

# spectrum

chemicals & laboratory products

A Division of Spectrum Chemical Mfg. Corp.

Dear Customer,

## This File Contains Both The ANSI Material Safety Data Sheet and The GHS Safety Data Sheet For The Same Product

Spectrum is currently transitioning all chemical product labeling from the ANSI<sup>1</sup> format to the GHS<sup>2</sup> format (see note below). In order to ensure that you receive complete labeling during the transition, we have included both the ANSI MSDS and the GHS SDS in a single file. The ANSI MSDS is given first, followed by the GHS SDS. Please use whichever matches the container label.

### Why It Matters:

The complete precautionary labeling for this chemical consists of BOTH the label on the container AND the matching Material Safety Data Sheet (for ANSI labels) or Safety Data Sheet (for GHS labels). Both elements of the labeling [Label + (M)SDS] are written to be read and understood together, so as to provide complete precautionary information. It is intended for you to read and understood BOTH before handling or using the chemical.

### Picking the Right One: 2 Easy Ways To Tell Whether Your Container Has an ANSI Label or a GHS Label

- 1) GHS labels: any pictogram displayed in the upper left-hand corner will be inside a red diamond.  
ANSI labels: pictograms, if present, will be inside individual black boxes.
- 2) GHS labels: on the bottom of the right-hand panel of the label, locate the Lot Number. Directly to the left will be a string of control characters, followed by a single letter.  
For GHS labels, the string of characters will end in "GHS:"

**Label in ANSI Format**

<p><b>CAUTION!</b> MAY BE HARMFUL IF SWALLOWED MAY CAUSE EYE AND SKIN IRRITATION MAY AFFECT BEHAVIOR AND METABOLISM</p> <p>Do not taste or swallow. Avoid contact with eyes, skin and clothing. Avoid breathing mist or vapor. Avoid prolonged or repeated exposure. Use with adequate ventilation. Wash thoroughly after handling.</p> <p><b>FIRST AID:</b> In case of contact, flush affected area with plenty of water for at least 15 minutes. Remove if worn. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If irritation persists, call a physician.</p> <p><b>KEEP FROM CHILDREN</b></p>	<p><b>SPECTRUM</b> CHEMICALS &amp; LABORATORY PRODUCTS</p> <p><b>BE159      SIZ SY</b></p> <p><b>Benzyl Benzoate</b> (Benzoic Acid Phenylmethyl Ester)</p> <p>U.S.P. CAS 120-51-4</p> <p><b>CAUTION:</b> For manufacturing, processing or repacking. Read and understand the label and Material Safety Data Sheet (MSDS) prior to use.</p> <p>For chemical emergency, call (800)424-9300</p> <p>www.SpectrumChemical.com</p>	<p><math>C_{11}H_{12}O_2</math>      F.W. 212.24</p> <p>Assay ..... 99.0-100.5% Specific Gravity @ 25°C ..... 1.116-1.120 Congealing Temperature ..... Min: 18.0°C Refractive Index @ 20°C ..... 1.565-1.570 Acidity ..... To pass test</p> <p><b>MAXIMUM LIMITS</b></p> <p>Aldehyde ..... 0.05% Residual Solvents ..... To pass test</p> <p><b>LIGHT SENSITIVE.</b> Keep tightly closed in light-resistant containers.</p> <p><b>FLUSHED WITH NITROGEN</b></p>
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Lot No. XQ###

SPECTRUM CHEMICAL MFG. CORP.      Gardena, CA 90248 • New Brunswick, NJ 08901

CORPORATE OFFICES  
14422 South San Pedro Street  
Gardena, California 90248  
PHONE 310.516.8000  
FAX 310.516.9843

**Label in GHS Format**

**WARNING!**

- May irritate or sensitize • May cause central nervous system effects based on animal data
- Do not use or breathe • Wear protective gloves
- After handling
- WASH AND IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Avoid re-use!

**KEEP FROM CHILDREN**

**SPECTRUM™**

BE159      SIZ SY

**Benzyl Benzoate**  
(Benzoic Acid Phenylmethyl Ester)

U.S.P.  
CAS 129-51-4

CAUTION: For manufacturing processing or shipping, read and understand the label and Safety Data Sheet (SDS) prior to use.

Chemical Emergency: (800)424-9088

www.SpectrumChemical.com

$C_{15}H_{14}O_2$       F.W. 212.24

Assay	99.0-100.5%
Specific Gravity @ 25°C	1.116-1.120
Freezing Temperature	Min. 18.0°C
Refractive Index @ 20°C	1.568-1.570
Acidity	To pass test

**MAXIMUM LIMITS**

Aldehyde	0.05%
Residual Solvents	To pass test

**LIGHT SENSITIVE:** Keep tightly closed in light-resistant containers.

**FLUSHED WITH NITROGEN**

**Lot No. XQ####**

<sup>1</sup> American National Standards Institute

<sup>2</sup> Globally Harmonized System for Hazard Communication

Sincerely,

Regulatory Affairs

# SAFETY DATA SHEET

Preparation Date: 3/26/2014

Revision Date: 3/27/2015

Revision Number: G2

**Product identifier**

**Product code:** YY1665  
**Product Name:** Nitric Acid, TraceMetal Grade

**Other means of identification**

**Synonyms:** Aqua fortis  
Azotic acid  
Hydrogen nitrate  
**CAS #:** Mixture  
**RTECS #** QU5775000  
**CI#:** Not available

**Recommended use of the chemical and restrictions on use**

**Recommended use:** Manufacture of inorganic and organic nitrites and nitro compounds for fertilizers, dye intermediates, explosives. Metallurgy, photo-engraving, etching metals (steel), ore floatation. Urethanes. Rubber chemicals.  
**Uses advised against** No information available

**Supplier:** Spectrum Chemicals and Laboratory Products, Inc.  
14422 South San Pedro St.  
Gardena, CA 90248  
(310) 516-8000

