

# SAFETY DATA SHEET

## FERRIC NITRATE SOLUTION

### Section 1 – Identification

Product	Ferric Nitrate Solution (7-0-0+9.5% Fe)	Recommended Use: Used in the production of fertilizers and other chemicals.
Manufacturer	TradeMark Nitrogen Corp.	
Address	1216 Old Hopewell Road, Tampa, FL 33619	
Phone	(813) 626-1181	
24 Hour Emergency Contact	Chemtrec (800) 424-9300	

### Section 2 – Hazard Identification



**Corrosive**

**Danger:** Causes severe skin burns and eye damage.  
Causes severe eye damage.  
Wash thoroughly after handling.



**Oxidizer**

**Warning:** May intensify fire; oxidizer.  
Keep away from heat. Store away from combustible materials.  
In case of fire: Use water to extinguish.

#### Global Harmonization System Information

Signal Word	WARNING
Hazard Statements	H272, H302, H319
Precautionary Statements	P210, P220, P221, P264, P270, P280, P301+312, P305+351+338, P330, P337+313, P370+378, P501

### Section 3 – Composition

Ingredients	Component	CAS. No.	Percent by Weight
	Ferric (III) Nitrate ( $\text{Fe}(\text{NO}_3)_3$ )	7782-61-8	41%
	Nitric Acid ( $\text{HNO}_3$ )	7697-37-2	0 - 5%
	Water ( $\text{H}_2\text{O}$ )	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 prompt medical attention.
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: <b>Do NOT induce vomiting.</b> 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 mucous 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 Alzheimer'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	Under fire conditions, this product behaves as an oxidizer. Contact with oxidizable substances may result in ignition. Violent combustion or explosion when involved in fire can occur. This material may decompose and produce acrid vapors and oxides of nitrogen and carbon.



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## Section 5 – Fire Fighting Measures Continued

Special Fire Fighting Procedures Use water spray. CO<sub>2</sub> or halon may provide limited control.

NFPA Rating Health - 1 (Slight), Fire - 0 (Least), Reactivity - 0 (Least), Oxidizer



## 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 or safety glasses 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 reuse.

## Section 7 – Safe Handling and Storage

Precautions for Safe Handling and Storage Recommended storage above 32°F. Store in a well ventilated cool, dry place out of direct sunlight. Prevent from freezing. Containers should be kept closed and labeled properly. Liquid is an oxidizer and may cause fire with combustibles.

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
	Iron (III) Nitrate (Fe(NO <sub>3</sub> ) <sub>3</sub> )	Not Established	Not Established	Not Established	Not Established
	Nitric Acid (HNO <sub>3</sub> )	2 ppm	2 ppm (TWA)	4ppm	25ppm
	Water (H <sub>2</sub> O)	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 - Impervious gloves with gauntlet.  
 Respiratory - None required under normal conditions. Self contained respiratory equipment should be used under spill situations.

Personal Protective Equipment



Gloves



Goggles



Face Shield



Apron

## Section 9 – Physical and Chemical Properties

Appearance and Odor	A reddish to brown liquid.			
Boiling Point	> 212°F (> 100°C) at 1 atmosphere	Specific Gravity	1.43 at 72°F (22.2°C)	
Salt Out Temp	< -30°F (-34.4°C)	Molecular Weight	241.86	
Vapor Pressure	N/A	Water Reactive	N/A	
Solubility In Water	Highly soluble	Evaporative Rate	N/A	
Density	11.9 lbs/gal at 60°F (1.43 kg/L at 15.6°C)	pH	< 2.0	
Gallons per Ton	168.07 gal/ton (0.64 L/Kg)	Freezing Point	N/A	
Flash Point	N/A	Auto Ignition Temp	N/A	LEL N/A UEL N/A
		Flammability Limits	N/A	



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## Section 10 – Stability and Reactivity

Reactivity	Product may act as an oxidizer.
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	Organic or other oxidizable materials. Avoid contact with cyanides, sulfides, sulfites, chlorine or chlorine bleaches, strong alkalis, mild steel, strong reducing 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 absorption
Symptoms and Signs of Exposure	<b>Eyes &amp; Skin</b> mild irritant. <b>Inhalation</b> 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. <b>Ingestion</b> 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, non-alcoholic fatty liver disease and Alzheimer's and other neurodegenerative diseases.
Toxicity	<b>Oral LD<sub>50</sub></b> - 3,250 mg/kg - rat, <b>Skin LD<sub>50</sub></b> - >5,000 mg/kg - rat
Carcinogen	The International Agency for Research on Cancer has not classified ferric nitrate for its carcinogenic potential (IARC 1987).

## Section 12 – Ecological Information

Water	There is no data for this product.
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## 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. EPA waste number: D001 (Ignitability).
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## Section 14 – Transport Information

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

UN ID Number	UN 3093
Proper Shipping Name	Corrosive Liquid, Oxidizing, N.O.S. (Ferric Nitrate Solution)
Hazard Class	8 (5.1)
Packing Group	PG II
US DOT Label	Corrosive
Marine Pollutant	No
Emergency Response Guide Number	154



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

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## 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

All intentional ingredients are listed on the TSCA inventory.

### 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	SARA Reporting	302	304	313
Ferric Nitrate	7782-61-7	N/A		No	No	Yes
Nitric Acid	7697-37-2	1000 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 TSCA inventory list.

## Section 16 – Other Information

### Date of Revision

March 2016 revision prepared in accordance with 29 CFR 1910.1200 Appendix D to meet Global Harmonization Standards.

### Disclaimer

The information contained in this SDS refers only to the specific material designated and does not relate to any process or use with any other materials. This information is furnished free of charge and is based on data believed to be accurate and reliable as of the date herof. It is intended for use by persons possessing technical knowledge at their own discretion and risk. Since actual use is beyond our control, no warranty, expressed or implied, and no liability is assumed by TradeMark Nitrogen Corp. in conjunction with the use of this information. Nothing herein is to be construed as a recommendation to infringe any patents. TradeMark Nitrogen Corp. assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in his use of the material.



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