


Safety Data Sheet

Section 1. Identification	
Product Identifier	Nitric Acid
	Version: 5 Effective Date: 11 July, 2017
Other Means Of Identification	Azotic acid; Engraver's acid; Aqua fortis, Nitric Acid 42 BE
Initial Supplier Identifier	Chemfax Products Ltd. 11444 – 42 Street SE Calgary, AB T2C 5C4 Tel: 403-287-2055
Recommended Use and Restrictions On Use	Industrial acid, chemical intermediate, metal treatment. No restrictions.
Product Family	Inorganic acid
24 Hour Emergency	Canutec (613) 996-6666

Section 2. Hazard Identification	
Hazard Classification	
Physical Hazards	Oxidizing Liquids – Category 2 Corrosive to Metals – Category 1
Health Hazards	Skin Corrosion/Irritation – Category 1A Eye Damage/Irritation – Category 1 Specific Target Organ Toxicity, (Single Exposure) – Category 3
Signal Word	Danger
Hazard Statement	May intensify fire; oxidizer. May be corrosive to metals. Causes sever skin burns and serious eye damage. May cause respiratory irritation, may cause drowsiness or dizziness.
Precautionary Prevention Statement	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from clothing and other combustible materials. Wear protective gloves, clothing, eye and face protection. Keep in original packaging only. Do not inhale dust or mist. Wash hands thoroughly after handling. Use only outdoors, or in a well-ventilated area.
Precautionary Response Statement	Absorb spillage to prevent material-damage. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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	<p>IF ON SKIN (or hair): Immediately remove all contaminated clothing. Rinse skin with water or shower if on clothing. Wash contaminated clothing before reuse.</p> <p>IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a doctor.</p> <p>Specific treatment: Treat symptomatically. Do not induce vomiting unless directed by medical personnel.</p> <p>IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a doctor.</p>
Precautionary Storage Statement	Store in a corrosion resistant container with a resistant inner liner. Store locked up. Store in a well-ventilated place. Keep container tightly closed.
Precautionary Disposal Statement	Dispose of contents/container in accordance with local regulations.
Other Hazards	None

Section 3. Composition / Information on Ingredients

Chemical Name	Common Name or Synonyms	CAS NO. and Other Unique Identifiers	% by weight
Nitric Acid	Azotic acid	7697-37-2	70

Section 4. First-Aid Measures

Eye Contact	Flush eyes with water for 30 minutes until no chemical remains. Seek immediate medical attention.
Skin Contact	Flush area with water. If irritation persists, seek medical attention. Launder clothing before reuse.
Inhalation	Remove victim to fresh air. If there is difficulty breathing, seek immediate medical attention.
Ingestion	Rinse mouth with water. Do not induce vomiting. Lay victim on left side to prevent aspiration of any vomit. Seek immediate medical attention.
Most Important Symptoms and Effects Both Acute and Delayed	Causes burns by all exposure routes. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or oesophagus should be investigated.

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Immediate Medical Attention and Special Treatment	Treat symptomatically.
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Section 5. Fire-Fighting Measures	
Suitable and Unsuitable Extinguishing Media	Use DRY chemicals, CO ₂ , alcohol foam or water spray.
Hazardous Combustion Products	Oxides of nitrogen. NOTE: Oxidiser. Containers should be cooled with water spray to prevent rupture due to pressure build up. Reacts with metals to generate flammable hydrogen gas. Slightly flammable in the presence of reducing agents, combustible materials and organic materials.
Specific Hazards Arising From the Product	Thermal decomposition can lead to release of irritating gases and vapours. NThe product causes burns of eyes, skin and mucous membranes. Oxidizer: Contact with combustible/organic material may cause fire. May ignite combustibles (wood paper, oil, clothing, etc.).
Special Protective Equipment and Precautions For Fire-Fighters	Fire-fighters should wear self-contained breathing apparatus and full protective clothing. Use water spray to cool containers and structures exposed to fire.

Section 6. Accidental Release Measures	
Personal Precautions, Protective Equipment and Emergency Procedures	Chemical resistant (rubber, neoprene) gloves, coveralls, footwear and safety glasses. Isolate area and evacuate unnecessary personnel. Ensure adequate ventilation.
Environmental Precautions	Do not allow material to enter surface drains and water courses
Methods and Materials For Containment and Clean-Up	Isolate spill, stop leak if safe to do so. Evacuate area. Contain spill with sand or other inert material. Neutralize with lime slurry, limestone or soda ash. Pick up solids and place in an appropriate container for disposal. Flush area with water to remove trace residues.

Section 7. Handling and Storage	
Precautions For Safe Handling	Corrosive and oxidizing material – handle with care. Empty containers may contain hazardous residues.
Conditions For Safe Storage	Store in a cool, dry, well ventilated place. Store away from incompatible materials. Will corrode metals and many plastic materials. 304 or 347 stainless steel are acceptable materials. Tanks should be

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vented and painted in a white or light, heat-reflecting colour. Gaskets should be Teflon, all pumps, valves, meters, etc., should be of compatible material. Containers should have secondary containment.

