TRADEMARK NITROGEN

SAFETY DATA SHEET

Ferric Nitrate Solution, 30%

Section 1 – Identification

Product	Ferric Nitrate Solution, 30%	Recommended Use: Utilized in industrial chemical applications.
Manufacturer	TradeMark Nitrogen Corp.	
Address	1216 Old Hopewell Road, Tampa, FL 33619	
Phone	(813) 626-1181 (800) 452-3107	
24 Hour Emergency Contact	Chemtrec (800) 424-9300	

Section 2 – Hazard Identification

GHS05

Signal Word: DANGER

Precautionary Statements:

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P262	Do not get in eyes, on skin, or on clothing
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.
P284	Wear respiratory protection.
P301	IF SWALLOWED:
P331	Do NOT induce vomiting.
P313	Get medical advice/attention.
P303	IF ON SKIN OR HAIR:
P361 P353	Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304	IF INHALED
P340	Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P313	Get medical advice/attention.
P305	IF IN EYES
P351 P338	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 P313	If eye irritation persists: Get medical advice/attention.
P370 P378	In case of fire: Use water for extinction.
P410 P403	Protect from sunlight. Store in a well-ventilated place.
P402	Store in a cool, dry place.

Hazard Statements:

H303	May be harmful if swallowed
H314	Causes severe skin burns and eye damage
H335	May cause respiratory irritation
H373	May cause damage to organs through prolonged or repeated exposure

Section 3 – Composition

Ingredients	Component	CAS. No.	Percent by Weight	Percent as Metal
	Ferric (III) Nitrate ($Fe(NO_3)_3$)	10421-48-4	30.3%	7.0%
	Nitric Acid (HNO_3)	7697-37-2	0-0.1%	
	Water (H_20)	7732-18-5	Balance	

Section 4 – First Aid Measures

Inhalation	If inhaled: Remove person to fresh air and keep comfortable for breathing. Provide artificial respiration if necessary. Seek medical attention if necessary.
Skin Contact	If on skin (or hair): Take off all contaminated clothing. Rinse skin with soap and water for at least 15 minutes.
Eye Contact	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. Seek medical attention if irritation persists.
Ingestion	If swallowed: **Do NOT induce vomiting**. Drink large amounts of water. Never give anything by mouth to an unconscious person. Seek medical attention.
Acute Health Hazards	Harmful if swallowed or inhaled. Destructive to muccous membranes and upper respiratory tract, eyes and skin. Redness and irritation of tissue may occur.
Chronic Health Hazards	Excess iron intake can lead to cell damage, lipid peroxidation and DNA mutagenesis. In severe cases it can lead to hemochromatosis. Other chronic effects can include metabolic syndrome, type 2 diabetes, sarcopenia, non-alcoholic fatty liver disease and Alzhimer's and other neurodegenerative diseases.

Section 5 – Fire Fighting Measures

Suitable Extinguishing Techniques & Equipment	Non-combustible, but can contribute to the intensity of the fire. Wear self-contained breathing apparatus and full protective gear. Use water spray - not water jet
Chemical Hazards From Fire	This material may decompose and produce acrid vapors and oxides of nitrogen and carbon.
Special Fire Fighting Procedures	Use water spray. CO_2 or halon may provide limited control.
NFPA Rating	Health - 1 (Slight) Fire - 0 (Least) Reactivity - 1 (Slight)
Other	Do not allow run-off from fire fighting to enter drains or water courses.

Section 6 – Accidental Release Measure

Personal Precautions	Avoid splashing. Prevent exposure to spilled material with the use of proper PPE.
Protective Equipment	PPE should include gloves, goggles, face shield and level C protective suit.
Containment	Control the flow of product using dikes of soil, sand bags or other commercially available inert sorbent socks or booms.
In Case of Spill	Absorb product with inert absorbent. Avoid splashing or spraying. Contain and pick up spill in diked area. Prevent discharge to sewers or water ways. If uncontaminated, recover and re-use.

Section 7 – Safe Handling & Storage

Precautions for Safe Handling & Storage	Recommended storage above 50°F. Store in a well ventilated cool, dry place out of direct sunlight. Prevent from freezing. Containers should be kept closed and labeled properly.
Incompatibility	Avoid contamination with combustible materials. Keep away from fire. Extreme heat may cause decomposing to toxic fumes of nitrogen oxides.

Section 8 – Exposure Controls / Personal Protection

Exposure Limits

Component	Permissible Exposure Limit	Threshold Limit Value	Short Term Exposure Limit	Immediately Dangerous to Life or Health
Ferric (III) Nitrate ($Fe(NO_3)_3$)	Not Established	Not Established	Not Established	Not Established
Nitric Acid (HNO_3)	2 ppm	2 ppm (TWA)	4 ppm	25 ppm
Water (H_2O)	Not Established	Not Established	Not Established	Not Established

Engineering Controls: Provide ventilation sufficient to maintain exposure below PEL/TWA/TLV. Washing facilities should be available.

Personal Protective Equipment

Eyes	Chemical safety goggles and full face shield
Hands	Chemical resistant gloves with gaunlet.
Respiratory	None required under normal conditions. Self contained respiratory equipment should be used under spill situations.
Protective Clothing	Chemical resistant protective clothing.

