SAFETY DATA SHEET

FERRIC NITRATE SOLUTION

Section 1 – Identification

Product: Ferric Nitrate Solution (7-0-0+9.5% Fe)
Manufacturer: TradeMark Nitrogen Corp.
Address: 1216 Old Hopewell Road, Tampa, FL 33619
Phone: (813) 626-1181
24 Hour Emergency Contact: Chemtrec (800) 424-9300

Recommended Use:
Used in the production of fertilizers and other chemicals.

Section 2 – Hazard Identification

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

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 (Fe(NO₃)₃) | 7782-61-8 | 41%
Nitric Acid (HNO₃) | 7697-37-2 | 0 - 5%
Water (H₂O) | 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: 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 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.
# 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.

## 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.

## Appearance and Odor
A reddish to brown liquid.

## Boiling Point Specific Gravity
> 212°F (>100°C) at 1 atmosphere 1.43 at 72°F (22.2°C)

## Salt Out Temp Molecular Weight
< -30°F (-34.4°C) 241.86

## Vapor Pressure Water Reactive
N/A  N/A

## Solubility In Water Evaporative Rate
Highly soluble N/A

## Density pH
11.9 lbs/gal at 60°F (1.43 kg/L at 15.6°C) < 2.0

## Gallons per Ton Freezing Point
168.07 gal/ton (0.64 L/Kg) N/A

## Flash Point Auto Ignition Temp
N/A N/A

## Flammability Limits LEL
N/A N/A

## UEL
N/A

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**TradeMark Nitrogen Corp.**
1216 Old Hopewell Road
Tampa, Florida 33619 USA
www.trademarknitrogen.com
800 452 3107
813 626 1181
## Section 10 – Stability and Reactivity

<table>
<thead>
<tr>
<th>Reactivity</th>
<th>Product may act as an oxidizer.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability</td>
<td>Product is stable under normal conditions.</td>
</tr>
<tr>
<td>Hazardous Reactions</td>
<td>Hazardous polymerization will not occur.</td>
</tr>
<tr>
<td>Conditions to Avoid</td>
<td>Elevated temperatures may cause container to rupture. Avoid evaporation to dryness.</td>
</tr>
<tr>
<td>Incompatible Materials</td>
<td>Organic or other oxidizable materials. Avoid contact with cyanides, sulfides, sulfites, chlorine or chlorine bleaches, strong alkalies, mild steel, strong reducing agents and finely powdered metals.</td>
</tr>
<tr>
<td>Hazardous Decomposition Products</td>
<td>Extreme heat may cause decomposing to toxic fumes of nitrogen oxides.</td>
</tr>
</tbody>
</table>

## Section 11 – Toxicology Information

<table>
<thead>
<tr>
<th>Routes of Exposure</th>
<th>Inhalation, ingestion or skin absorption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyes &amp; Skin</td>
<td>mild irritant.</td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>Ingestion</td>
<td>may cause upset stomach.</td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>Toxicity</td>
<td>Oral (LD_{50}) - 3,250 mg/kg - rat, Skin (LD_{50}) - &gt;5,000 mg/kg - rat</td>
</tr>
<tr>
<td>Carcinogen</td>
<td>The International Agency for Research on Cancer has not classified ferric nitrate for its carcinogenic potential (IARC 1987).</td>
</tr>
</tbody>
</table>

## Section 12 – Ecological Information

| Water | There is no data for this product. |

## 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). |

## Section 14 – Transport Information

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

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

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:

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS No.</th>
<th>CERCLA RQ</th>
<th>SARA Reporting</th>
<th>302</th>
<th>304</th>
<th>313</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferric Nitrate</td>
<td>7782-61-7</td>
<td>N/A</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Nitric Acid</td>
<td>7697-37-2</td>
<td>1000 lbs (453.6 kg)</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**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**

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