**Order Online At:** <https://www.spectrumchemical.com>

**Emergency telephone number** Chemtrec 1-800-424-9300  
**Contact Person:** Martin LaBenz (West Coast)  
**Contact Person:** Ibad Tirmiz (East Coast)

## 2. HAZARDS IDENTIFICATION

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 1Sub-category A
Serious eye damage/eye irritation	Category 1
Oxidizing liquids	Category 3

**Label elements**

**Danger**

**Hazard statements**

Causes severe skin burns and eye damage  
May intensify fire; oxidizer



**Hazards not otherwise classified (HNOC)**

Not Applicable

**Other hazards**

Not available

**Precautionary Statements - Prevention**

Do not breathe dust/fume/gas/mist/vapors/spray  
Wash face, hands and any exposed skin thoroughly after handling  
Wear protective gloves/protective clothing/eye protection/face protection  
Keep away from heat/sparks/open flames/hot surfaces. — No smoking  
Keep/Store away from clothing/ .? /combustible materials  
Take any precaution to avoid mixing with combustibles .?

**Precautionary Statements - Response**

Immediately call a POISON CENTER or doctor/physician  
Specific treatment (see .? on this label)  
Use water to extinguish. Do not use dry chemicals or foams. CO<sub>2</sub> or Halon may provide limited control.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
Wash contaminated clothing before reuse  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.  
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Components	CAS-No.	Weight %	Trade Secret
Nitric acid 7697-37-2	7697-37-2	70	*
Water 7732-18-5	7732-18-5	30	*

## 4. FIRST AID MEASURES

### First aid measures

#### **General Advice:**

Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126). Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.

#### **Skin Contact:**

Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician immediately.

#### **Eye Contact:**

Flush eye with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.

#### **Inhalation:**

Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. Call a physician immediately.

#### **Ingestion:**

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. If victim is conscious, give water or milk. Follow with Milk of Magnesia or egg whites beaten with water. Immediate medical attention is required. Call a physician or Poison Control Center immediately.

### Most important symptoms and effects, both acute and delayed

#### **Symptoms**

Severe skin and eye irritation or burns. Dyspnea (Shortness of breath and difficulty breathing). Abdominal pain. Vomiting.

### Indication of any immediate medical attention and special treatment needed

#### **Notes to Physician:**

Treat symptomatically

### Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

## 5. FIRE-FIGHTING MEASURES

### Extinguishing Media

#### **Suitable Extinguishing Media:**

Water. CO2 may be of no value in extinguishing fires involving oxidizers and may only provide limited control.

#### **Unsuitable Extinguishing Media:**

Dry chemical. Foam. Halons.

### Specific hazards arising from the chemical

#### **Hazardous Combustion Products:**

No information available.

**Specific hazards:**

Oxidizer. Keep away from combustible materials (wood, paper, oil, clothing, etc.). The product is not flammable, but it may cause fire when in contact with other material. Contact with combustible or organic materials may cause fire. Will accelerate burning when involved in a fire. Container explosion may occur under fire conditions or when heated. Flammable in presence of cellulose or other combustible materials.

Phosphine, hydrogen sulfide, selenide all ignite when fuming nitric acid is dripped into gas.

Phosphine ignites in concentrated nitric acid.

Nickel tetrathosphide ignites with fuming nitric acid.

Contact with metals may evolve flammable hydrogen gas.

A jet of ammonia will ignite nitric acid vapor.

Cellulose may be converted to the highly flammable nitrate ester on contact with the vapor of nitric acid as well as the liquid itself.

**Special Protective Actions for Firefighters****Specific Methods:**

No information available.

**Special Protective Equipment for Firefighters:**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures****Personal Precautions:**

Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protective equipment. Avoid contact with skin, eyes and clothing.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not let product enter drains. Do not flush into surface water or sanitary sewer system. Prevent entry into waterways, sewers, basements or confined areas.

**Methods and material for containment and cleaning up****Methods for containment**

Stop leak if you can do it without risk.

**Methods for cleaning up**

Neutralize with Sodium carbonate or Sodium bicarbonate. Dilute with water. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Clean contaminated surface thoroughly.

**7. HANDLING AND STORAGE****Precautions for safe handling****Technical Measures/Precautions:**

Use only in area provided with appropriate exhaust ventilation. Keep away from incompatible materials.

**Safe Handling Advice:**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe vapors or spray mist. Handle in accordance with good industrial hygiene and safety practice.

## Conditions for safe storage, including any incompatibilities

### **Technical Measures/Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. May corrode metallic surfaces. Do not store in uncoated metallic containers. Store in a segregated and approved area. Store away from incompatible materials.

### **Incompatible Materials:**

Bases. Reducing agents. Combustible materials. Organic materials. Metals. Acids.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### Control parameters

### **National occupational exposure limits**

#### **United States**

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Nitric acid - 7697-37-2	2 ppm TWA 5 mg/m <sup>3</sup> TWA	2 ppm TWA 5 mg/m <sup>3</sup> TWA 4 ppm STEL 10 mg/m <sup>3</sup> STEL	4 ppm STEL 2 ppm TWA	No information available
Water - 7732-18-5	None	None	None	None

#### **Canada**

Components	Alberta	British Columbia	Ontario	Quebec
Nitric acid - 7697-37-2	2 ppm TWA 5.2 mg/m <sup>3</sup> TWA 4 ppm STEL 10 mg/m <sup>3</sup> STEL	2 ppm TWA 4 ppm STEL	2 ppm TWA 4 ppm STEL	2 ppm TWAEV 5.2 mg/m <sup>3</sup> TWAEV 4 ppm STEV 10 mg/m <sup>3</sup> STEV
Water - 7732-18-5	None	None	None	None

#### **Australia and Mexico**

Components	Australia	Mexico
Nitric acid 7697-37-2	4 ppm STEL 10 mg/m <sup>3</sup> STEL 2 ppm TWA 5.2 mg/m <sup>3</sup> TWA	2 ppm TWA 5 mg/m <sup>3</sup> TWA 4 ppm STEL 10 mg/m <sup>3</sup> STEL
Water 7732-18-5	None	None