Gloves

Goggles

Face Shield

Protective Clothing

Section 9 – Physical & Chemical Properties

Appearance and Odor	A reddish to brown liquid. Slight acrid odor.	Specific Gravity	1.1 - 1.4
Boiling Point	> 212°F (>100°C) at 1 atmosphere	Molecular Weight	No Data Available
Freezing Point	No Data Available	Solubility in Water	No Data Available
Vapor Pressure	No Data Available	Evaporative Rate	No Data Available
Weight per Gallon	10.90 lbs./gal	pH	0.2 - 2.0
Flash Point	No Data Available	Salt-Out Temp	< 55°F (10.0°C)
Flammability Limits	No Data Available	Auto Ignition Temp	Not Flammable
UEL	No Data Available	LEL	N/A

Section 10 – Stability & Reactivity

Reactivity	Reacts with strong alkaline substances. This product may react with reducing agents.
Stability	Product is stable under normal conditions.
Hazardous Reactions	Hazardous polymerization will not occur.
Conditions to Avoid	Elevated temperatures may cause container to rupture. Avoid evaporation to dryness.
Incompatible Materials	Avoid contact with cyanides, sulfides, sulfites, chlorine or chlorine bleaches, strong alkalis, mild steel, strong reducting agents and finely powdered metals.
Hazardous Decomposition Products	Extreme heat may cause decomposing to toxic fumes of nitrogen oxides.

Section 11 – Toxicology Information

Routes of Exposure	Inhalation, ingestion or skin/eye absorption	
Symptoms and Signs of Exposure	Eyes	May cause eye damage
	Skin	Mild irritant.
	Inhalation	of gases or mist causes irritation to the upper respiratory system, including the mucous membranes of the nose, mouth and throat. Coughing, fever, nausea, irritability, spasms, possible pneumonia, apathy, headaches, weakness and chemical burns if inhaled.
	Ingestion	may cause upset stomach.
Long Term Effects	Excess iron intake can lead to cell damage, lipid peroxidation and DNA mutagenesis. In severe cases it can lead to hemochromatosis. Other chronic effects can include metabolic syndrome, type 2 diabetes, sarcopenia, nonalcoholic fatty liver disease and Alzheimer's and other neurodegenerative diseases.	
Carcinogen	The International Agency for Research on Cancer has not classified ferric nitrate for its carcinogenic potential (IARC 1987).	

Section 12 – Ecological Information

Water	No Data Available

Section 13 – Disposal Considerations

Waste	Disposal must be done in accordance with local, state and federal environmental regulations. Place waste in an appropriate container with correct labeling.

Section 14 – Transport Information

This material is hazardous as defined by 49 CFR 172.101 by the US Department of Transportation

UN ID Number	UN3093
Proper Shipping Name	UN3093, Corrosive Liquid, Oxidizing, N.O.S. (Ferric Nitrate Solution), 8(5.1), II
Hazard Class	8(5.1)
Packing Group	PG II
US DOT Label	Corrosive
Emergency Response Guide Number	154

This material is regulated as a Dangerous Good per the IMDG Code

UN ID Number	UN3093
Proper Shipping Name	UN3093, Corrosive Liquid, Oxidizing, N.O.S. (Ferric Nitrate Solution), 8(5.1), II
Hazard Class	8(5.1)
Packing Group	PG II
Label	Corrosive

This material is regulated as a Dangerous Good per the IATA Code

UN ID Number	UN3093	
Proper Shipping Name	UN3093, Corrosive Liquid, Oxidizing, N.O.S. (Ferric Nitrate Solution), 8(5.1), II	
Hazard Class	8(5.1)	
Packing Group	PG II	
Packing Instructions	851 = 1 Liter Or Less	855 = More than 1 Liter (CARGO AIRCRAFT ONLY)
Label	Corrosive	

Section 15 – Regulatory Information

United States - SARA Hazard Category

This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act (SARA) and is considered, under applicable definitions, to meet the following categories:

Fire - No | Pressure - No | Reactive - Yes | Acute - Yes | Chronic - No

SARA Title III Information

This product contains the following substances subject to the reporting requirements of Title III (EPCRA) of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

Chemical	CAS No.	CERCLA RQ (lbs.)	SARA Reporting		
			302	304	313
Ferric Nitrate	10421-48-4	N/A	No	No	Yes
Nitric Acid	7697-37-2	1,000 lbs (453.6 Kg)	Yes	No	Yes

CERCLA / Superfund, 40 CFR Part 117, 302

If this product contains components subject to substances designated as CERCLA reportable Quantity (RQ) Substances, it will be designated in the above table with the RQ value in pounds. If there is a release of RQ Substance to the environment, notification to the National Response Center, Washington DC (800-424-8802) is required.

TSCA

Nitric acid, iron(3+) salt (3:1) is on the Active TSCA inventory list.

California Prop 65

Components of this product are not listed on California's Prop 65 list.

Section 16 – Other Information

Issue Date **4/30/2024**

Date of Revision

April 2024 Section 14 Transportation Information updated. September 2022 UN Number & proper shipping name updated based on DOT laboratory testing results. March 2021 document prepared in accordance with 29 CFR 1910.1200 Appendix D to meet Global Harmonization Standards.

Disclaimer

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