Innovative technologies and services for environmental professionals.

An Employee-Owned Company
Comprehensive Wastewater Solutions

Safety Data Sheet
FerrOx™
Wastewater Nutrient Blend

Section 1 - Identification

Product Name: FerrOx™
Product Use: Wastewater Nutrient Blend
Product Description: Wastewater Nutrient Blend

Issued: December 6th 2022
Revised: April 10th 2024

Supplier Details:
Environmental Business Specialists, LLC
1930 Surgi Drive
Mandeville, LA USA 70448
E-mail: info@ebsbiowizard.com
Website: www.ebsbiowizard.com

Emergency Numbers:
Chemtrec: 800-424-9300
Phone: 985-674-0660
Fax: 985-674-3483

Section 2 - Hazard(s) Identification

GHS Classification(s):

Acute Toxicity Oral Category 4
Skin Corrosion /Irritation Category 1

Signal Word: Danger
Hazard Statements: Harmful if swallowed. Causes severe skin burns and eye damage.
Precautionary Statements:
Prevention: Wear protective gloves/protective clothing/eye protection/face protection/and respiratory protection.
Response: IF INGESTED, give large quantities of water to dilute. Consult a physician promptly. IF ON SKIN OR CLOTHING, immediately flush skin with water. If irritation persists, seek medical attention. IF IN EYES, immediately flush your eyes thoroughly with water for at least 15 minutes. If irritation persists, seek medical attention. IF INHALED, removed victim to fresh air and keep at rest in a position comfortable for breathing.
Storage: Keep out of extreme temperatures. Store in a cool, dry, well-ventilated place.
Disposal: Disposal is subject to federal, state, and local regulations.

Section 3 - Composition/Information on Ingredients

Component	CAS#	% by Wt.	Percent as Metal
Ferric (III) Nitrate	10421-48-4	43%	10.0%
Nitric Acid	7697-37-2	0 - 5%	

Section 4 - First Aid Measures

Inhalation: Avoid inhalation of vapor, spray, or mist. If inhaled, remove to fresh air. Provide artificial respiration if necessary. Seek medical attention if necessary.
Skin Contact: In case of contact, remove contaminated clothing and shoes. Wash contact areas thoroughly with soap and water for at least 15 minutes.
Eye Contact: In case of contact, do not rub your eyes. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Remove contact lenses, if present, and easy to do. If irritation develops and persists, seek medical attention.
Ingestion: If ingested, rinse with water. If the victim is conscious and alert, give large amounts of water to dilute. Do not induce vomiting, unless directed by medical personnel. If gastric distress develops, 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

General Information: Non-combustible, but can contribute to the intensity of the fire. Wear self-contained breathing apparatus and full protective gear.
Suitable Extinguishing Media: Use water spray - not water jet.
Unsuitable Extinguishing Media: Do not use water jet.
Specific Hazards in Case of Fire: Under fire conditions, this product behaves as an oxidizer. Contact with oxidizable substances may result in ignition. This material may decompose and produce
acrid vapors and oxides of nitrogen and carbon.
Special Protective Equipment and Precaution for Fire Fighters: Use water spray. CO2 or halon may provide limited control.

Section 6 - Accidental Release Measures

Personal Precautions: Avoid splashing. Wear appropriate personal protection equipment (see section 8).
Containment: Control the flow of product using dikes of soil, sand bags or other commercially available inert sorbent socks or booms.
Methods and Materials for Containment and Cleaning Up: Absorb product with inert absorbent. Avoid splashing or spraying. Contain and pick up spill in diked area. Prevent discharge to sewers or waterways.

Section 7 - Handling and Storage

Precautions for safe handling: Wear appropriate personal protection equipment (see section 8). Do not ingest.
Conditions for safe storage, including incompatibilities: Store in a cool place. Prevent from freezing. Keep away from fire. Store away from incompatible materials (see section 10).

Section 8 - Exposure Control/Personal Protection

Occupational Exposure Limits: Minimize exposure in accordance with good hygiene practices.

