



**PhytoTechnology
Laboratories®**

SAFETY DATA SHEET

1. CHEMICAL IDENTIFICATION AND COMPANY INFORMATION

PRODUCT NAME: Nitric Acid Solution 1.0 N
PRODUCT NUMBER: N617
COMPANY INFO: *PhytoTechnology Laboratories®*
PO Box 12205, Shawnee, KS 66282-2205
Phone: 1-888-749-8682 or 1-913-341-5343; Fax: 1-888-449-8682 or 1-913-341-5442
www.phytotechlab.com

EMERGENCY PHONE NUMBER: 1-800-535-5053 - US Only
1-352-323-3500 - International

RECOMMENDED USE: For Research Use Only

RESTRICTIONS ON USE: Products sold by *PhytoTechnology Laboratories®* are intended for research and laboratory use only. Products are not to be used as human or animal therapeutics, cosmetics, agricultural or pesticidal products, food additives, or as household chemicals.

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

GHS Classification:

H272 - Oxidizing liquids (Category 3)
H314 - Skin corrosion (Category 1A)
H318 - Serious eye damage (Category 1)

GHS Label elements, including hazard and precautionary statements:

Pictogram:



Signal Word: **Warning**

Hazard Statements:

H272 – May intensify fire; oxidizer.
H314 – Causes severe skin burns and eye damage.

Precautionary Statements:

P210 – Keep away from heat.
P280 – Wear protective gloves/protective clothing/eye protection/face protection.
P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS No.: 7697-37-2
Formula: HNO₃
Molecular Weight: 63.01 g/mol
EC No.: 231-714-2

Ingredient	CAS Number	Percent	Hazardous
Nitric Acid	7697-37-2	<10 %	OSHA PEL: 2 ppm; ACGIH TLV: 2 ppm
Water	7732-18-5	>90 %	No exposure limits established by OSHA or ACGIH

4. FIRST AID MEASURES

General Advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Route of Entry	Symptoms	First Aid Procedures
Ingestion	May cause irritation if swallowed	If swallowed, wash out mouth with water. Never give anything by mouth to an unconscious person. Get medical attention.
Inhalation	May cause irritation to respiratory tract	Safely remove victim to fresh air. If not breathing, institute cardiopulmonary resuscitation (CPR). If breathing is difficult, ensure clear airway and give oxygen. Get medical attention.
Eye Contact	Direct contact may cause irritation. May cause redness, tearing, or blurred vision.	Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Get medical attention if irritation persists.
Skin Contact	Irritating. May cause reddening, itching or inflammation.	Wash area thoroughly with soap and water. Remove and wash contaminated clothing. Get medical attention if irritation persists.

Most Important Symptoms or Effects, Both Acute and Delayed:

See section 2 and/or section 11

Recommendation for Immediate Medical Care and Special Treatment Needed:

No data available

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Water spray, carbon dioxide, dry chemical powder, or appropriate foam. Use extinguishing media suitable for surrounding fire.

Special Protective Equipment and Precaution for Firefighters: In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus. Evacuate the area and fight fire from a safe distance.

Hazardous Combustion Products: May emit toxic fumes under fire conditions.

Toxic Gases Produced: Nitrogen oxides

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:

Use personal protection recommended in Section 8. Avoid breathing vapors, mist or gas. Ensure adequate ventilation, especially in confined areas. Evacuate personnel to safe areas.

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Method of Containment and Cleanup: Using caution and the proper protective equipment contain the spilled material and do not let the product enter drains. Contact a licensed professional waste disposal service to dispose of this material.

7. HANDLING AND STORAGE

Precaution for Safe Handling: Avoid contact with skin and eyes. Avoid aerosols. Avoid incompatible substances. Wash thoroughly after use.

Conditions for Safe Storage: Keep in a tightly closed container and store in a cool, dry, and well-ventilated area.

Incompatibilities: Combustibles, reducing agents, strong bases, acetone, acetic acid, acetic anhydride, acetylene, some plastics, 2-aminoethanol, allyl alcohol, ammonia, ammonium hydroxide, aniline, antimony, bismuth, boron, boron decahydride, boron phosphide, bromine pentafluoride, n-butyraldehyde, carbon, cyanides, cyclohexanol, diborane, dipropyl ether, ethyl alcohol, ethylene diamine, ethyleneimine, ferrous oxide, fluorine,

furfuryl alcohol, hydrazine, hydrogen iodide, hydrogen peroxide, hydrogen sulfide, isoprene, lithium, magnesium, manganese, nitrobenzene, phosphine, phosphorous, pyridine, selenium, sodium, terpenes, titanium, toluideine, uranium, vinyl acetate, zinc, other metals, other organic matter

Recommended Storage Temperature: Room Temperature

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA's Occupational Exposure Limits: Nitric acid – TWA Value: 2 ppm, 5 mg/m³

ACGIH Threshold Limit Values (TLVs): Nitric acid – TWA Value : 2 ppm

USA. NIOSH Recommended Exposure Limit: Nitric acid – TWA Value: 2 ppm, 5 mg/m³
ST Value: 4 ppm, 10 mg/m³

Engineering Controls: Handle in accordance to general industrial hygiene and safety practice.

Personal Protective Equipment (PPE):

Eye/Face Protection: Chemical safety glasses or goggles. Have eye-washing facilities readily available where eye contact can occur.

