

PRODUCT SAFETY DATA SHEET

GHS COMPLIANT

Nitric Acid, 70.0% Tech Liq

Section 1 – Product and Company Information

GHS Product Identification

Product Name: Nitric Acid, 70.0% Tech Liq

Other Identification Information

CAS Number: 7697-37-2

Florida Chemical ID: 2AC007T700L.055

Chemical Formula: HNO₃

Synonyms: Aqua Fortis; Hydrogen Nitrate

Recommended Use and Restrictions on Use

Description and Uses: Industrial Applications

Supplier Information

Company Name/Address: Florida Chemical Supply, Inc
6810 East Chelsea Street
Tampa, FL 33610

Phone (Non Emergency) 813.623.1274

Emergency Phone Number

24 Hour Emergency Phone: 800.255.3924 (Chemtel)



Section 2 – Hazard Information

Classification of the Substance or Mixture

Oxidizing Liquid 2
Corrosive to Metals
Corrosive to Skin 1A
Corrosive to Eyes 1
Acute Toxicity - Oral 1
Acute Toxicity - Dermal 4
Acute Toxicity - Inhalation 4
Aspiration 1

GHS Label Elements

GHS Pictogram:



Signal Word:

DANGER

Hazard Statements:

H272: May intensify fire; oxidizer
H290: May be corrosive to metals
H300: Fatal if swallowed
H304: May be fatal if swallowed and enters airways
H312: Harmful in contact with skin
H314: Causes severe skin burns and eye damage
H332: Harmful if inhaled

Precautionary Statements: P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P220: Keep away from clothing and other combustible materials.
P221: Take any precaution to avoid mixing with combustibles
P280: Wear protective gloves/protective clothing/eye protection/face protection
P370+378: In case of fire: Use waer fog, dry foam or Carbon Dioxide for extinction

SAFETY DATA SHEET

Nitric Acid, 70.0% Tech Liq

Other Hazards Not Resulting In Classification

HMIS:

Health	3
Flammability	0
Reactivity	0
Personal Protection	X

Special Medical Response:

Section 3 – Hazardous Composition

Component	CAS #	Wt. %
Nitric Acid	7697-37-2	>=70%

Section 4 – First Aid Information

Necessary First Aid Measures

Skin Exposure: Promptly flush with plenty of soap and water for at least 15 minutes. Remove contaminated clothing. Wash clothing before reuse. GET PROMPT MEDICAL ATTENTION.

Eye Exposure: Wash eyes immediately with large amounts of water, for at least 30 minutes, lifting the lower and upper lids. Contact lenses should not be worn when working with this material. Do not allow victim to rub or keep eyes closed. GET PROMPT MEDICAL ATTENTION.

Inhalation Exposure: If inhaled, will cause difficult breathing or loss of consciousness. move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult give oxygen. GET PROMPT MEDICAL ATTENTION.

Ingestion: DO NOT INDUCE VOMITING. Drink large amounts of water to dilute acid. GET PROMPT MEDICAL ATTENTION.

Most Important Symptoms Acute and Delayed

Acute Effects: **Ingestion:** Can cause irritation and severe corrosive burns to mouth, throat, and stomach, and may be fatal if swallowed.



SAFETY DATA SHEET

Nitric Acid, 70.0% Tech Liq

Inhalation: Gases or acid mist can cause severe irritation or corrosive burns to the upper respiratory system, including nose, mouth, and throat. Lung irritation, nitrogen oxide poisoning, and pulmonary edema can also occur. May cause severe breathing difficulties which may be delayed in onset. **Skin:** Can cause severe corrosive burns or irritation. May stain the skin bright yellow. **Eyes:** Can cause irritation, corneal burns, conjunctivitis, and may cause blindness. Contact lenses should not be worn when working with this material.

Delayed Effects: Long-term exposure to concentrated vapors may cause erosion of teeth and lung damage. Long-term exposures seldom occur due to the corrosive properties of the acid.

Immediate Medical Attention or Special Treatment Requirements

NOTE TO PHYSICIAN: Nitric Acid vapors contain nitrogen oxides. Acute overexposure by inhalation can result in delayed pulmonary edema. Observe affected patients for delayed effects up to 48 hours after exposure. Screen patients with chest x-ray, arterial blood gas, methemoglobinemia level, and pulmonary function tests. Bronchiolitis obliterans may develop weeks after exposure.

