



Material Safety Data Sheet

NFPA 	HMIS <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="background-color: #00FFFF;">Health Hazard</td> <td style="text-align: center; border: 1px solid black;">2</td> </tr> <tr> <td style="background-color: #FFCCCC;">Fire Hazard</td> <td style="text-align: center; border: 1px solid black;">0</td> </tr> <tr> <td style="background-color: #FFFF00;">Reactivity</td> <td style="text-align: center; border: 1px solid black;">0</td> </tr> </table>	Health Hazard	2	Fire Hazard	0	Reactivity	0	Personal Protective Equipment  See Section 15.
Health Hazard	2							
Fire Hazard	0							
Reactivity	0							

Section 1. Chemical Product and Company Identification		Page Number: 1
Common Name/Trade Name	Nitric Acid, 0.1N	Catalog Number(s). N-145
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	CAS# Mixture.
Commercial Name(s)	Not available.	RTECS Not applicable.
Synonym	Not available.	TSCA TSCA 8(b) inventory: Water; Nitric acid, fuming
Chemical Name	Not applicable.	CI# Not applicable.
Chemical Family	(Acid.)	IN CASE OF EMERGENCY CHEMTREC (24hr) 800-424-9300 CALL (310) 516-8000
Chemical Formula	Not applicable.	
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	

Section 2. Composition and Information on Ingredients					
Name	CAS #	Exposure Limits			% by Weight
		TWA (mg/m ³)	STEL (mg/m ³)	CEIL (mg/m ³)	
1) Water	7732-18-5				99.37
2) Nitric acid, fuming	7697-37-2	2	4		0.63
Toxicological Data on Ingredients	Nitric acid, fuming: VAPOR (LC50): Acute: 244 ppm 0.5 hours [Rat]. 344 ppm 0.5 hours [Rat].				

Section 3. Hazards Identification	
Potential Acute Health Effects	Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion. Slightly hazardous in case of skin contact (permeator), of inhalation.
Potential Chronic Health Effects	CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to lungs, mucous membranes, upper respiratory tract, skin, eyes, teeth. Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Serious Inhalation	Not available.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Non-flammable.
Auto-Ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	Non-explosive in presence of open flames and sparks, of shocks.
Fire Fighting Media and Instructions	Not applicable.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	<p>Reacts explosively with metallic powders, carbides, cyanides, sulfides, alkalis and turpentine.</p> <p>Can react explosively with many reducing agents.</p> <p>Arsine, phosphine, tetraborane all oxidized explosively in presence of fuming nitric acid.</p> <p>Cesium and rubidium acetylides explode in contact with nitric acid.</p> <p>Explosive reaction with Nitric Acid + Nitrobenzene + water.</p> <p>Detonation with Nitric Acid + 4-Methylcyclohexane.</p> <p>The addition of warm fuming nitric acid to phosphine causes explosion.</p> <p>Addition of water to nitration mixture diluted with an equal volume of water can cause a low order explosion.</p> <p>Cyclopentadiene reacts explosively with fuming nitric acid.</p> <p>Mixtures of fuming nitric acid and acetonitrile are high explosives.</p> <p>(Nitric acid, fuming)</p>

Section 6. Accidental Release Measures

Small Spill	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
Large Spill	Absorb with an inert material and put the spilled material in an appropriate waste disposal. Neutralize the residue with a dilute solution of sodium carbonate. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7. Handling and Storage

Precautions	Keep container dry. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Personal Protection	Splash goggles. Synthetic apron. Gloves (impervious). Respiratory protection is not necessary for normal handling. Good room ventilation or use of local exhaust (fume hood) is sufficient. Use a vapor respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentrations of mist or vapor, inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	<p>Nitric acid, fuming</p> <p>TWA: 2 STEL: 4 (ppm) from ACGIH (TLV) [United States] [1999]</p> <p>TWA: 2 STEL: 4 (ppm) [Australia]</p> <p>TWA: 2 STEL: 4 from NIOSH</p> <p>TWA: 5 STEL: 10 (mg/m³) from NIOSH</p> <p>TWA: 2 STEL: 4 (ppm) from OSHA (PEL) [United States]</p> <p>TWA: 5 STEL: 10 (mg/m³) from OSHA (PEL) [United States]</p> <p>Consult local authorities for acceptable exposure limits.</p>

Section 9. Physical and Chemical Properties

Physical state and appearance	Liquid.	Odor	Not available.
Molecular Weight	Not applicable.	Taste	Not available.
pH (1% soln/water)	Acidic.	Color	Not available.
Boiling Point	The lowest known value is 100°C (212°F) (Water).		
Melting Point	Not available.		
Critical Temperature	Not available.		
Specific Gravity	The only known value is 1 (Water = 1) (Water).		
Vapor Pressure	The highest known value is 2.3 kPa (@ 20°C) (Water).		
Vapor Density	The highest known value is 0.62 (Air = 1) (Water).		
Volatility	Not available.		
Odor Threshold	Not available.		
Water/Oil Dist. Coeff.	Not available.		
Ionicity (in Water)	Not available.		
Dispersion Properties	See solubility in water, diethyl ether.		

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Solubility Easily soluble in cold water, hot water.
Soluble in diethyl ether.

Section 10. Stability and Reactivity Data

Stability The product is stable.

Instability Temperature Not available.