Skin Protection: Protective gloves

Body Protection: Lab coat

Respiratory Protection: Appropriate respirator

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Colorless to slight yellow tint, clear liquid

pH: No data available

Solubility: Miscible with water

Melting Point: No data available

Vapor Density: No data available

Vapor Pressure: No data available

Odor: Pungent odor

Odor Threshold: No data available

Viscosity: No data available

Relative Density: 1.03 g/cm³

Evaporation Rate: No data available

Initial Boiling Point and Boiling Range: No data available

Flammability (solid, gas): No data available

Partition coefficient: No data available
n-octanol/water):

Auto-ignition Temperature: No data available

Decomposition Temperature: No data available

Flash Point (Closed Cup): No data available

Flammable Limits: Upper (%) – No data available Lower (%) – No data available

10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical Stability: Stable under normal conditions of use – May be an oxidizer

Possibility of Hazard Reactions: Will not occur

Conditions to Avoid: Heat, moisture, mechanical shock, incompatibles

Incompatibles Materials: Combustibles, reducing agents, strong bases, acetone, acetic acid, acetic anhydride, acetylene, some plastics, 2-aminoethanol, allyl alcohol, ammonia, ammonium hydroxide, aniline, antimony, bismuth, boron, boron decahydride, boron phosphide, bromine pentafluoride, n-butyraldehyde, carbon, cyanides, cyclohexanol, diborane, dipropyl ether, ethyl alcohol, ethylene diamine, ethyleneimine, ferrous oxide, fluorine, furfuryl alcohol, hydrazine, hydrogen iodide, hydrogen peroxide, hydrogen sulfide, isoprene, lithium, magnesium, manganese, nitrobenzene, phosphine, phosphorous, pyridine, selenium, sodium, terpenes, titanium, toluideine, uranium, vinyl acetate, zinc, other metals, other organic matter

Hazardous Decomposition Products: Nitrogen oxides

11. TOXICOLOGICAL INFORMATION

Toxicity: LD₅₀ (Oral-Rat)(mg/Kg): No data available
LD₅₀ (Oral-Mouse)(mg/Kg): No data available
LD₅₀ (Dermal-Rabbit)(mg/Kg): No data available

Carcinogenicity: NTP: No
IARC: No
Z List: No
OSHA Reg: No

Reproductive Toxicity: No data available

Symptoms Associated with Overexposure: Corrosion of tissues, choking, nausea, irritation, vomiting, irritation, possible mutagenic and reproductive effects, muscle spasms, methemoglobinemia, pulmonary edema

Specific Target Organ Toxicity: Single Exposure: No data available
Repeated Exposure: No data available

Target Organs: Respiratory system, skin, eyes

Medical Conditions Aggravated By Exposure: Pre-existing skin disorders

Routes of Entry: Inhalation, ingestion, skin contact, and eye contact

NIOSH/RTECS NO: QU5775000

The toxicological properties of this product have not been thoroughly investigated

12. ECOLOGICAL INFORMATION

Ecotoxicity: No data available
Persistence and Degradability: No data available
Bioaccumulative Potential: No data available
Mobility in Soil: No data available
Other Adverse Effects: No data available

13. DISPOSAL CONSIDERATION

Disposal Procedure: Dispose in accordance with all applicable federal, state, and local environmental regulations.

EPA Hazardous Waste Number: No data available

14. TRANSPORT INFORMATION

Domestic (D.O.T.): Proper Shipping Name: CHEMICALS, N.O.S. (NON-REGULATED)

Hazard Class: N/A
 UN/NA: N/A
 Labels: N/A

International:

IMDG: Proper Shipping Name: CHEMICALS, N.O.S. (NON-REGULATED)
 Hazard Class: N/A
 UN/NA: N/A
 Labels: N/A
 IATA: Proper Shipping Name: CHEMICALS, N.O.S. (NON-REGULATED)
 Hazard Class: N/A
 UN/NA: N/A
 Labels: N/A

15. REGULATORY INFORMATION

TSCA: Yes

SARA TITLE III:

Section 302 (EHS) Ingredients: CAS No.: 7697-37-2 Nitric acid
 Section 313 Ingredients: CAS No.: 7697-37-2 Nitric acid
 Section 304 (EHS/CERCLA) Ingredients: No
 Section 311/312 Hazard: Acute Health Hazard, Chronic Health Hazard
 Massachusetts Right to Know Components: CAS No.: 7697-37-2 Nitric acid
 Pennsylvania Right to Know Components: CAS No.: 7697-37-2 Nitric acid
 CAS No.: 7732-18-5 Water
 New Jersey Right to Know Components: CAS No.: 7697-37-2 Nitric acid
 CAS No.: 7732-18-5 Water
 California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

HMIS Rating:	Health Hazard	Chronic Health Hazard	Flammability	Physical Hazard
	3	*	0	2
NFPA Rating:	Health Hazard	Fire Hazard	Reactivity Hazard	Special Hazard
	3	0	0	

*Chronic Hazard: Chronic (long-term) health effects may result from repeated overexposure.

***PhytoTechnology Laboratories®* provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. The above information is intended to be used only as a guide to the appropriate precautionary handling of this material by a properly trained person. *PhytoTechnology Laboratories®* shall not be held liable for any damage resulting from handling or from contact with the above product. This product is intended for LABORATORY USE ONLY. Our products may NOT BE USED as drugs, cosmetics, agricultural or pesticidal products, food additives or as household chemicals.**

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