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

Appropriate engineering controls: Provide ventilation sufficient to maintain exposure below PEL/TWA/TLV. Washing facilities should be available.

Individual protection measures/Personal protective equipment

Hand protection: Wear chemical-resistant gloves with gauntlet.
Eye protection: Chemical goggles and full face shield.
Respiratory: None required under normal conditions. Self-contained respiratory equipment should be used under spill situations.
Skin and body protection: Wear chemical resistant protective clothing.
Other information: Do not eat, drink or smoke during use.

Section 9 - Physical and Chemical Properties

Physical state: Liquid
Color: Reddish to Brown.
Odor: Slight acrid odor.
Odor threshold: No data available.
pH: < 1.0
Freezing point: No data available.
Boiling point: > 212°F (>100°C) at 1 atmosphere
Flash point: No data available.
Evaporation rate: No data available.
Flammability (solid, gas): No data available.
Vapor pressure: No data available.
Weight per Gallon: 12.13 lbs./gal
Specific gravity/Relative density: 1.455 at 68°F (20°C) (g/cm3)
Solubility: No data available.
Salt-Out Temp: < 55°F (10.0°C)
Auto-ignition temperature: Not Flammable.
Decomposition temperature: No data available.
Viscosity, kinematic: No data available.
Viscosity, dynamic: No data available.

Section 10 - Stability and Reactivity

Chemical Stability: Product is stable under recommended conditions of use and storage.
Reactivity: Product may act as an oxidizer.
Possibility of hazardous reactions: Hazardous polymerization will not occur.
Conditions to avoid: Elevated temperatures may cause container to rupture. Avoid evaporation to dryness.
Materials to avoid: Avoid contact with 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 - Toxicological Information

Routes of Exposure: Inhalation, ingestion, or skin/eye absorption.

Potential Acute Health Effects

**Inhalation: Vapor may be irritating to the eyes and respiratory system.
**Ingestion: May lead to stomach pains. May cause burns to the mouth, throat, and stomach.
**Skin Contact: Mild irritant.
**Eye Contact: May cause eye damage.

Symptoms Related to the Physical, Chemical, and Toxicological Characteristics

**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.
**Skin Contact: Irritation.
**Eye Contact: Adverse symptoms may include pain, irritation, watering, or redness.

Long-Term Exposure: 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.

Section 12 - Ecological Information

Persistence/Degradability: Not determined.
Bioaccumulation: Not determined.
Mobility in soil: Not determined.
Other Adverse Effects: No known significant effects or critical hazards.

Section 13 - Disposal Considerations

Disposal Method: Dispose of in accordance with all local, state and federal regulations. Since emptied containers retain product residue, follow label warnings even after container is emptied.

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, II
Hazard Class: 8 (5.1)
Packing Group PG II
US DOT Label: Corrosive
Marine Pollutant: No
Emergency Response Guide Number: 154
IATA: Not regulated.
IMDG: Not regulated.

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

UN ID Number: UN3093
Proper Shipping Name: Corrosive Liquid, Oxidizing, N.O.S. (Ferric Nitrate Solution)
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: Corrosive Liquid, Oxidizing, N.O.S. (Ferric Nitrate Solution)
Hazard Class: 8 (5.1)
Packing Group 851 = 1 Liter or less | 855 = More than 1 Liter (CARGO AIRCRAFT ONLY)
Label: Corrosive, Oxidizer

Section 15 - Regulatory Information

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

Regulated Components:

Component	CAS #	CERCLA RQ	SARA 302	SARA 304	SARA 313
Ferric Nitrate	10421-48-4	NA	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.

Section 16 - Other Information

Hazard Rating System	Health	Flammability	Reactivity
	1	0	1

NFPA Rating System	Health	Flammability	Reactivity	Special Hazard
	1	0	1	Oxy

Disclaimer
The information contained herein is based on data considered accurate. We provide this data sheet as a service to our customers and, in the event of an accident, to regulatory and enforcement agencies. We provide no express or implied warranties as to the accuracy or use of this information.