### Appropriate engineering controls

#### **Engineering measures to reduce exposure:**

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

### Individual protection measures, such as personal protective equipment

#### **Personal Protective Equipment**

**Eye protection:** Face-shield.

**Skin and body protection:** Chemical resistant protective suit. Gloves. boots.

**Respiratory protection:** Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

**Hygiene measures:** Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Liquid.	<b>Appearance:</b> No information available	<b>Color:</b> Colorless. Light yellow.
<b>Odor:</b> Acrid. Disagreeable. Choking .	<b>Taste</b> No information available	<b>Molecular/Formula weight:</b> 63.01
<b>Formula:</b> HNO <sub>3</sub>	<b>Flash point (°C):</b> No data available	<b>Flashpoint (°C/°F):</b> No information available.
<b>Flash Point Tested according to:</b> Not available	<b>Lower Explosion Limit (%):</b> No information available	<b>Upper Explosion Limit (%):</b> No information available
<b>Autoignition Temperature (°C/°F):</b> No information available	<b>pH:</b> No information available	<b>Melting point/range(°C/°F):</b> -41 °C/-42 °F
<b>Boiling point/range(°C/°F):</b> 121-122°C/249.8-251.6 °F	<b>Decomposition temperature(°C/°F):</b> No information available	<b>Bulk density:</b> No information available
<b>Specific gravity:</b> No information available	<b>Vapor pressure @ 20°C (kPa):</b> No information available	<b>Density (g/cm<sup>3</sup>):</b> 1.41-1.42 @ 20 deg. C
<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> No information available	<b>VOC content (g/L):</b> No information available
<b>Odor threshold (ppm):</b> 0.29-0.98	<b>Partition coefficient (n-octanol/water):</b> No information available	<b>Viscosity:</b> No information available
<b>Miscibility:</b> No information available	<b>Solubility:</b> Freely soluble in water	

## 10. STABILITY AND REACTIVITY

### Reactivity

Oxidizer. Reacts violently with alcohol, organic material, turpene, charcoal.

Violent reaction with Nitric acid + Acetone and Sulfuric acid. Incompatible with combustible materials, metallic powders, carbides, aldehydes, cyanides, chromic acid, hydrogen sulfide, sulfides, metals, organic solvents, acetic acid, alkalies, alcohols, cesium and rubidium acetylides, nitrobenzene

Flammable in presence of cellulose or other combustible materials.

Phosphine, hydrogen sulfide, selenide all ignite when fuming nitric acid is dripped into gas.

Phosphine ignites in concentrated nitric acid.

Nickel tetrphosphide ignites with fuming nitric acid.

Contact with metals may evolve flammable hydrogen gas.

A jet of ammonia will ignite nitric acid vapor.

Cellulose may be converted to the highly flammable nitrate ester on contact with the vapor of nitric acid as well as the liquid itself

Reacts explosively with metallic powders, carbides, cyanides, sulfides, alkalies and turpentine.

Can react explosively with many reducing agents.

Arsine, phosphine, tetraborane all oxidized explosively in presence of nitric acid.

Cesium and rubidium acetylides explode in contact with nitric acid.

Explosive reaction with Nitric Acid + Nitrobenzene + water.

Detonation with Nitric Acid + 4-Methylcyclohexane.

The addition of warm fuming nitric acid to phosphine causes explosion.

Addition of water to nitration mixture diluted with an equal volume of water can cause a low order explosion.

Cyclopentadiene reacts explosively with fuming nitric acid.

Mixtures of fuming nitric acid and acetonitrile are high explosives

### Chemical stability

**Stability:** Stable.



**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Incompatible materials.

**Incompatible Materials:** Bases. Reducing agents. Combustible materials. Organic materials. Metals. Acids.

**Hazardous decomposition products:** Nitrogen oxides (NOx).

#### Other Information

**Corrosivity:** Extremely corrosive in presence of aluminum, of copper, of brass.  
Non-corrosive in presence of glass, of stainless steel(304), of stainless steel(316)

**Special Remarks on Corrosivity:** In presence of traces of oxides, it attacks all base metals except aluminum and special chromium steels.  
It will attack some forms of plastics, rubber, and coatings.  
Nitric Acid corrodes almost all metals except gold, and white gold, forming nitrates.  
No corrosive effect on bronze.  
No corrosivity data for zinc, and steel

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Principal Routes of Exposure:**  
Skin. Inhalation. Ingestion.

### Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document .  
ATEmix (inhalation-gas) 35714mg/l

### Component Information

*Nitric acid - 7697-37-2*

**LD50/oral/rat** = No information available  
**LD50/oral/mouse** = No information available  
**LD50/dermal/rabbit** = No information available  
**LD50/dermal/rat** = No information available  
**LC50/inhalation/rat** = 67 ppm Inhalation LC50 Rat 4 h  
130 mg/m<sup>3</sup> 4 h  
7 mg/l 1 h  
**LC50/inhalation/mouse** = No information available  
**Other LD50 or LC50 information** = 430 mg/kg Oral LDL Rat

*Water - 7732-18-5*

**LD50/oral/rat** = > 90 mL/kg Oral LD50 Rat  
**LD50/oral/mouse** = No information available  
**LD50/dermal/rabbit** = No information available  
**LD50/dermal/rat** = No information available  
**LC50/inhalation/rat** = No information available  
**LC50/inhalation/mouse** = No information available  
**Other LD50 or LC50 information** = No information available

### Product Information

**LD50/oral/rat** =

**Product code:** YY1665

**Product name:** Nitric Acid, TraceMetal  
Grade

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**VALUE- Acute Tox Oral** = No information available

