ (Rat) (4 hour(s)).

Section III. Physical Data**NITRIC ACID 60 - 70%**

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Physical state and appearance / Odor	Clear, colorless to slightly yellow fuming aqueous solution. Pungent and suffocating acid odor.
pH (1% soln/water)	<7
Odor threshold	0.75 to 2.5 mg/m3 (Detection)
Percent volatile	100% (V/V)
Freezing point	-41 to -22°C
Boiling point	120 to 122°C
Specific gravity	1.3-1.5
Vapor density	2 -3 (Air = 1)
Vapor pressure	49-55 mm of Hg (@ 20°C)
Water/oil dist. coeff.	Not available.
Evaporation rate	<1
Solubility	Miscible in water.

Section IV. Fire and Explosion Data

Flash point	Not applicable.
Flammable limits	Not applicable.
Auto-ignition temperature	Not applicable.
Fire degradation products	Oxides of nitrogen (NO, NO ₂ , N ₂ O, N ₂ O ₃) plus nitric acid mist or vapor.
Fire extinguishing procedures	Use flooding quantities of water. Wear adequate personal protection to prevent contact with material or its combustion products. Self contained breathing apparatus with a full facepiece operated in a pressure demand or other positive pressure mode. Cool containing vessels with flooding quantities of water until well after fire is out.
Fire and Explosion Hazards	Powerful oxidizing agent; may ignite oxidizable materials. Contributes to combustion of other materials. Container explosion may occur under fire conditions or when heated. Contact with other material may cause fire and/or explosion. Flammable/explosive hydrogen gas may be formed upon contact of this product with metals. The sensitivity to static discharge is not available. The sensitivity to impact is not available. Emits toxic and corrosive fumes under fire conditions.

Section V. Toxicological Properties

Routes of entry	Ingestion and inhalation. Eye contact. Skin contact.
Effects of Acute Exposure	May be fatal by ingestion, inhalation, or by skin absorption. Corrosive to skin and eyes on contact. Possible risks of irreversible effects. Effects may be delayed. Target organs: eyes, skin, respiratory system, lungs, teeth. 25 ppm (NITRIC ACID) is immediately dangerous to life or health.
Eye	Causes severe burns and loss of vision. Eye contact can result in corneal damage or blindness. May cause permanent damage.
Skin	Causes severe burns, blisters and yellow skin discoloration.
Inhalation	Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract. Inhalation may be fatal as a result of spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, laryngitis, bronchitis, dyspnea, headache, nausea, and vomiting. May cause delayed lung injury.
Ingestion	Burns in mouth, pharynx and gastrointestinal tract. Risk of vomiting, nausea, diarrhea, abdominal pain, stomach perforation, convulsions, kidney damage, coma and death.

Section V. Toxicological Properties

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Effects of Chronic Overexposure

May cause erosion of the teeth, lesions of the skin, bronchial irritation, coughing, pneumonia and lung damage. Repeated or prolonged exposure to the substance can produce target organs damage. Carcinogenic effects: Not available. Mutagenic effects: Not available. Teratogenic effects: Not available. Toxicity of the product to the reproductive system: Not available. To the best of our knowledge, the chemical, physical, and toxicity of this substance has not been fully investigated.

Section VI. First Aid Measures

Eye contact

Immediate first aid is needed to prevent eye damage. Washing within 1 minute is essential to achieve maximum effectiveness. IMMEDIATELY flush eyes with copious quantities of water for at least 30 minutes holding lids apart to ensure flushing of the entire surface. Seek immediate medical attention. If irritation persists, repeat flushing.

Skin contact

Immediate first aid is needed to prevent skin damage. IMMEDIATELY flush skin with running water for at least 30 minutes. Remove contaminated clothing, protecting your own hands and body. Seek immediate medical attention. If irritation persists, repeat flushing. Do not transport victim unless the recommended flushing period is completed or flushing can be continued during transport. Wash contaminated clothing before reusing.

Inhalation

Remove patient to fresh air. Administer approved oxygen supply if breathing is difficult. Administer artificial respiration or CPR if breathing has ceased. Seek immediate medical attention.

Ingestion

If conscious, wash out mouth with water. Have conscious person drink several glasses of water or milk. DO NOT induce vomiting. Seek immediate medical attention. Never give anything by mouth to an unconscious or convulsing person. Guard against aspiration into lungs. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water.

Section VII. Reactivity Data

Stability

Stable. Conditions to avoid: High temperatures, sparks, open flames and all other sources of ignition, contamination.

Hazardous decomp. products

Various nitrogen oxides, including (NO, NO₂, N₂O₃, N₂O) all mixed with nitric acid mist and vapor.