Conditions of Instability Incompatible materials

Incompatibility with various substances Slightly reactive to reactive with reducing agents, combustible materials, organic materials, metals, alkalis.

Corrosivity Corrosive in presence of aluminum, of copper.
Non-corrosive in presence of glass, of stainless steel(304), of stainless steel(316).

Special Remarks on Reactivity A strong oxidizer.
Reacts violently with alcohol, organic material, turpene, charcoal.
Violent reaction with Nitric acid + Acetone and Sulfuric acid.
Incompatible with combustible materials, metallic powders, hydrogen sulfide, carbides, aldehydes, cyanides, chromic acid, hydrogen sulfide, metals, metal powders, organic solvents, acetic acid, alcohols.
Nitric Acid will react with water or steam to produce heat and toxic, corrosive and flammable vapors.
(Nitric acid, fuming)

Special Remarks on Corrosivity Not available.

Polymerization Will not occur.

Section 11. Toxicological Information

Routes of Entry Absorbed through skin. Eye contact. Ingestion.

Toxicity to Animals LD50: Not available.
LC50: Not available.

Chronic Effects on Humans Contains material which may cause damage to the following organs: lungs, mucous membranes, upper respiratory tract, skin, eyes, teeth.

Other Toxic Effects on Humans Hazardous in case of skin contact (irritant), of ingestion.
Slightly hazardous in case of skin contact (permeator), of inhalation.

Special Remarks on Toxicity to Animals LDL - Lowest Published Lethal Dose [Human] - Route: Oral; Dose: 430 mg/kg (Nitric acid, fuming)

Special Remarks on Chronic Effects on Humans May cause adverse reproductive effects (effects on newborn and fetotoxicity) based on animal data. (Nitric acid, fuming)

Special Remarks on other Toxic Effects on Humans Acute Potential Health Effects:
Skin: Causes skin irritation. It may cause a yellow-brown discoloration of the skin.
Eyes: Causes eye irritation.
Inhalation: Inhalation of mist or vapor may cause respiratory tract irritation.
Ingestion: Can cause gastrointestinal/digestive tract irritation with nausea, vomiting, diarrhea.
Chronic Potential Health Effects:
Repeated inhalation may produce changes in pulmonary function and/or chronic bronchitis. It may also affect behavior (headache, dizziness, drowsiness, muscle contraction or spasticity, weakness, loss of coordination, mental confusion), and urinary system (kidney failure, decreased urinary output after several hours of uncorrected circulatory collapse).
Repeated exposure may cause discoloration and/or erosion of teeth (dental enamel).
Eye irritation and respiratory tract signs and symptoms resembling those of frequent upper respiratory viral infections have been associated with chronic nitric acid exposure.

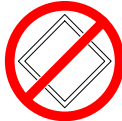
Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The product itself and its products of degradation are not toxic.
Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Disposal	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
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Section 14. Transport Information

DOT Classification	Not a DOT controlled material (United States).
Identification	Not applicable.
Special Provisions for Transport	Marine Pollutant
DOT (Pictograms)	

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations	Connecticut hazardous material survey.: Nitric acid, 70% Illinois toxic substances disclosure to employee act: Nitric acid, 70% Illinois chemical safety act: Nitric acid, 70% New York release reporting list: Nitric acid, 70% Rhode Island RTK hazardous substances: Nitric acid, 70% Pennsylvania RTK: Nitric acid, 70% Florida: Nitric acid, 70% Minnesota: Nitric acid, 70% Massachusetts RTK: Nitric acid, 70% Massachusetts spill list: Nitric acid, 70% New Jersey: Nitric acid, 70% New Jersey spill list: Nitric acid, 70% New Jersey toxic catastrophe prevention act: Nitric acid, 70% Louisiana RTK reporting list: Nitric acid, 70% Louisiana spill reporting: Nitric acid, 70% TSCA 8(b) inventory: Water; Nitric acid, fuming SARA 302/304/311/312 extremely hazardous substances: Nitric acid, 70% CERCLA: Hazardous substances.: Nitric acid, 70%: 1000 lbs. (453.6 kg);
California Proposition 65 Warnings	California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found. California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.
Other Regulations	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).
Other Classifications	WHMIS (Canada) CLASS D-2B: Material causing other toxic effects (TOXIC). DSCL (EEC)

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R36/38- Irritating to eyes and skin.

S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37- Wear suitable gloves.

HMIS (U.S.A.)

Health Hazard	2
Fire Hazard	0
Reactivity	0
Personal Protection	C

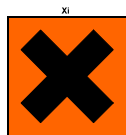
National Fire Protection Association (U.S.A.)

Health  Flammability **0**
Reactivity **0**
Specific hazard

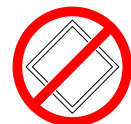
WHMIS (Canada) (Pictograms)



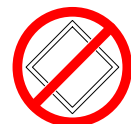
DSCL (Europe) (Pictograms)



TDG (Canada) (Pictograms)



ADR (Europe) (Pictograms)



Protective Equipment



Gloves (impervious).



Synthetic apron.



Wear appropriate respirator when ventilation is inadequate.
Splash goggles.

Section 16. Other Information**MSDS Code** N145S**References** Not available.**Other Special Considerations** Not available.

Validated by Sonia Owen on 2/18/2010.

Verified by Sonia Owen.

Printed 2/18/2010.

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.