**LD50/oral/mouse =**

**Value - Acute Tox Oral** = No information available

**LD50/dermal/rabbit**

**VALUE-Acute Tox Dermal** = No information available

**LD50/dermal/rat**

**VALUE -Acute Tox Dermal** = No information available

**LC50/inhalation/rat**

**VALUE-Vapor** = No information available

**VALUE-Gas** = No information available

**VALUE-Dust/Mist** = No information available

**LC50/Inhalation/mouse**

**VALUE-Vapor** = No information available

**VALUE - Gas** = No information available

**VALUE - Dust/Mist** = No information available

### Symptoms

<b>Skin Contact:</b>	Severe skin irritation. Causes skin burns. May cause deep penetrating ulcers of the skin with a characteristic yellow to brownish discoloration. Absorption through the skin may cause methemoglobinemia (the formation of methemoglobin in the blood which causes deficient oxygenation of the blood due to decreased available hemoglobin).
<b>Eye Contact:</b>	Severe eye irritation. Causes eye burns. May cause irreversible eye damage.
<b>Inhalation</b>	Causes irritation and possible burns of the respiratory tract with burning pain in the nose and throat, coughing, sneezing, wheezing, shortness of breath and pulmonary edema..
<b>Ingestion</b>	Causes serious gastrointestinal tract irritation or burns with nausea, vomiting, severe abdominal pain, and possible "coffee grounds" appearance of the vomitus . May cause perforation of the digestive tract..
<b>Aspiration hazard</b>	No information available

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Chronic Toxicity</b>	Repeated inhalation may produce changes in pulmonary function and/or chronic bronchitis. It may also cause weight loss, and affect behavior/central nervous system (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.
<b>Sensitization:</b>	No information available
<b>Mutagenic Effects:</b>	No information available

**Carcinogenic effects:** Not considered carcinogenic

Components	ACGIH - Carcinogens	IARC	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Nitric acid	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Water	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

**Reproductive toxicity** No data is available

**Reproductive Effects:** No information available  
**Developmental Effects:** May cause adverse developmental effects based on animal data  
**Teratogenic Effects:** No information available

**Specific Target Organ Toxicity**

**STOT - single exposure** No information available  
**STOT - repeated exposure** No information available  
**Target Organs:** Skin. Eyes. Respiratory system.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects:** No data available.  
**Persistence and degradability:** No information available  
**Bioaccumulative potential:** No information available  
**Mobility:** No information available

**13. DISPOSAL CONSIDERATIONS**

**Disposal Methods**

**Waste from residues / unused products:**  
Waste must be disposed of in accordance with Federal, State and Local regulation.

**Contaminated packaging:**  
Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Nitric acid	None	None	None	None
Water	None	None	None	None

**14. TRANSPORT INFORMATION**

**DOT**

## 14. TRANSPORT INFORMATION

**UN-No:** UN2031  
**Proper Shipping Name:** Nitric acid (Solution)  
**Hazard Class:** 8  
**Subsidiary Risk:** 5.1  
**Packing Group:** II  
**ERG No:** 157  
**Marine Pollutant:** No data available  
**DOT RQ (lbs):** No information available  
**Symbol(s):** R4

### TDG (Canada)

**UN-No:** UN2031  
**Proper Shipping Name:** Nitric acid (Solution)  
**Hazard Class:** 8  
**Subsidiary Risk:** 5.1  
**Packing Group:** II  
**Description:** No information available

### ADR

**UN-No:** UN2031  
**Proper Shipping Name:** Nitric acid (Solution)  
**Hazard Class:** 8  
**Packing Group:** II  
**Subsidiary Risk:** 5.1  
**Classification Code:** No information available  
**Description:** No information available  
**CEFIC Tremcard No:** No information available

### IMO / IMDG

**UN-No:** UN2031  
**Proper Shipping Name:** Nitric acid (Solution)  
**Hazard Class:** 8  
**Subsidiary Risk:** 5.1  
**Packing Group:** II  
**Description:** No information available  
**IMDG Page:** No information available  
**Marine Pollutant:** No information available  
**EMS:** F-A  
**MFAG:** No information available  
**Maximum Quantity:** No information available

### RID

**UN-No:** UN2031  
**Proper Shipping Name:** Nitric acid (Solution)  
**Hazard Class:** 8  
**Subsidiary Risk:** 8 + 5.1  
**Packing Group:** II  
**Classification Code:** No information available  
**Description:** No information available

### ICAO

**UN-No:** UN2031  
**Proper Shipping Name:** Nitric acid (Solution)  
**Hazard Class:** 8  
**Subsidiary Risk:** 5.1  
**Packing Group:** II

## 14. TRANSPORT INFORMATION

**Description:** No information available

### IATA

**UN-No:** UN2031  
**Proper Shipping Name:** Nitric acid (Solution)  
**Hazard Class:** 8  
**Subsidiary Risk:** No information available  
**Packing Group:** II  
**ERG Code:** 8L  
**Description:** No information available

## 15. REGULATORY INFORMATION

### International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>Nitric acid</i>	Present	Present KE-25911	Present	Present (1)-394	Present	Present	Present 231-714-2
<i>Water</i>	Present	Present KE-35400	Present	Not present	Present	Present	Present 231-791-2

### U.S. Regulations

#### *Nitric acid*

**Massachusetts RTK:** Present  
**Massachusetts EHS:** extraordinarily hazardous  
**New Jersey RTK Hazardous Substance List:** Present  
**New Jersey (EHS) List:** Present  
**New Jersey - Discharge Prevention - List of Hazardous Substances:** Present  
**New Jersey TCPA - EHS:** 1500lbTQ  
 450lbTQ  
**Pennsylvania RTK:** Environmental hazard  
**Pennsylvania RTK - Environmental Hazard List** Present  
**Michigan PSM HHC:** = 500 lb TQ 94.5% by weight or greater  
**Minnesota - Hazardous Substance List:** Present  
**New York Release Reporting - List of Hazardous Substances:**  
 1000 lb RQ  
 100 lb RQ  
**Louisiana Reportable Quantity List for Pollutants:** 1000lbfinal RQAs listed in 40 CFR 117.3 Table 117.3 and 40 CFR 302.4 Table 302.4  
 454kgfinal RQAs listed in 40 CFR 117.3 Table 117.3 and 40 CFR 302.4 Table 302.4  
 1000lbRQAs listed in Louisiana Administrative Code, Title 33, Part 1, Subpart 2, Chapter 39, Subchapter E. Applies to unauthorized emissions based on total mass emitted into or onto all media within any consecutive 24-hour period  
 100lbRQAs listed in Louisiana Administrative Code, Title 33, Part 1, Subpart 2, Chapter 39, Subchapter E. Applies to unauthorized emissions based on total mass emitted into the atmosphere  
**California Directors List of Hazardous Substances:** Present

