Safety Data Sheet

SECTION 1 – IDENTIFICATION

Name, Address, and Telephone of the Responsible Party

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SDS #: 1023
Date: 05/15/2015
Supersedes: 02/27/2015

Product Identifier
Product Form: Mixture
Product Name: Nitric Acid

Other Means of Identification
Synonyms:
53%-68% Nitric Acid
HNO_3

Intended Use of the Product
For professional use only.

Emergency Telephone Number
FOR 24 HOUR EMERGENCY, CALL CHEMTREC (USA) 800-424-9300
CANUTEC (CANADA) 613-996-6666

SECTION 2 – HAZARD(S) IDENTIFICATION

Classification of the Substance or Mixture
Classification (GHS-US)

Ox. Liq. 3	H272
Met. Corr. 1	H290
Skin Corr. 1A	H314
Eye Dam. 1	H318

Label Elements
GHS-US Labeling
Hazard Pictograms (GHS-US) :


GHS03 GHS05

Signal Word (GHS-US) : Danger
Hazard Statements (GHS-US) : H272 - May intensify fire; oxidizer.
H290 - May be corrosive to metals.
H314 - Causes severe skin burns and eye damage.
H318 - Causes serious eye damage.
Precautionary Statements (GHS-US) : P210 - Keep away from heat, sparks, open flames, hot surfaces. - No smoking.
P220 - Keep/Store away from extremely high or low temperatures, ignition sources, combustible materials, incompatible materials.
P221 - Take any precaution to avoid mixing with incompatible materials, ignition sources, combustible materials.
P234 - Keep only in original container.
P260 - Do not breathe vapors, mist, spray.
P264 - Wash hands, forearms, and other exposed areas thoroughly after handling.
P280 - Wear protective gloves, protective clothing, eye protection, face protection, respiratory protection.
P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce

vomiting.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - IF INHALED: Remove person 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.
P321 - Specific treatment (see section 4 on this SDS).
P363 - Wash contaminated clothing before reuse.
P370+P378 - In case of fire: Use appropriate media to extinguish.
P390 - Absorb spillage to prevent material damage.
P405 - Store locked up.
P406 - Store in corrosive resistant container with a resistant inner liner.
P501 - Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Name	Product identifier	% (w/w)	Ingredient Classification (GHS-US)
Nitric acid	(CAS No) 7697-37-2	53 - 68	Ox. Liq. 3, H272 Met. Corr. 1, H290 Skin Corr. 1A, H314 Eye Dam. 1, H318

Ingredients, other than those mentioned above, as used in this product are not hazardous as defined under current Department of Labor regulations, or are present in de minimus concentrations (less than 0.1% for carcinogens, less than 1.0% for other hazardous materials).
Full text of H-phrases: see section 16

SECTION 4 - FIRST AID MEASURES

Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. If exposure to Nitric Acid vapor occurs, medical observation should continue for 24 - 48 hours after exposure. Delayed reactions may cause pulmonary edema.

Skin Contact: Remove contaminated clothing. Immediately flush skin with plenty of water for at least 60 minutes. Immediately call a POISON CENTER or doctor.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 60 minutes. Immediately call a POISON CENTER or doctor/physician.

Ingestion: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

Most Important Symptoms and Effects Both Acute and Delayed

General: Causes severe skin burns and eye damage. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed.

Inhalation: Inhalation may cause immediate severe irritation progressing quickly to chemical burns. May cause pulmonary edema.

Skin Contact: Causes severe irritation which will progress to chemical burns. May be absorbed causing redness, pain, yellow staining.

Eye Contact: Causes serious eye damage. Causes permanent damage to the cornea, iris, or conjunctiva.

Ingestion: Contact may cause immediate severe irritation progressing quickly to chemical burns. Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: May cause erosion of the teeth, or chronic bronchitis.
Indication of Any Immediate Medical Attention and Special Treatment Needed
If exposed or concerned, get medical advice and attention.