Incompatibility

Reducing agents, combustible materials, wood, paper, cotton, and similar organic materials, organic chemicals, fluorine, phosphine, carbonates, diborane, hydrocarbons, dichromates. Reacts with most common metals to produce hydrogen. Bases, alkalis, aluminum, iron, copper, resins, sulfides, ammonia, amines, heat. Explosive reaction with alcohols, turpentine, hydrogen sulfide, metal powders, carbides, organic materials (acetone, acetic acid, methanol, formaldehyde, ether, etc.), non-metals (boron, phosphorus, carbon, etc.), hydrazine, acids, peroxides, silicides, phosphides, salicylates, non-metal oxides, thiols, nitrides, cyanates, ketones, interhalogens, boron phosphide, cyanides, acetylides, silver compounds, mercury(II) compounds, thiocyanates, ammonium nitrate, hexacyanoferrates, phosphorus compounds, zinc ethoxide, azides, alkali metals.

Reaction Products

Reacts with water to produce heat, and toxic, corrosive fumes of nitrogen oxides. Contact with other material may cause fire and/or explosion. Corrosive to metals. Hazardous polymerization will not occur. May discolor on exposure to light.

Section VIII. Preventive Measures

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Protective Clothing in case of spill and leak

Wear self-contained breathing apparatus, neoprene boots and neoprene gloves. Full suit.

Spill and leak

Evacuate and ventilate the area. Eliminate all sources of ignition. Cover with soda ash or lime. Adequate ventilation is required for soda ash due to release of carbon dioxide gas. Place in a suitable container and mark for disposal. Wash spill site after material pick up is complete. DO NOT empty into drains. DO NOT touch damaged container or spilled material. Avoid contact with a combustible material (wood, paper, oil, clothing...).

Waste disposal

According to all applicable regulations. Harmful to aquatic life at very low concentrations. Can be dangerous if allowed to enter drinking water intakes. Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers.

Storage and Handling

Store in a cool place away from heated areas, sparks, and flame. Store in a well ventilated area. Store away from incompatible materials. Do not add any other material to the container. Do not wash down the drain. Do not breathe gas/fumes/vapor/spray. In case of insufficient ventilation, wear suitable respiratory equipment. Keep away from direct sunlight or strong incandescent light. Keep container tightly closed and dry. Manipulate under an adequate fume hood. Store in stainless steel drums. Avoid contact with a combustible material (wood, paper, oil, clothing...). Empty containers may contain a hazardous residue. Handle and open container with care. Take off immediately all contaminated clothing. This product must be manipulated by qualified personnel. Do not get in eyes, on skin, or on clothing. Wash well after use. In accordance with good storage and handling practices. Do not allow smoking and food consumption while handling. In case of accident or if you feel unwell, seek medical advice immediately (show the label when possible.). Do not allow water to get inside container because of violent reaction. Do not store on wood floors. Keep at temperature not exceeding 30°C.

Section IX. Protective Measures

Protective clothing

Face shield and splash goggles. Impervious neoprene gloves, synthetic apron, coveralls, and/or other resistant protective clothing. Sufficient to protect skin. Have available and use as appropriate: neoprene suits and boots. A OSHA/MSHA jointly approved respirator is advised in the absence of proper environmental controls. If more than TLV, do not breathe vapor. Wear self-contained breathing apparatus. Do not wear contact lenses. Make eye bath and emergency shower available. Ensure that eyewash station and safety shower is proximal to the work-station location.

Engineering controls

Use in a chemical fume hood to keep airborne levels below recommended exposure limits. Ventilation should be corrosion proof. Do not use in unventilated spaces.

Section X. Other Information

Special Precautions or comments

Corrosive liquid! Powerful oxidizing agent; may ignite oxidizable materials. Highly toxic! Causes severe burns which may be delayed! Risk of serious damage to eyes. Possible risks of irreversible effects. Do not breathe vapor. Avoid all contact with the product. Avoid prolonged or repeated exposure. Use in a chemical fume hood. Contact with other material may cause fire and/or explosion. Reacts violently with water. When diluting, always add acid to water, not water to acid. Heat is generated by dilution. Handle and open container with care. Container should be opened only by a technically qualified person. Note to physician: Medical conditions that may be aggravated by exposure include asthma, bronchitis, emphysema, and other lung diseases and chronic nose, sinus, or throat conditions. In the event of skin or eye contact, rapid and thorough flushing is essential. RTECS NO: QU5775000 (Nitric acid).



NFPA

Prepared by MSDS Department/Département de F.S..

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