#### California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

##### **Chemicals Known to the State of California to Cause Cancer:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

##### **Chemicals Known to the State of California to Cause Reproductive Toxicity:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
<i>Nitric acid</i>	Not Listed	Not Listed	Not Listed	Not Listed
<i>Water</i>	Not Listed	Not Listed	Not Listed	Not Listed

### CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
Nitric acid	1000 lb final RQ 454 kg final RQ	1000 lb TPQ	None	None	1.0 % de minimis concentration
Water	None	None	None	None	None

## U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Nitric acid	Not Applicable	Not Applicable
Water	Not Applicable	Not Applicable

## Canada

### WHMIS hazard class:

- C Oxidizing materials
- E Corrosive material

### Nitric acid

- C E including 61.3%, 67.18%, 70%
- E 0.63%, 6.3%

### Water

Uncontrolled product according to WHMIS classification criteria

### Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Nitric acid	1 %

## Inventory

Components	Canada (DSL)	Canada (NDSL)
Nitric acid	Present	Not Listed
Water	Present	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Nitric acid	Not listed	Not listed
Water	Not listed	Not listed

## EU Classification

### R-phrase(s)

- R35 - Causes severe burns.
- R 8 - Contact with combustible material may cause fire.

### S -phrase(s)

- S23 - Do not breathe gas/fumes/vapor/spray.
- S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S36 - Wear suitable protective clothing.
- S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S 1/2 - Keep locked up and out of the reach of children.

Components	Classification	Concentration Limits:	Safety Phrases
Nitric acid	C;R35 O;R8	20%≤C C;R35 5%≤C<20% C;R34 70%≤C O;R8	S(1/2)-S23-S26-S36-S45
Water		No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

**Indication of danger:**

C - Corrosive.

O - Oxidising.



## 16. OTHER INFORMATION

Preparation Date: 3/26/2014  
Revision Date: 3/27/2015  
Prepared by: Sonia Owen

**Disclaimer:**

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) 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 SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. 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 SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**

## MATERIAL SAFETY DATA SHEET

NFPA	HMIS	Personal Protective Equipment
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Health Hazard	3
Fire Hazard	0
Reactivity	0



See Section 8.

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

<b>Product code:</b>	YY1665
<b>Product Name:</b>	Nitric Acid, TraceMetal Grade
<b>Chemical Name:</b>	No information available
<b>Synonyms:</b>	Aqua fortis Azotic acid Hydrogen nitrate
<b>Recommended use:</b>	Manufacture of inorganic and organic nitrites and nitro compounds for fertilizers, dye intermediates, explosives. Metallurgy, photo-engraving, etching metals (steel), ore floatation. Urethanes. Rubber chemicals.
<b>CAS #:</b>	Mixture
<b>RTECS #</b>	QU5775000
<b>Formula:</b>	HNO <sub>3</sub>
<b>CI#:</b>	Not available
<b>Supplier:</b>	Spectrum Chemicals and Laboratory Products, Inc. 14422 South San Pedro St. Gardena, CA 90248 (310) 516-8000
<b>Order Online At:</b>	<a href="https://www.spectrumchemical.com">https://www.spectrumchemical.com</a>
<b>Emergency Telephone Number:</b>	CHEMTREC: 1-800-424-9300
<b>Contact Person:</b>	Regina Wachenheim (East Coast)
<b>Contact Person:</b>	Martin LaBenz (West Coast)

### 2. HAZARDS IDENTIFICATION



## 2. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

#### DANGER CORROSIVE!

The product causes burns of eyes, skin and mucous membranes

**Odor:**  
Acrid. Disagreeable. Choking .

**Physical state:**  
Liquid.

**Appearance:**  
No information available

**Color:**  
Colorless. Light yellow.

### OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

### POTENTIAL HEALTH EFFECTS

#### Principal Routes of Exposure:

Skin. Inhalation. Ingestion.

#### Acute Potential Health Effects:

##### Skin Contact:

Severe skin irritation. Causes skin burns. May cause deep penetrating ulcers of the skin with a characteristic yellow to brownish discoloration. Absorption through the skin may cause methemoglobinemia (the formation of methemoglobin in the blood which causes deficient oxygenation of the blood due to decreased available hemoglobin).

##### Eye Contact:

Severe eye irritation. Causes eye burns. May cause irreversible eye damage.

##### Inhalation:

Irritating to respiratory system. May cause chemical burns to the respiratory tract. May cause difficulty breathing and shortness of breath.

##### Ingestion:

Causes burns. Can burn mouth, throat, and stomach. May cause abdominal pain. May cause vomiting.

#### Chronic Potential Health Effects:

##### Component

Nitric acid  
7697-37-2 (70)  
Water  
7732-18-5 (30)

##### Carcinogen Status:

No information available

Not applicable

#### Target Organs:

Skin. Eyes. Respiratory system.

