

1. Product and Company Identification

Product Name Nitric Acid 67% (Synonyms: Azotic acid, Hydrogen nitrate, Nitryl hydroxide, Nitral, Engraver's acid)

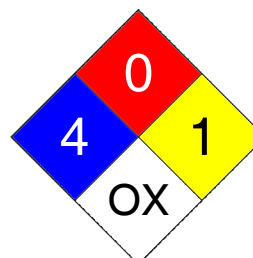
CAS # Mixture

Product Use Industrial applications

Distributor Benson Chemicals Ltd.
RR#1
Freelton
ON L0R1K0 CA
Phone: 1-800-265-0014
Emergency Services (24 hours / 7 days) 1-519-821-0215
Emergency Responder 1-800-567- 7455 Newalta Industrial SVC

LEGEND HMIS/NFPA	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

Health	/ 4
Flammability	0
Physical Hazard	1
Personal Protection	X



2. Hazards Identification

Emergency Overview DANGER -- CORROSIVE
Oxidizing material.

Potential short term health effects

Routes of exposure Eye, Skin contact, Inhalation, Ingestion.

Eyes Causes chemical burns. May cause blindness.

Skin Causes chemical burns.

Inhalation Harmful if inhaled. May cause respiratory tract irritation or chemical burns.

Ingestion Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.

Target organs Eyes. Respiratory system. Skin.

Chronic effects Prolonged or repeated exposure can cause drying, defatting and dermatitis.

Signs and symptoms Symptoms may include redness, oedema, drying, defatting and cracking of the skin. The product causes burns of eyes, skin and mucous membranes.

3. Composition/Information on Ingredients

Ingredient(s)	CAS #	Percent
Nitric Acid	7697-37-2	60 - 100

4. First Aid Measures

First aid procedures

Eye contact Immediately flush with cool water. Remove contact lenses, if applicable, and continue flushing for 20 minutes. Obtain medical attention immediately.

Skin contact Immediately flush with cool water for 20 minutes while removing contaminated clothing and shoes. Discard or wash well before reuse. Obtain medical attention if irritation persists.

Inhalation If symptoms develop, move victim to fresh air. If symptoms persist, obtain medical attention. If breathing has stopped, trained personnel should administer CPR immediately.

Ingestion Do not induce vomiting. Rinse mouth with water, then drink one or two glasses of water. Obtain medical attention. Never give anything by mouth if victim is unconscious, or is convulsing.

General advice

If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Wear impervious gloves and chemical splash goggles. Keep out of reach of children.

5. Fire-fighting Measures

Flammable properties

Not flammable by WHMIS criteria. Not flammable, but reacts with most metals to form flammable hydrogen gas. Oxidizing agent, may cause spontaneous ignition of combustible materials.

Extinguishing media**Suitable extinguishing media**

Use water on fires involving nitric acid to dilute and to absorb liberated oxides of nitrogen.

Unsuitable extinguishing media

Do not use dry chemical powders containing sodium bicarbonate, potassium bicarbonate, sodium carbonate, calcium carbonate, ammonium phosphate or ammonium sulfate. Nitric acid can react violently with these extinguishing agents.

Protection of firefighters**Specific hazards arising from the chemical**

Container may explode in heat of fire.

Protective equipment for firefighters

Firefighters should wear full protective clothing including self contained breathing apparatus.

Hazardous combustion products

May include and are not limited to: Oxides of nitrogen.

Explosion data**Sensitivity to mechanical impact**

Not available

Sensitivity to static discharge

Not available

6. Accidental Release Measures

Personal precautions

Keep unnecessary personnel away. Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak.

Methods for containment

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. Prevent entry into waterways, sewers, basements or confined areas.

Methods for cleaning up

Should not be released into the environment. Before attempting clean up, refer to hazard data given above. Small spills may be absorbed with non-reactive absorbent and placed in suitable, covered, labelled containers. Prevent large spills from entering sewers or waterways. Contact emergency services and supplier for advice. Never return spills in original containers for re-use.

7. Handling and Storage

Handling

Use good industrial hygiene practices in handling this material. Do not get this material in your eyes, on your skin, or on your clothing.