SECTION 5 – Firefighting Precautions

Suitable Extinguishing Media:

Use water in flooding quantities as fog on adjacent fires. Water spray may be useful in minimizing or dispersing vapors and cooling equipment exposed to heat and flame.

Specific Fire Hazards Arising from the Chemical:

Will accelerate the burning of combustible materials and can cause ignition by contact with combustible materials. Contact with common materials may generate hydrogen gas, which can form flammable mixtures with air.

Special Protective Measures for Firefighters

PPE for Firefighter: Suitable to surrounding fire, including self contained breathing apparatus.



SAFETY DATA SHEET

Nitric Acid, 70.0% Tech Liq

- Personal Precautions:** See Section 8 for personal protection requirements.
- PPE Requirements:** Suitable to surrounding fire, including self contained breathing apparatus.
- Precautionary Measures:** Remove all containers from vicinity of fire if safe to do so. Product is an oxidizer and will intensify fire.

SECTION 6 – Accidental Release Measures

For Non-Emergency Personnel

All untrained, non-essential, and non-responding personnel should be evacuated from the immediate area of the spill without delay. If Personal Protective Equipment is necessary to achieve evacuation safely, see Section 8 for requirements.

For Emergency / Response Personnel

- Protective Equipment:** See Section 8 for personal protection requirements.
- Environmental Precautions:** Do not allow product to discharge into waterways, public sewers, or other water sources.

Methods and Materials for Cleanup

Stay upwind and away from spill. Spills may need to be reported to the National Response Center (800.424.8802) Build dikes using inert material (dry sand or earth) to contain flow as necessary. Dilute spills or leaks with plenty of water. Neutralize residue with sodium bicarbonate, then place into a chemical waste container. A vapor suppressing foam may be used to reduce vapors. Be sure to provide adequate ventilation to spill area to eliminate any nitrogen oxides released and, if soda ash or limestone is used, build up of carbon dioxide.

SECTION 7 – Handling and Storage

Precautions for Safe Handling

Avoid inhalation of vapors or mists and all bodily contact. Keep away from incompatible substances. When diluting, the acid should always be added slowly to water and in small amounts. Never use hot water and never add water to the acid. Water added to acid can cause uncontrolled boiling and splashing. Do



SAFETY DATA SHEET

Nitric Acid, 70.0% Tech Liq

not get in eyes, on skin, or on clothing. Remove contaminated clothing and wash before reuse. Facilities for quick drenching of the body, in addition to an eye-wash fountain, should be provided within the immediate work area for emergency use. Employees who handle nitric acid should wash their hands before eating, smoking, or using toilet facilities. Do NOT place food, coffee or other drinks in the area where dusting or splashing of solutions is possible. Ventilation sufficient to reduce mists and nitrogen oxide concentrations below permissible TLV levels. Mechanical exhaust systems or closed ventilated systems may be required. Always keep the nitric acid vapor concentration levels below 2 ppm (5 mg/m³).

Conditions for Safe Storage, Including Incompatibilities

Storage: Store in a cool, well-ventilated, properly drained area out of the sun. Avoid storage on wood floors or near wooden walls, etc. Diking of storage tanks is recommended. Protect from physical damage. Keep containers tightly closed.

Incompatible Materials: See section 10 below.

Incompatible Conditions: See section 10 below

SECTION 8 – Exposure Controls and Personal Protection

Control Parameters

Exposure Limits:

ACGIH TLV: 2 ppm (2 mg/l)

OSHA PEL: 2 ppm (2 mg/l)

STEL: 4 ppm (4 mg/l)

Appropriate Engineering Controls

Safety chemical shower and emergency eyewash nearby to all points of use. Effective ventilation in all areas where product is used or stored to prevent buildup of vapors

Individual Protection Measures

Gloves: Chemical / acid resistant, with full arm/sleeve protection. Seek advice from glove manufacturer for the most appropriate type and materials.



SAFETY DATA SHEET

Nitric Acid, 70.0% Tech Liq

Respiratory:	Only respirators approved by MSHA or NIOSH are permissible. Only non-oxidizable sorbents are allowed. A chemical cartridge respirator is NOT recommended due to the potential for exposure limits being exceeded prior to odor breakthrough. Seek advice from respirator manufacturer for most appropriate respirator and cartridge configuration.
Eyes:	Chemical splash goggles and full face shield. Safety glasses with side shields are NOT recommended.
Other Protection:	Standard chemical resistant clothing and workboots as specified by OSHA regulations and local workplace safety procedures.
Industrial Hygiene:	Facilities for quick drenching of the body, in addition to an eye-wash fountain, should be provided within the immediate work area for emergency use. Employees who handle nitric acid should wash their hands before eating, smoking, or using toilet facilities. Do NOT place food, coffee or other drinks in the area where dusting or splashing of solutions is possible.

