



SAFETY DATA SHEET

Preparation Date: 10/14/2015 Revision Date: 10/14/2015 Revision Number: G1

1. IDENTIFICATION

Product identifier

Product code: N-170

Product Name: NITRIC ACID, 20 PERCENT (W/V) AQUEOUS SOLUTION

Other means of identification

Synonyms: No information available

CAS #: Mixture
RTECS # Not available
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use:
Uses advised against
No information available.
No information available

Supplier: Spectrum Chemical Mfg. Corp

14422 South San Pedro St.

Gardena, CA 90248 (310) 516-8000

Order Online At: https://www.spectrumchemical.com

Emergency telephone numberChemtrec 1-800-424-9300Contact 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 B
Serious eye damage/eye irritation	Category 1
Corrosive to metals	Category 1

Label elements

Danger

Hazard statements

Causes severe skin burns and eye damage

May be corrosive to metals



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 only in original container

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician

Specific treatment (see .? on this label)

Absorb spillage to prevent material damage

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

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Store in corrosive resistant/ .? container with a resistant inner liner

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %	Trade Secret
Water	7732-18-5	82	*
7732-18-5			
Nitric acid	7697-37-2	18	*
7697-37-2			

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 eyes 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: The product is not flammable. If it is involved in a fire,

extinguish the fire using an agent suitable for the type of

surrounding fire.

Unsuitable Extinguishing Media: No information available.

Specific hazards arising from the chemical

Hazardous Combustion Products: No information available.

Specific hazards: No information available.

Special Protective Actions for Firefighters

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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 segrated 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

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Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Water	None	None	None	None
7732-18-5				

Nitric acid	2 ppm TWA	2 ppm TWA	4 ppm STEL	No information available
7697-37-2	5 mg/m³ TWA	5 mg/m³ TWA	2 ppm TWA	
		4 ppm STEL		
		10 mg/m ³ STEL		

Canada

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

Australia and Mexico

Components	Australia	Mexico
Water	None	None
7732-18-5		
Nitric acid	4 ppm STEL	2 ppm TWA
7697-37-2	10 mg/m ³ STEL	5 mg/m³ TWA
	2 ppm TWA	4 ppm STEL
	5.2 mg/m ³ TWA	10 mg/m ³ STEL

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

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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

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Appearance:

Liquid. No information available Colorless to pale yellow.

Odor: Taste Molecular/Formula weight:

No information available No information available Pungent.

Formula: Flammability: Flash point (°C):

No information available No information available No data available

Flashpoint (°C/°F): Flash Point Tested according to: Autoignition Temperature (°C/°F):

No information available. Not available No information available

Lower Explosion Limit (%): Upper Explosion Limit (%): :Ha

No information available No information available No information available

Melting point/range(°C/°F): Boiling point/range(°C/°F): Decomposition temperature(°C/°F):

No information available No information available No information available

Density (g/cm3): Specific gravity: **Bulk density:**

No information available No information available 1.11

Vapor pressure @ 20°C (kPa): **Evaporation rate:** Vapor density:

No information available No information available No information available

Partition coefficient VOC content (g/L): Odor threshold (ppm): No information available No information available (n-octanol/water):

No information available

6/13

Viscosity: Miscibility: Solubility:

No information available No information available Freely soluble in water

10. STABILITY AND REACTIVITY

Reactivity

Incompatible with combustible materials, organic materials, metallic powders, bases, ammonia, reducing agents, carbides, aldehydes, cyanides, chromic acid, hydrogen sulfide, sulfides, metals, organic solvents, acetic acid, alkalies, alcohols, cesium and rubidium acetylides, nitrobenzene, turpentine, arsine, phosphine, tetraborane, 4-Methylcyclohexane

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: Severe corrosive effect on Brass

Severe corrosive effect on Copper No corrosive effect on 304 Stainless Steel

No corrosive effect on 316 Stainless Steel

No corrosive effect on Bronze

Extremely corrosive in presence of aluminum

Special Remarks on Corrosivity: No corrosivity data for zinc. and steel

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11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Skin. Inhalation. Ingestion.