Section 8. Exposure Controls / Personal Protection				
Control Parameters	TWA: 8 Hr	STEL: 15 min	Ceiling	IDLH *
Nitric Acid	2 ppm OSHA	4 ppm OSHA		25 ppm
* Immediately Dangerous to Life and Health				
Exposure Controls	Local exhaust ventilation			
Appropriate Engineering Controls	Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.			
Individual Protective Measures	If exposure limits are exceeded:			
Eye / Face Protection	Safety glasses			
Skin Protection	Chemical resistant (neoprene) gloves, coveralls and footwear			
Respiratory Protection	An air purifying respirator fitted with acid gas cartridges must be worn. NOTE: cartridges with charcoal must not be used as oxidizing agents will react with the charcoal.			

Section 9. Physical and Chemical Properties	
Appearance	Brownish / yellow liquid
Odour	Pungent antiseptic odour
Odour Threshold	Not available.
pH	<1
Flash Point	> 100 °C
Boiling Point and Boiling Range	121 °C
Melting Point and Freezing Point	-20 °C
Evaporation Rate	<1
Flammability (solid, gas)	Not applicable
Upper and Lower Flammability or Explosive Limits	No data
Vapour Pressure	6.9 mmHg @ 20 °C
Vapour Density	2.2
Relative Density	1.41
Solubility	Miscible

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Partition co-efficient, n-Octanol/Water	No data
Auto-ignition Temperature	No data
Decomposition Temperature	No data
Viscosity	No data

Section 10. Stability and Reactivity	
Reactivity	Oxidizer: Contact with combustible/organic material may cause fire.
Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur
Conditions to Avoid	None know
Incompatible Materials	Alkalis, reducing agents, combustible materials, metals, organic materials, acids, and moisture. NOTE: Corrosive to mild metals such as copper, aluminium, brass, iron and mild steel. Not corrosive to 304L or 316 stainless steel. Will release flammable and potentially explosive hydrogen gas on contact with amphoteric metals.
Hazardous Decomposition Products	Oxides of Nitrogen.

Section 11. Toxicological Information			
Component Toxicity	LD50 Oral	LD50 Dermal	LC50 Inhalation
Nitric Acid	-	-	7 mg/L, 1h (Rat)
Likely Routes of Exposure			
Skin:	Concentrated nitric acid chars the tissue with a characteristic yellow colour. Causes severe burns. Severe and fatal skin burns can occur with necrosis and scarring.		
Eyes:	May cause severe burns and tissue damage leading to blindness.		
Inhalation:	Causes severe respiratory irritation. Exposure can cause coughing, chest pains and difficulty breathing. Vapours may cause pulmonary oedema. Death due to breathing failure may occur immediately or be delayed depending on the severity of the exposure.		
Ingestion:	May cause severe pain in the mouth, chest and abdomen, leading to coughing, vomiting and collapse. Ingestion may cause gastritis possibly progressing to necrosis or haemorrhage.		
Acute Toxicity Estimates (ATE)	Oral: ATE > 2000 mg/kg. Dermal: ATE > 2000 mg/kg. Vapor: ATE > 20 mg/l.		



Manufacturer of Specialty Chemicals

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STOT (Specific Target Organ Toxicity) – Single Exposure	Not classified
Aspiration Toxicity	Causes severe burns
STOT (Specific Target Organ Toxicity) – Repeated Exposure	Not classified
Skin Corrosion / Irritation	Causes severe burns
Serious Eye Damage / Irritation	Causes severe burns
Respiratory or Skin Sensitization	Not classified
Carcinogenicity	Not listed.
Reproductive Toxicity	
- Sexual Function and Fertility	Not classified
- Development of Offspring	Not classified
- Effects on or via Lactation	Not classified
Germ Cell Mutagenicity	Not classified
Interactive Effects	Not classified
Other Information	None known

Section 12. Ecological Information

Ecotoxicity	LC50: 72 mg/L (Gambusia affinis) 96 hr
Persistence and Degradability	Will not persist
Bioaccumulative Potential	Not available
Biodegradability	Not available
Mobility in Soil	Not available
Special Remarks	Toxic to aquatic life.
Other Adverse Effects	None known

Section 13. Disposal Considerations

Disposal Considerations	Dispose of contents / container in accordance with local regulations.
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Section 14. Transport Information	
UN Number	2031
UN Proper Shipping Name	Nitric Acid
Transport Hazard Class(es)	8
Packaging Group	II
Environmental Hazards	Not applicable
Bulk Transport	Not applicable
Special Precaution	Not applicable
DOT Erg#	157
Limited quantity	1L

Section 15. Regulatory Information	
Canada – DSL Inventory	All components of this product are either on the Domestic Substances List (DSL), Non-Domestic Substances List (NDSL), or exempt
TSCA	All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt
Additional Information	None

Section 16. Other Information	
NFPA Rating	Health-3/ Flammability-0/Reactivity-1/Special Hazard-Not applicable
HMIS Rating	Health-3/Flammability-0/Reactivity-1/Personal Protection-See Section 8.
Prepared by:	Chemfax Products Ltd., Technical Department
Date Prepared:	28 September, 2012
Date of Latest Revision:	11 July, 2017
Disclaimer	
Notice to reader	
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