#### Mutagenic Effects:

No information available

#### Teratogenic Effects:

No information available

**Aggravated Medical Conditions:** No information available

See Section 11 for additional Toxicological Information

### POTENTIAL ENVIRONMENTAL EFFECTS

No information available

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Nitric acid	7697-37-2	70
Water	7732-18-5	30

### 4. FIRST AID MEASURES

<b>General Advice:</b>	Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126). Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.
<b>Skin Contact:</b>	Wash off immediately with soap and plenty of water. Continue flushing with plenty of water for at least 15 minutes. Remove all contaminated clothes and shoes. Immediate medical attention is required. Call a physician immediately.
<b>Eye Contact:</b>	Flush eye with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.
<b>Inhalation:</b>	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. <b>WARNING!</b> It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. Call a physician immediately.
<b>Ingestion:</b>	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. If victim is conscious, give water or milk. Follow with Milk of Magnesia or egg whites beaten with water. Immediate medical attention is required. Call a physician or Poison Control Centre immediately.
<b>Notes to Physician:</b>	Treat symptomatically

### 5. FIRE-FIGHTING MEASURES

#### Flammable Properties

<b>Flashpoint (°C/°F):</b>	No information available.
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<b>Flash Point Tested according to:</b> Not available
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<b>Lower Explosion Limit (%):</b>	No information available
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<b>Upper Explosion Limit (%):</b>	No information available
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<b>Autoignition Temperature (°C/°F):</b>	No information available
--	--------------------------

<b>Suitable Extinguishing Media:</b>	Water. CO2 may be of no value in extinguishing fires involving oxidizers and may only provide limited control.
<b>Unsuitable Extinguishing Media:</b>	Dry chemical. Foam. Halons.
<b>Hazardous Combustion Products:</b>	No information available.

**Specific hazards:**

Oxidizer. Keep away from combustible materials (wood, paper, oil, clothing, etc.). The product is not flammable, but it may cause fire when in contact with other material. Contact with combustible or organic materials may cause fire. Will accelerate burning when involved in a fire. Container explosion may occur under fire conditions or when heated. Flammable in presence of cellulose or other combustible materials.

Phosphine, hydrogen sulfide, selenide all ignite when fuming nitric acid is dripped into gas.

Phosphine ignites in concentrated nitric acid.

Nickel tetraphosphide ignites with fuming nitric acid.

Contact with metals may evolve flammable hydrogen gas.

A jet of ammonia will ignite nitric acid vapor.

Cellulose may be converted to the highly flammable nitrate ester on contact with the vapor of nitric acid as well as the liquid itself.

**Special Protective Equipment for Firefighters:**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

**Specific Methods:**

No information available.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:**

Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use personal protective equipment. Avoid contact with skin, eyes and clothing.

**Environmental Precautions:**

Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not let product enter drains. Do not flush into surface water or sanitary sewer system. Prevent entry into waterways, sewers, basements or confined areas.

**Methods for Cleaning Up:**

Neutralize with Sodium carbonate or Sodium bicarbonate. Dilute with water. Absorb spill with inert material (e.g. vermiculite, dry sand or earth), then place in a suitable chemical waste container. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

**Handling****Technical Measures/Precautions:**

Use only in area provided with appropriate exhaust ventilation. Keep away from incompatible materials.

**Safe Handling Advice:**

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe vapors or spray mist. Handle in accordance with good industrial hygiene and safety practice.

**Storage**

**Technical Measures/Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. May corrode metallic surfaces. Do not store in uncoated metallic containers. Store in a segregated and approved area. Store away from incompatible materials.

**Incompatible Materials:**

Bases. Reducing agents. Combustible materials. Organic materials. Metals. Acids.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION****Engineering measures to reduce exposure:**

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

**Personal Protective Equipment**

**Eye protection:** Face-shield.

**Skin and body protection:** Chemical resistant protective suit. Gloves. boots.

**Respiratory protection:** Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

**Hygiene measures:** Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

**National occupational exposure limits****United States**

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Nitric acid - 7697-37-2	2 ppm TWA 5 mg/m <sup>3</sup> TWA	2 ppm TWA 5 mg/m <sup>3</sup> TWA 4 ppm STEL 10 mg/m <sup>3</sup> STEL	4 ppm STEL 2 ppm TWA	No information available
Water - 7732-18-5	None	None	None	None

**Canada**

Components	Alberta	British Columbia	Ontario	Quebec
Nitric acid 7697-37-2	2 ppm TWA 5.2 mg/m <sup>3</sup> TWA 4 ppm STEL 10 mg/m <sup>3</sup> STEL	2 ppm TWA 4 ppm STEL	2 ppm TWA	2 ppm TWAEV 5.2 mg/m <sup>3</sup> TWAEV 4 ppm STEV 10 mg/m <sup>3</sup> STEV
Water 7732-18-5	None	None	None	None

**Australia and Mexico**

Components	Australia	Mexico
Nitric acid 7697-37-2	4 ppm STEL 10 mg/m <sup>3</sup> STEL 2 ppm TWA 5.2 mg/m <sup>3</sup> TWA	2 ppm TWA 5 mg/m <sup>3</sup> TWA 4 ppm STEL 10 mg/m <sup>3</sup> STEL
Water 7732-18-5	None	None

**9. PHYSICAL AND CHEMICAL PROPERTIES**

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Liquid.	<b>Appearance:</b> No information available	<b>Color:</b> Colorless. Light yellow.
<b>Odor:</b> Acrid. Disagreeable. Choking .	<b>Taste</b> No information available	<b>Molecular/Formula weight:</b> 63.01
<b>Flash point (°C):</b> No data available	<b>Lower Explosion Limit (%):</b> No information available	<b>Upper Explosion Limit (%):</b> No information available
<b>Autoignition Temperature (°C/°F):</b> No information available	<b>Melting point/range(°C/°F):</b> -41 °C/-42 °F	<b>Boiling point/range(°C/°F):</b> 121-122°C/249.8-251.6 °F
<b>pH:</b> No information available	<b>Specific gravity:</b> No information available	<b>Density (g/cm3):</b> 1.41-1.42 @ 20 deg. C
<b>Decomposition temperature(°C/°F):</b> No information available	<b>Bulk density:</b> No information available	<b>Vapor pressure @ 20°C (kPa):</b> No information available
<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> No information available	<b>VOC content (g/L):</b> No information available
<b>Odor threshold (ppm):</b> 0.29-0.98	<b>Partition coefficient (n-octanol/water):</b> No information available	<b>Miscibility:</b> No information available
<b>Solubility:</b> Freely soluble in water		

## 10. STABILITY AND REACTIVITY

<b>Stability:</b>	This material may darken during storage. Stable.
<b>Conditions to avoid:</b>	Incompatible materials.
<b>Incompatible Materials:</b>	Bases. Reducing agents. Combustible materials. Organic materials. Metals. Acids.
<b>Hazardous decomposition products:</b>	Nitrogen oxides (NOx).

