An ISO9001 Certified Company

Material Safety Data Sheet
Ferric Nitrate Solution

Section 1 - Chemical Product and Company Identification

MSDS Name:
Ferric Nitrate Solution
Catalog Numbers:
LC14420
Synonyms:
Ferric Nitrate Solution, APHA

Section 2 – Composition, Information on Ingredients

CAS#	Chemical Name:	Percent
7732-18-5	Water	78
7782-61-8	Ferric nitrate nonahydrate	20
7697-37-2	Nitric acid	2

Section 3 - Hazards Identification

Emergency Overview

Appearance: *clear, yellow-green solution*
Danger! May cause severe respiratory and digestive tract irritation with possible burns. May cause severe skin irritation and possible burns.
Target Organs: *kidneys, respiratory and gastrointestinal systems, eyes, skin, teeth.*

Potential Health Effects

Eye:
Causes eye irritation and possible burns.
Skin:
Causes skin irritation and possible burns.
Ingestion:
May cause irritation or burns of the gastrointestinal tract. May be harmful if swallowed. May cause kidney damage.

Inhalation:
May cause severe irritation of the respiratory tract. May cause pulmonary edema.
Chronic:
May cause chronic bronchitis, erosion of teeth, and kidney damage.

Section 4 - First Aid Measures

Eyes:
Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids until no evidence of chemical remains. Get medical aid at once.
Skin:
Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid at once.
Ingestion:
Do not induce vomiting. Give conscious victim 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid at once.
Inhalation:
Move victim to fresh air immediately. If breathing is difficult, administer oxygen. Give artificial respiration if necessary. Get medical aid at once.
Notes to Physician:
Treat symptomatically and supportively.
Antidote:
The use of Deferoxamine as a chelating agent should be determined only by qualified medical personnel.

Section 5 - Fire Fighting Measures

General Information:
As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Oxidizer. Contact with other material may cause fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Move container if possible. Avoid breathing vapors.
Extinguishing Media:
Use water only! Do not use carbon dioxide or dry chemical.
Autoignition Temperature:
Not applicable.
Flash Point:
Not applicable.
NFPA Rating:
Health- 2, Flammability- 0, Instability- 0
Explosion Limits:
Lower: n/a Upper: n/a

Section 6 - Accidental Release Measures

General Information:
Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Absorb spill with inert material such as sand, vermiculite, or diatomaceous earth, and transfer to a suitable container labeled for later disposal. Label reclaimed spill material as corrosive. Material may be carefully neutralized to pH 7 with sodium bicarbonate.

Section 7 - Handling and Storage

Handling:

Wash thoroughly after handling. Do not ingest or inhale. Do not get in eyes, on skin, or on clothing. Use with adequate ventilation.

Storage:

Store tightly capped in a cool, dry, well-ventilated area away from incompatible materials. Do not store in metal containers.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations below permissible exposure limits.

Exposure Limits:

Chemical Name:	ACGIH	NIOSH	OSHA
Water	none listed	none listed	none listed
Ferric nitrate nonahydrate	1 mg/m3 (as Fe) (listed as Fe salts, soluble)	1 mg/m3 (as Fe) (listed as Fe salts, soluble)	none listed
Nitric acid	2 ppm TWA 5 mg/m3 TWA	2 ppm TWA 5 mg/m3 TWA 25 ppm IDLH	2 ppm TWA 4 ppm STEL

OSHA Vacated PELs:

Nitric acid: 2 ppm TWA; 5 mg/m3 TWA

Personal Protective Equipment

Eyes:

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133. Do not wear contact lenses when working with chemicals.

Skin:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29 CFR 1910.134. Always use a NIOSH-approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Color: Light yellow-green
Odor: Slight nitric acid odor

pH:	Acidic
Vapor Pressure:	Not available
Vapor Density:	> air
Evaporation Rate:	< ether
Viscosity:	Not available
Boiling Point:	>212°F (>100°C)
Freezing/Melting Point:	<32°F (<0°C)
Decomposition Temperature:	Not available
Solubility in water:	Soluble
Specific Gravity/Density:	1.1
Molecular Formula:	Not applicable
Molecular Weight:	Not applicable

Section 10 - Stability and Reactivity

Chemical Stability:
Stable under normal temperatures and pressures.

Conditions to Avoid:
Incompatible materials, excess heat.

Incompatibilities with Other Materials:
Combustible materials, strong bases, metals, strong reducing agents, organic matter.

Hazardous Decomposition Products:
Oxides of nitrogen.

Hazardous Polymerization:
Has not been reported.

Section 11 - Toxicological Information

RTECS:
CAS# 7732-18-5: ZC0110000.
CAS# 7782-61-8: NO7175000.
CAS# 7697-37-2: QU5775000; QU5900000.

LD50/LC50:
CAS# 7732-18-5:
Oral, rat: LD50 = >90 mL/kg.
CAS# 7782-61-8:
Oral, rat: LD50 = 3250 mg/kg.
CAS# 7697-37-2:
Inhalation, rat: LC50 = 67 ppm (NO2)/4H.

Carcinogenicity:
CAS# 7732-18-5: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.
CAS# 7782-61-8: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.
CAS# 7697-37-2: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.

Epidemiology:
No information found

Teratogenicity:
Teratogenic effects have occurred in laboratory animals.
Reproductive:
Reproductive toxicity effects have occurred in laboratory animals.
Mutagenicity:
No information found
Neurotoxicity:
No information found

Section 12 - Ecological Information

No information found

Section 13 - Disposal Considerations

Dispose of in accordance with Federal, State, and local regulations.

Section 14 - Transport Information

US DOT

Shipping Name: Corrosive liquid, acidic, inorganic, n.o.s. (Nitric acid)
Hazard Class: 8
UN Number: UN3264
Packing Group: PGII

Section 15 - Regulatory Information

US Federal

TSCA:
CAS# 7732-18-5 is listed on the TSCA Inventory.
CAS# 7782-61-8 is not listed on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the Inventory (40CFR 720.3(u)(2)).
CAS# 7697-37-2 is listed on the TSCA Inventory.
SARA Reportable Quantities (RQ):
CAS# 7697-37-2: final RQ = 1000 pounds (454 kg)
CERCLA/SARA Section 313:
This material contains Nitric acid (CAS# 7697-37-2, 2%), and Ferric nitrate, nonahydrate (listed as Water Dissociable Nitrate Compounds) (CAS# 7782-61-8, 20%), which are subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.
OSHA - Highly Hazardous:
CAS# 7697-37-2 is considered highly hazardous by OSHA.

US State

State Right to Know:
Nitric acid can be found on the following state Right-to-Know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

Ferric nitrate can be found on the following state Right-to-Know lists: California (listed as Iron salts, soluble), Pennsylvania (listed as Iron salts, soluble), Minnesota (listed as Iron salts, soluble).

California Regulations:

None.

European/International Regulations

Canadian DSL/NDSL:

CAS# 7732-18-5 is listed on Canada's DSL List.
CAS# 7782-61-8 is not listed on Canada's DSL List.
CAS# 7697-37-2 is listed on Canada's DSL List.

Canada Ingredient Disclosure List:

CAS# 7732-18-5 is not listed on Canada's Ingredient Disclosure List.
CAS# 7782-61-8 is listed on Canada's Ingredient Disclosure List as Iron salts, soluble.
CAS# 7697-37-2 is listed on Canada's Ingredient Disclosure List.

Section 16 - Other Information

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