Storage

Keep out of reach of children. Keep away from heat, open flames or other sources of ignition. Store in a tightly closed container in a cool, dry, well ventilated and dark place away from incompatible materials.

8. Exposure Controls / Personal Protection

Exposure limit values**Ingredient(s)****Exposure limit values**

Nitric Acid

ACGIH-TLV

TWA: 2 ppm

STEL: 4 ppm

Engineering controls

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Personal protective equipment**Eye/Face protection**

Chemical splash goggles.

Hand protection	Impervious gloves. Confirm with reputable supplier first.
Skin and body protection	Use of an impervious apron is recommended.
Respiratory protection	If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice. When using do not eat or drink. Wash hands before breaks and immediately after handling the product.

9. Physical & Chemical Properties

Appearance	Liquid
Colour	white to light yellow
Form	Liquid
Odour	sweet/pungent
Odour threshold	Not available
Physical state	Liquid
pH	1.0, conc: 0.1M (solution)
Melting point	-42 °C (-43.60 °F)
Freezing point	-41 °C (-41.80 °F)
Boiling point	121.6 °C (250.88 °F)
Flash point	Not applicable
Evaporation Rate	Not available
Flammability limits in air, lower, % by volume	Not applicable
Flammability Limits in Air, Upper, % by Volume	Not applicable
Vapour pressure	56 hPa at 20 °C
Vapour density	2.17 (air = 1)
Specific gravity	1.51
Relative density	1.4134 g/cm ³ (@ 20°C)
Octanol/water coefficient	-2.3 at 25 °C
Solubility (H₂O)	Complete
Auto-ignition temperature	Not applicable
Molecular weight	63.02 g/mol
Molecular formula	H-O-N(O)=O

10. Chemical Stability & Reactivity Information

Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Do not mix with other chemicals.
Incompatible materials	Caustics. Reducing agents. Combustible materials. Reacts with soft metals producing flammable hydrogen gas.
Hazardous decomposition products	May include and are not limited to: Nitrogen oxides (NO _x). Toxic fumes.
Possibility of hazardous reactions	Hazardous polymerisation does not occur.

11. Toxicological Information

Component analysis - LC50

Ingredient(s)	LC50
Nitric Acid	7 mg/l/4h rat

Component analysis - Oral LD50

Ingredient(s)	LD50
Nitric Acid	Not available

Effects of acute exposure

Eye	Causes chemical burns. May cause blindness.
Skin	Causes chemical burns.

Inhalation	Harmful if inhaled. May cause respiratory tract irritation or chemical burns.
Ingestion	Harmful if swallowed. May cause chemical burns to mouth, throat and stomach.
Sensitisation	Non-hazardous by WHMIS criteria.
Chronic effects	Non-hazardous by WHMIS criteria.
Carcinogenicity	Non-hazardous by WHMIS criteria.
Mutagenicity	Non-hazardous by WHMIS criteria.
Reproductive effects	Non-hazardous by WHMIS criteria.
Teratogenicity	Non-hazardous by WHMIS criteria.

12. Ecological Information

Ecotoxicity	Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems.
Environmental effects	Harmful to aquatic life.
Aquatic toxicity	Not available
Persistence and degradability	Not available
Bioaccumulation/accumulation	Not available
Partition coefficient	-2.3 at 25 °C
Mobility in environmental media	Not available
Chemical fate information	Not available
Other adverse effects	Not available

13. Disposal Considerations

Waste codes	Not available
Disposal instructions	Review federal, provincial, and local government requirements prior to disposal.
Waste from residues / unused products	Not available
Contaminated packaging	Not available

14. Transport Information

Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:

Proper shipping name	NITRIC ACID, other than red fuming, with not more than 70 per cent nitric acid
Hazard class	8
UN number	UN2031
Packing group	II



15. Regulatory Information

Canadian federal regulations This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Canada - WHMIS - Ingredient Disclosure List

Nitric Acid 7697-37-2 1 %

WHMIS classification Class C - Oxidizing Material, Class E - Corrosive Material
WHMIS status Controlled

WHMIS labeling



Inventory Status

Country(s) or region	Inventory Name	On Inventory (Yes/No)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other Information

Disclaimer

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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Prepared by

Dell Tech Laboratories Ltd. (519) 858-5021