Acute Toxicity

Component Information

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 infomation available

Other LD50 or LC50information = No information available

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/m³4 h

7 mg/l 1 h

LC50/inhalation/mouse = No infomation available

Other LD50 or LC50information = 430 mg/kg Oral LDL Rat

Product Information

LD50/oral/rat =

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

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VALUE-Vapor = No information available

VALUE - Gas = No information available

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

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.

InhalationCauses 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..

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.

Aspiration hazard No information available

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

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 contaction or spasticity, weakness, loss of coordinaton, mental confusion), and urinary system (kidney faillure, decreased urinary output after several hours of uncorrected circulatory

collapse).

Repeated exposure may cause discoloration and/or errosion 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.

Sensitization: No information available

Mutagenic Effects: No information available

Carcinogenic effects: Not considered carcinogenic

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

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STOT - repeated exposure

No information available

Target Organs:

Skin. Eyes. Respiratory system.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Nitric acid - 7697-37-2

Freshwater Fish Species Data: 72 mg/L LC50 Gambusia affinis 96h

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
Water	None	None	None	None
Nitric acid	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN2031

Proper Shipping Name: Nitric acid (Solution)

Hazard Class: 8

Subsidiary Risk: No information available

Packing Group: II ERG No: 157

Marine Pollutant No data available

DOT RQ (lbs): No information available

TDG (Canada)

UN-No: UN2031

Proper Shipping Name: Nitric acid (Solution)

Hazard Class: 8

Subsidiary Risk: No information available

Packing Group:

14. TRANSPORT INFORMATION

Description: No information available

ADR

UN-No: UN2031

Proper Shipping Name: Nitric acid (Solution)

Hazard Class: 8
Packing Group: ||

Subsidiary Risk:No information availableClassification Code:No information availableDescription:No information availableCEFIC Tremcard No:No information available

IMO / IMDG

UN-No: UN2031

Proper Shipping Name: Nitric acid (Solution)

Hazard Class: 8

Subsidiary Risk: No information available

Packing Group:

Description:No information availableIMDG Page:No information availableMarine PollutantNo information available

EMS: F-A

MFAG: No information available No information available

RID

UN-No: UN2031

Proper Shipping Name: Nitric acid (Solution)

Hazard Class: 8

Subsidiary Risk: No information available

Packing Group:

Classification Code: No information available Description: No information available

ICAO

UN-No: UN2031

Proper Shipping Name: Nitric acid (Solution)

Hazard Class: 8

Subsidiary Risk: No information available

Packing Group:

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

Product code: N-170

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

U.S. Regulations

Nitric acid

Massachusetts RTK: Present

Massachusetts EHS: extraordinarily hazardous
New Jersey RTK Hazardous Substance List: 1356

New Jersey (EHS) List: 1356 500 lb TPQ

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 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

Louisana 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:
Water	Not Listed	Not Listed	Not Listed	Not Listed
Nitric acid	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

•	Substances and their	Hazardous	Section 302 Extremely Hazardous Substances and RQs	Chemical Category	Section 313 - Reporting de minimis
Water	None	None	None	None	None
Nitric acid	1000 lb final RQ	1000 lb TPQ	None	None	1.0 % de minimis
	454 kg final RQ				concentration

U.S. TSCA

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

Canada

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WHMIS hazard class:

E Corrosive material

Water

Uncontrolled product according to WHMIS classification criteria

Nitric acid

C E including 61.3%, 67.18%, 70%

E 0.63%, 6.3%

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)	
Water	Present	Not Listed	
Nitric acid	Present	Not Listed	

Components		CEPA - 2010 Greenhouse Gases Subject to Manditory Reporting	
Water		Not listed	
Nitric acid	Not listed	Not listed	

EU Classification

R-phrase(s)

R34 - Causes burns.

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
Water		No information	
Nitric acid	C; R35 O; R8	20%<=C C;R35 5%<=C<20% C;R34 70%<=C O;R8	S1/2 S23 S26 S36 S45

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

Indication of danger:

C - Corrosive.

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16. OTHER INFORMATION

Preparation Date:10/14/2015Revision Date:10/14/2015Prepared by:Sonia Owen

Disclaimer:

Product code: N-170

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