SECTION 9 – Physical Properties

Appearance:	Colorless to Yellow Liquid	UEL/LEL:	Product is not considered to be flammable
Odor:	Suffocating, Acrid	Vapor Pressure:	48 mmHg
Odor Threshold:	No available data	Vapor Density:	1.5 - 1.7 @ 31° F (Air =1)
pH:	1.00 (1.0 M solution)	Relative Density:	1.410
Melt/Freeze Point:	-42 C / -44 F	Solubility:	Infinitely Soluble in Water
Boiling Point/Range:	122 C / 252 F	Partition Coefficient (n-octanol/water):	No available data
Flash Point:	Not Flammable	Auto Ignition Temp:	No available data.
Evaporation Rate:	Colorless to Yellow Liquid	Decomposition Temp:	No available data
Flammability (solid/gas):	Not flammable	Viscosity:	No available data

SECTION 10 – Stability and Reactivity

Reactivity:	Reacts with water to produce heat, and toxic, corrosive fumes of nitrogen oxides.
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SAFETY DATA SHEET

Nitric Acid, 70.0% Tech Liq

Stability:	Product is chemically stable under normal conditions of handling and storage.
Conditions to Avoid:	Exposure to direct sunlight. Exposure to open flames
Incompatible Materials:	Most metals, metallic powders, alcohol, charcoal, turpentine, hydrogen sulfide, wood excelsior, paper, cotton and similar organic materials. Alkalies, carbon, carbonates, cyanides, diborane organic chemicals, fluorine, phosphine, sulfides, thiocyanates. Nitric Acid is corrosive or incompatible with many common materials, including, mild steel, PVC, Viton, and rubber. Viton is a registered trademark of DuPont Dow Elastomers.
Decomposition Products:	Emits toxic nitrogen oxide fumes and hydrogen nitrate when heated to decomposition. Will react with water or steam to produce heat and toxic/corrosive fumes.
Hazardous Polymerization:	Will not occur

SECTION 11 – Toxicological Information

Acute Toxicity:	Severe eye burns which may result in permanent eye damage and visual impairment. Immediate, severe and penetrating burns on contact with skin; concentrated solutions cause deep skin ulcers and bright yellow to yellowish brown stains. Ingestion of the liquid will cause immediate pain and burns of the mouth, esophagus, and gastrointestinal tract.
Chronic:	Symptoms may be delayed 4 to 30 hours. Vapors or mists from this product may erode the exposed teeth.



SECTION 12 – Ecological Toxicity

Nitric acid has moderate volatility. Harmful to aquatic organisms. Large discharges may contribute to the acidification of water and be fatal to fish and other aquatic life, due low pH and decomposition of nitric acid into nitrates. If discharged into an effluent treatment system, nitric acid can contribute to acidification of the system and injure sewage treatment organisms. Can cause damage to vegetation due to corrosive action. Nitric acid is soluble in water and has high mobility in soil. During transport through the soil, nitric acid will dissolve some of the soil material; in particular, the carbonate based materials. The acid will be neutralized to some degree with adsorption of the proton also occurring on clay materials. However, significant amounts of acid are expected to remain for transport down towards the ground water table. Upon reaching the ground water table, the acid will continue to move, now in the direction of the ground water flow. Lime addition may be required to rectify low pH resulting from nitric acid spillages.

SECTION 13 – Disposal Considerations

Dispose of waste and containers only in compliance with all state, local and federal regulations.

SECTION 14 – Transportation Information

UN Number: UN2031
Proper Shipping Name: Nitric Acid
Packing Group: II
Hazard Class: 8
Subsidiary Hazards: 5.1

Required DOT Label/s: UN2031, Nitric Acid, 8-Corrosive (5.1), PGII

SECTION 15 – Regulatory Information

TSCA: This product and/or all of its components are listed on the Section 8(b) TSCA Inventory.

State Right to Know Regulations: Contact local regulatory authority.



SECTION 16 – Other Information

Date Prepared: 10/28/2015
Revision Date: New Document
Prepared By: W. Heffernan
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