SECTION 5 - FIRE-FIGHTING MEASURES

Extinguishing Media
Suitable Extinguishing Media: Dry powder, alcohol-resistant foam, water in large amounts, carbon dioxide (CO_2).
Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.
Special Hazards Arising From the Substance or Mixture
Fire Hazard: May intensify fire; oxidizer. Will burn if exposed to heat, and in addition, will accelerate the burning of other combustibles, resulting in more rapid spread of fire.
Explosion Hazard: Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.
Reactivity: Can react explosively with reducing agents, metal powders, hydrogen sulfide, nitrate, and organic materials. Exothermic reaction on contact with water.
Advice for Firefighters
Precautionary Measures Fire: Exercise caution when fighting any chemical fire.
Firefighting Instructions: Fight fire remotely due to the risk of explosion. Use water spray or fog for cooling exposed containers. Apply water from as far away as possible and avoid directing water into the acid. Do not allow run-off from firefighting to enter drains or water courses. Do not breathe fumes from fires or vapors from decomposition.
Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.
Hazardous Combustion Products: Nitrogen oxides. Acrid vapors.
Reference to Other Sections: Refer to section 9 for flammability properties.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
General Measures: DO NOT breathe (vapor, mist, spray, gas). Stay upwind of any liquid or vapors. Avoid all contact with skin, eyes, or clothing. Keep away from heat, sparks, open flames, hot surfaces. No smoking.

For Non-Emergency Personnel
Protective Equipment: Use appropriate personal protection equipment (PPE).
Emergency Procedures: Evacuate unnecessary personnel.

For Emergency Personnel
Protective Equipment: Equip cleanup crew with proper protection.
Emergency Procedures: Evacuate unnecessary personnel. Eliminate ignition sources. Stop leak if safe to do so. Ventilate area.

Environmental Precautions
Prevent entry to sewers and public waters.

Methods and Material for Containment and Cleaning Up
For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Cautiously neutralize spilled liquid.
Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Cautiously neutralize spilled liquid. Use water spray to disperse vapors. Do not spray water into acid. Take up large spills with pump or vacuum. Absorb and/or contain small spills with inert material, then place in suitable container. Do not absorb with combustible material such as saw dust or cellulosic material. Contact competent authorities after a spill.

Reference to Other Sections
See heading 8, Exposure Controls and Personal Protection

SECTION 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Additional Hazards When Processed: May be corrosive to metals. When heated to decomposition, emits toxic fumes.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product. Wash hands and forearms thoroughly after handling.

Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in a dry, cool and well-ventilated place. Store in original container or corrosive resistant and/or lined container. Keep container closed when not in use. Keep/Store away from extremely high or low temperatures, direct sunlight, heat, ignition sources, combustible materials, incompatible materials. Storage areas should be periodically checked for corrosion and integrity. Avoid exposure to sunlight, which promotes oxide formation.

Incompatible Materials: Strong acids. Strong bases. Strong oxidizers. Finely divided metals. Hydrogen sulfide. Reducing agents. Organic chemicals. Sunlight.

Specific End Use(s) For professional use only.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), or OSHA (PEL).

Nitric acid (7697-37-2)

USA ACGIH	ACGIH TWA (ppm)	2 ppm
USA ACGIH	ACGIH STEL (ppm)	4 ppm
USA OSHA	OSHA PEL (TWA) (mg/m³)	5 mg/m³
USA OSHA	OSHA PEL (TWA) (ppm)	2 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m³)	5 mg/m³
USA NIOSH	NIOSH REL (TWA) (ppm)	2 ppm
USA NIOSH	NIOSH REL (STEL) (mg/m³)	10 mg/m³
USA NIOSH	NIOSH REL (STEL) (ppm)	4 ppm
USA IDLH	US IDLH (ppm)	25 ppm

Exposure Controls

Appropriate Engineering Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Gas detectors should be used when toxic gases may be released. Use explosion-proof equipment. Ensure all national/local regulations are observed.