**Possibility of Hazardous Reactions:**

Oxidizer. Reacts violently with alcohol, organic material, turpene, charcoal. Violent reaction with Nitric acid + Acetone and Sulfuric acid. Incompatible with combustible materials, metallic powders, carbides, aldehydes, cyanides, chromic acid, hydrogen sulfide, sulfides, metals, organic solvents, acetic acid, alkalies, alcohols, cesium and rubidium acetylides, nitrobenzene Flammable in presence of cellulose or other combustible materials. Phosphine, hydrogen sulfide, selenide all ignite when fuming nitric acid is dripped into gas. Phosphine ignites in concentrated nitric acid. Nickel tetraphosphide ignites with fuming nitric acid. Contact with metals may evolve flammable hydrogen gas. A jet of ammonia will ignite nitric acid vapor. Cellulose may be converted to the highly flammable nitrate ester on contact with the vapor of nitric acid as well as the liquid itself. Reacts explosively with metallic powders, carbides, cyanides, sulfides, alkalies and turpentine. Can react explosively with many reducing agents. Arsine, phosphine, tetraborane all oxidized explosively in presence of nitric acid. Cesium and rubidium acetylides explode in contact with nitric acid. Explosive reaction with Nitric Acid + Nitrobenzene + water. Detonation with Nitric Acid + 4-Methylcyclohexane. The addition of warm fuming nitric acid to phosphine causes explosion. Addition of water to nitration mixture diluted with an equal volume of water can cause a low order explosion. Cyclopentadiene reacts explosively with fuming nitric acid. Mixtures of fuming nitric acid and acetonitrile are high explosives.

**Polymerization:**

Hazardous polymerisation does not occur

**Corrosivity:**

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

**Special Remarks on Corrosivity:**

In presence of traces of oxides, it attacks all base metals except aluminum and special chromium steels. It will attack some forms of plastics, rubber, and coatings. Nitric Acid corrodes almost all metals except gold, and white gold, forming nitrates. No corrosive effect on bronze. No corrosivity data for zinc, and steel

**11. TOXICOLOGICAL INFORMATION**

**Acute Toxicity**

**Component Information**

*Nitric acid - 7697-37-2*

- LD50/oral/rat** = No information available
- LD50/oral/mouse** = No information available
- LD50/dermal/rat** = No information available
- LD50/dermal/rabbit** = No information available
- LC50/inhalation/rat** = 67 ppm Inhalation LC50 Rat 4 h  
130 mg/m<sup>3</sup> 4 h  
7 mg/l 1 h
- LC50/inhalation/mouse** = No information available
- Other LD50 or LC50 information** = 430 mg/kg Oral LDL Rat

*Water - 7732-18-5*

**LD50/oral/rat** = > 90 mL/kg Oral LD50 Rat  
**LD50/oral/mouse** = No information available  
**LD50/dermal/rat** = No information available  
**LD50/dermal/rabbit** = No information available  
**LC50/inhalation/rat** = No information available  
**LC50/inhalation/mouse** = No information available  
**Other LD50 or LC50 information** = No information available

**Product Information**

**LC50/inhalation/rat** No information available  
**LC50/Inhalation/mouse** No information available  
**LD50/dermal/rabbit** No information available  
**LD50/dermal/rat** No information available  
**LD50/oral/mouse** = No information available  
**LD50/oral/rat** = No information available

**Local Effects**

**Skin irritation:** Corrosive. Severe skin irritation. Causes burns. May cause deep penetrating ulcers of the skin with a characteristic yellow to brownish discoloration.  
**Eye irritation:** Corrosive. Severe eye irritation. Causes burns. May cause irreversible eye damage.  
**Inhalation:** Causes irritation and possible burns of the respiratory tract with burning pain in the nose and throat, coughing, sneezing, wheezing, shortness of breath and pulmonary edema. Other symptoms may include nausea, and vomiting.  
**Ingestion:** Causes serious gastrointestinal tract irritation or burns with nausea, vomiting, severe abdominal pain, and possible "coffee grounds" appearance of the vomitus. May cause perforation of the digestive tract.  
**Sensitization:** No information available

**Chronic Toxicity**

**Chronic Toxicity** Repeated inhalation may produce changes in pulmonary function and/or chronic bronchitis. It may also cause weight loss, and affect behavior/central nervous system (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.

**Carcinogenic effects:** Not considered carcinogenic

Components	NTP	IARC	OSHA HCS - Carcinogens	ACGIH - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Nitric acid	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Water	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

**Mutagenic Effects:** No information available

**Reproductive Effects:** May cause adverse developmental effects based on animal data.

**Teratogenic Effects:** No information available

**Target Organs:** Skin. Eyes. Respiratory system.

## 12. ECOLOGICAL INFORMATION

### ECOTOXICITY

**Toxicity to terrestrial and aquatic plants and animals:** No information available

**Ecotoxicity effects:** No data available.

**Aquatic toxicity:** No information available

**Mobility:** No information available

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available

## 13. DISPOSAL CONSIDERATIONS

### Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

### Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Nitric acid	None	None	None	None
Water	None	None	None	None

## 14. TRANSPORT INFORMATION

### DOT

**UN-No:** UN2031

**Proper Shipping Name:** Nitric acid (Solution)

**Hazard Class:** 8

**Packing Group:** II

**Subsidiary Risk:** 5.1

**Marine Pollutant:** No data available

**ERG No:** 157

**DOT RQ (lbs):** No information available

**Symbol(s):** R4

### TDG (Canada)

**UN-No:** UN2031

**Proper Shipping Name:** Nitric acid (Solution)

**Hazard Class:** 8

**Packing Group:** II

**Subsidiary Risk:** 5.1

**Description:** No information available

### ADR

**UN-No:** UN2031

**Proper Shipping Name:** Nitric acid (Solution)



**Hazard Class:** 8  
**Packing Group:** II  
**Subsidiary Risk:** 5.1  
**Classification Code:** No information available  
**Description:** No information available  
**CEFIC Tremcard No:** No information available

**IMO / IMDG**

**UN-No:** UN2031  
**Proper Shipping Name:** Nitric acid (Solution)  
**Hazard Class:** 8  
**Packing Group:** II  
**Subsidiary Risk:** 5.1  
**Description:** No information available  
**IMDG Page:** No information available  
**Marine Pollutant:** No information available  
**EMS:** F-A  
**MFAG:** No information available  
**Maximum Quantity:** No information available

**RID**

**UN-No:** UN2031  
**Proper Shipping Name:** Nitric acid (Solution)  
**Hazard Class:** 8  
**Packing Group:** II  
**Subsidiary Risk:** 8 + 5.1  
**Classification Code:** No information available  
**Description:** No information available

**ICAO**

**UN-No:** UN2031  
**Proper Shipping Name:** Nitric acid (Solution)  
**Hazard Class:** 8  
**Packing Group:** II  
**Subsidiary Risk:** 5.1  
**Description:** No information available

**IATA**

**UN-No:** UN2031  
**Proper Shipping Name:** Nitric acid (Solution)  
**Hazard Class:** 8  
**Packing Group:** II  
**Subsidiary Risk:** No information available  
**ERG Code:** 8L  
**Description:** No information available

**15. REGULATORY INFORMATION**

**International Inventories**

Components	U.S. TSCA	Philippines (PICCS)	KOREA KECL	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>Nitric acid</i>	Present	Present	Present KE-25911	Present (1)-394	Present	Present	Present 231-714-2
<i>Water</i>	Present	Present	Present KE-35400	Not present	Present	Present	Present 231-791-2

**U.S. Regulations**

*Nitric acid*

- Massachusetts RTK:** Present
- Massachusetts EHS:** extraordinarily hazardous
- New Jersey RTK Hazardous Substance List:** Present
- New Jersey (EHS) List:** Present
- New Jersey - Discharge Prevention - List of Hazardous Substances:** Present
- New Jersey TCPA - EHS:** 15000lbTQ  
450lbTQ
- Pennsylvania RTK:** Environmental hazard
- Pennsylvania RTK - Environmental Hazard List** Present
- RI RTK - Hazardous Substances List:** Present
- Michigan PSM HHC:** = 500 lb TQ 94.5% by weight or greater
- Minnesota - Hazardous Substance List:** Present
- New York Release Reporting - List of Hazardous Substances:**  
1000 lb RQ  
100 lb RQ
- Louisiana Reportable Quantity List for Pollutants:** 1000lbfinal RQAs listed in 40 CFR 117.3 Table 117.3 and 40 CFR 302.4 Table 302.4  
454kgfinal RQAs listed in 40 CFR 117.3 Table 117.3 and 40 CFR 302.4 Table 302.4  
1000lbRQAs listed in Louisiana Administrative Code, Title 33, Part 1, Subpart 2, Chapter 39, Subchapter E. Applies to unauthorized emissions based on total mass emitted into or onto all media within any consecutive 24-hour period  
100lbRQAs listed in Louisiana Administrative Code, Title 33, Part 1, Subpart 2, Chapter 39, Subchapter E. Applies to unauthorized emissions based on total mass emitted into the atmosphere
- California Directors List of Hazardous Substances:** Present

**California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.**

**Chemicals Known to the State of California to Cause Cancer:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

**Chemicals Known to the State of California to Cause Reproductive Toxicity:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Nitric acid	Not Listed	Not Listed	Not Listed	Not Listed
Water	Not Listed	Not Listed	Not Listed	Not Listed

**CERCLA/SARA**

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
<i>Nitric acid</i>	1000 lb final RQ 454 kg final RQ	1000 lb TPQ	None	None	1.0 % de minimis concentration
<i>Water</i>	None	None	None	None	None

**U.S. TSCA**

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
<i>Nitric acid</i>	Not Applicable	Not Applicable
<i>Water</i>	Not Applicable	Not Applicable

**Canada**

**WHMIS hazard class:**

- C Oxidizing materials
- E Corrosive material

**Nitric acid**

C E including 61.3%, 67.18%, 70%  
E 0.63%, 6.3%

**Water**

Uncontrolled product according to WHMIS classification criteria

**Canada Controlled Products Regulation:**

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Nitric acid	1 %

**Inventory**

Components	Canada (DSL)	Canada (NDSL)
Nitric acid	Present	Not Listed
Water	Present	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Nitric acid	Not listed	Not listed
Water	Not listed	Not listed

**EU Classification****R-phrase(s)**

R35 - Causes severe burns.

R 8 - Contact with combustible material may cause fire.

**S -phrase(s)**

S23 - Do not breathe gas/fumes/vapor/spray.

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

S36 - Wear suitable protective clothing.

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 1/2 - Keep locked up and out of the reach of children.

Components	Classification	Concentration Limits:	Safety Phrases
Nitric acid	C;R35 O;R8	20%≤C C;R35 5%≤C<20% C;R34 70%≤C O;R8	S(1/2)-S23-S26-S36-S45
Water		No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

**Indication of danger:**

C - Corrosive.

O - Oxidising.



## 16. OTHER INFORMATION

The MSDS format complies with ANSI Z400.1/Z129.1-2010 standards.

**Preparation Date:** 31-Mar-2014

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**Prepared by:** Sonia Owen

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