Personal Protective Equipment: Gloves. Protective goggles. Protective clothing. Insufficient ventilation: wear respiratory protection.

Materials for Protective Clothing: Acid resistant materials and fabrics.

Hand Protection: Wear acid resistant protective gloves. Neoprene or PVC gloves are required.

Eye Protection: Acid proof goggles and face shield should be required where acid is transferred, sampled, or where persons are otherwise potentially exposed. Eye baths should be provided when direct contact is possible.

Skin and Body Protection: Wear suitable protective clothing. Where spill or splash potential exists, rubberized aprons or acid resistant suits are strongly recommended.

Respiratory Protection: For concentrations above the exposure limits, use full face supplied air respirator approved by NIOSH for nitric acid or nitrogen oxide gases or mists. **Chemical cartridge or canister respirators are not suitable for nitric acid or nitrogen oxide use.**

Other Information: Avoid hydrocarbon lubricants and packing materials. Corrosion-resistant materials, such as stainless steel, must be used.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	:	Liquid
Appearance	:	Clear to yellowish/brown fuming liquid
Odor	:	Pungent, acrid odor
Odor Threshold	:	Not available
pH	:	Not available
Evaporation Rate	:	Not available
Melting Point	:	-20 - -40 °C (-4.0 - -40.0 °F)
Freezing Point	:	Not available
Boiling Point	:	117 - 121 °C (242.6 - 249.8 °F)
Flash Point	:	Not available
Auto-ignition Temperature	:	Not available
Decomposition Temperature	:	Not available
Flammability (solid, gas)	:	Not available
Lower Flammable Limit	:	Not available
Upper Flammable Limit	:	Not available
Vapor Pressure	:	5.6 - 7 mm Hg at 20°C
Relative Vapor Density at 20 °C	:	2.2
Relative Density	:	Not available
Specific gravity / density	:	1.33 - 1.41 g/cm³ (at 20 °C)
Specific Gravity	:	Not available
Solubility	:	Complete
Partition Coefficient: N-Octanol/Water	:	Not available
Viscosity	:	Not available
Explosion Data – Sensitivity to Mechanical Impact	:	Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge	:	Not expected to present an explosion hazard due to static discharge.

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: Can react explosively with reducing agents, metal powders, hydrogen sulfide, nitrate, and organic materials. Exothermic reaction on contact with water.

Chemical Stability: May intensify fire; oxidizer.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Direct sunlight. Extremely high or low temperatures. Heat. Sparks. Overheating. Open flame. Incompatible materials. Adding water to acid should be avoided.

Incompatible Materials: Strong acids. Strong bases. Strong oxidizers. Metals. May be corrosive to metals. Reducing agents. Amines. Organic chemicals. Powdered metals.

Hazardous Decomposition Products: Thermal decomposition generates : Corrosive vapors. Nitrogen oxides.

SECTION 11 - TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity: Not classified

LD50 and LC50 Data: No data available

Skin Corrosion/Irritation: Causes severe skin burns and eye damage.

Serious Eye Damage/Irritation: Causes serious eye damage.

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified
Teratogenicity: Not classified
Carcinogenicity: Not classified
Specific Target Organ Toxicity (Repeated Exposure): Not classified
Reproductive Toxicity: Not classified
Specific Target Organ Toxicity (Single Exposure): Not classified
Aspiration Hazard: Not classified
Symptoms/Injuries After Inhalation: Inhalation may cause immediate severe irritation progressing quickly to chemical burns. May cause pulmonary edema.
Symptoms/Injuries After Skin Contact: Causes severe irritation which will progress to chemical burns. May be absorbed causing redness, pain, yellow staining.
Symptoms/Injuries After Eye Contact: Causes serious eye damage. Causes permanent damage to the cornea, iris, or conjunctiva.
Symptoms/Injuries After Ingestion: Contact may cause immediate severe irritation progressing quickly to chemical burns. Ingestion is likely to be harmful or have adverse effects.
Chronic Symptoms: May cause erosion of the teeth, or chronic bronchitis.

Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Nitric acid (7697-37-2)	
LC50 Inhalation Rat	67 ppm/4h
ATE US (dust, mist)	130.00 mg/l/4h

SECTION 12: ECOLOGICAL INFORMATION

Toxicity Not classified
Persistence and Degradability

Nitric Acid	
Persistence and Degradability	Not established.

Bioaccumulative Potential

Nitric Acid	
Bioaccumulative Potential	Not established.
Nitric acid (7697-37-2)	
Log Pow	-2.3 (at 25 °C)

Mobility in Soil Not available
Other Adverse Effects
Other Information: Avoid release to the environment.

SECTION 13 - DISPOSAL CONSIDERATIONS

Sewage Disposal Recommendations: Do not dispose of waste into sewer.
Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

SECTION 14 - TRANSPORT INFORMATION

In Accordance with DOT

Proper Shipping Name : NITRIC ACID other than red fuming, with at least 65 percent, but not more than 70 percent nitric acid
Hazard Class : 8
Identification Number : UN2031
Label Codes : 8,5.1

Packing Group : II
ERG Number : 157
In Accordance with IMDG

Proper Shipping Name	:	NITRIC ACIDother than red fuming, with at least 65 percent, but not more than 70 percent nitric acid
Hazard Class	:	8
Identification Number	:	UN2031
Packing Group	:	II
Label Codes	:	8,5.1
EmS-No. (Fire)	:	F-A
EmS-No. (Spillage)	:	S-Q

In Accordance with IATA

Proper Shipping Name	:	NITRIC ACID other than red fuming, with at least 65 percent, but not more than 70 percent nitric acid
Packing Group	:	II
Identification Number	:	UN2031
Hazard Class	:	8
Label Codes	:	8,5.1
ERG Code (IATA)	:	8L

In Accordance with TDG

Proper Shipping Name	:	NITRIC ACID other than red fuming, with at least 65 percent, but not more than 70 percent nitric acid
Packing Group	:	II
Hazard Class	:	8
Identification Number	:	UN2031
Label Codes	:	8

SECTION 15 - REGULATORY INFORMATION

US Federal Regulations

Nitric Acid	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Reactive hazard

Nitric acid (7697-37-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on the United States SARA Section 302 Listed on United States SARA Section 313	
SARA Section 302 Threshold Planning Quantity (TPQ)	1000
SARA Section 313 - Emission Reporting	1.0 %

US State Regulations

Nitric acid (7697-37-2)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List

Canadian Regulations

WHMIS Classification	Class C - Oxidizing Material Class E - Corrosive Material Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Nitric acid (7697-37-2)	
Listed on the Canadian DSL (Domestic Substances List) Listed on the Canadian IDL (Ingredient Disclosure List)	
IDL Concentration 1 %	
WHMIS Classification	Class C - Oxidizing Material Class E - Corrosive Material Class D Division 2 Subdivision B - Toxic material causing other toxic effects
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.	

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 05/15/2015

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

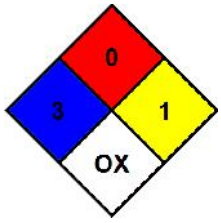
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Met. Corr. 1	Corrosive to metals Category 1
Ox. Liq. 3	Oxidizing liquids Category 3
Skin Corr. 1A	Skin corrosion/irritation Category 1A
H272	May intensify fire; oxidizer
H290	May be corrosive to metals
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage

NFPA Health Hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

NFPA Fire Hazard : 0 - Materials that will not burn.

NFPA Reactivity : 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.

NFPA Specific Hazard : OX - This denotes an oxidizer, a chemical which can greatly increase the rate of combustion/fire.



Party Responsible for the Preparation of This Document

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