SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name	Ferric nitrate
CAS number	7782-61-8
Synonyms	Ferric nitrate nonahydrate

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses	Laboratory chemicals.

1.3 Details of the supplier of the safety data sheet

Company	Lab Alley, LLC 12501 Pauls Valley Road Austin, Texas 78737 U.S.A.
Telephone	512-668-9918
Fax	512-886-4008

1.4 Emergency telephone

Emergency Phone #	US & Canada: 1-800-535-5053	INFOTRAC
	International 1-352-323-3500	INFOTRAC

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Oxidizing solid	Category 3
Skin irritation	Category 2
Eye irritation	Category 2A
Specific target organ toxicity following single exposure	Category 3

2.2 GHS Label elements, including precautionary statements

Pictogram	
Signal Word	Warning
Hazard statements:	May intensify fire; oxidizer. Causes skin irritation. Cause serious eye irritation. May cause respiratory irritation.
Precautionary statements:	If medical advice is needed, have product container or label at hand. Keep out of reach of children. Read label before use. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep/store away from clothing/combustible materials. Take any precaution to avoid mixing with combustibles. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash skin thoroughly after handling. Use only outdoors or in a well-venilated area. Wear protective gloves/protective clothing/eye protection/face protection. IF ON SKIN: Wash with soap and water. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/attention. If eye irritation persists get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use agents recommended in section 5 for extinction. Store locked up. Do not exposed to temperatures exceeding 50 °C / 122 °F. Dispose of contents and container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

No information available.

SECTION 3: Composition/information on ingredients

3.1 Components

Chemical name	Common name and synonyms	CAS number	Concentration
Ferric nitrate	Ferric nitrate nonahydrate	7782-61-8	100%

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice

If inhaled Loosen clothing as necessary and position indivdual in a comfortable position. Move exposed to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen. Get medical assistance if cough or other symptoms appear.

In case of skin contact	Rinse/flush exposed skin gently using soap and water for 15-20 minutes. Seek medical advice if discomfort or irritation persists.
In case of eye contact	Protect unexposed eye. Rinse/flush exposed eye(s) gently using water for 15-20 minutes. Remove contact lens(es) if able to do so during rinsing. Seek medical attention is irritation persists or if concerned.
If swallowed	Rinse mouth thoroughly. Do not induce vomiting. Have exposed indivdual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Irritation, nausea, headahce, shortness of breath, absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delated 2 to 4 hours or longer, nausea, dizziness, headache, weakness, incoordination, confusion, cyanosis, coma.

4.3 Indication of any immediate medical attention and special treatment needed

If seeking medical attention, provide SDS document to physician. Physician should treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	Use appropriate fire suppression agents for adjacent combustible material or sources of ignition. Use water only.
Unsuitable extinguishing media	Carbon dioxide or dry chemical.

5.2 Specific hazards arising from the substance or mixture

Combustion products may include carbon oxides or other toxic vapors. Thermal decomposition can lead to the release of irritating gases and vapors. Nitrogen oxides, sulfur oxides, borane/boron oxides, iron oxides.

5.3 Special protective equipment and precautions for firefighters

Use NIOSH-approved respiratory protection/breathing apparatus. Move product containers away from fire or keep cool with water spray as a protective measure, where feasible. Use spark-proof tools and explosion-proof equipment. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Avoid inhaling gases, fumes, dust, mist, vapor, and aerosols. Avoid contact with skin, eyes, and clothing.

5.4 Further information

Flash Point	No data available.

Autoignition Temperature No information available.

Explosion limits

Upper	No data available.
Lower	No data available.
Sensitivity to Mechanical Impact	No information available.
Sensitivity to Static Discharge	No information available.

NFPA

Health	Flammability	Instability	Physical hazards
1	0	1	OX

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Use spark-proof tools and explosion-proof equipment. Ensure that air-handling systems are operational. Ensure adequate ventilation.

6.2 Environmental precautions

Prevent from reaching drains, sewer or waterway. Collect contaminated soil for characterization per Section 13. Should not be released into environment.

6.3 Methods and materials for containment and cleaning up

Keep in suitable closed containers for disposal. Wear protective eyeware, gloves, and clothing. Refer to Section 8. Always obey local regulation. Dust deposits should not be allowed to accumulate on surface, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e. clearing dust surface with compressed air). Collect solids in powder form using vacuum with (HEPA filter). Evacuate personnel to safe areas.

6.4 Reference to other sections

See section 2 for full list of hazard and precaution statements.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Precautions on safe handling

Minimize dust generation and accumulation. Follow good hygiene procedures when handling chemical materials. Refer to Section 8. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with eyes, skin, and clothing.

Hygiene measures

Perform routine housekeeping. Wash hands before breaks and at the end of work. Avoid contact with skin, eyes, and clothing. Before wearing wash contaminated clothing.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions
Store away from incompatible materials. Protect from freezing and physical damage. Keep away from food and beverages. Store under inert gas, store below 50 °C. Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store in cool, dry conditions in well sealed containers. Store with like hazards.

Incompatibilities
No information available.

SECTION 8: Exposure controls/personal protection

8.1 Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Component	Type	Value
Ferric nitrate	TWA	1 mg/m3

US. ACGIH Threshold Limit Values

Component	Type	Value
Ferric nitrate	TWA	1 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards
No information available.

Biological occupational exposure limits
No information available.

8.2 Exposure controls

Appropriate engineering controls
Emergency eye wash fountains and safety showers should be available in the immediate vicinity of use/handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or dusts (total/respirable) below the airborne workplace exposure limits (Occupational Exposure Limits - OELs) indicated above. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e. there is no leakage from the equipment).

Personal protective equipment

Eye/face protection
Wear equipment for eye protection tested and approved under appropriate government standards use as NIOSH (US) or EN166 (EU). Safety glasses or goggles are appropriate eye protection.

Skin and body protection
Select glove material impermeable and resistant to the substance. Select glove material based on rates of diffusion and degradation. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Use proper glove removal technique without touching outer surface. Avoid skin contact with used gloves. Wear protective clothing.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. When necessary use NIOSH approved breathing equipment.

Control of environmental exposure
No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical State	Solid
Appearance	No information available.
Odor	No information available.
Odor Threshold	No information available.
pH	No information available.
Melting Point/Range	47 °C / 117 °F
Boiling Point/Range	No information available.
Evaporation Rate	No information available.
Flammability (solid)	No information available.
Flammability or explosive limit	
Upper	No data available.
Lower	No data available.
Vapor Pressure	No information available.
Vapor Density	No information available.
Density	1.68 g/cm3 at 20 °C (68 °F)
Solubility	Soluble in water
Partition coefficient; n-octanol/water	No data available.
Autoignition Temp	No information available.
Decomposition Temp	No information available.
Viscosity	No information available.
Molecular Formula	Fe(NO3)-9H2O
Molecular Weight	404.00
VOC Content(%)	No information available.
Oxidizing properties	No information available.

9.2 Other safety information
No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity
Nonreactive under normal conditions.

10.2 Chemical stability
Stable under normal conditions. May decompose when exposed to heat.

10.3 Possibility of hazardous reactions
None under normal processing.

10.4 Conditions to avoid
Incompatible materials. Light. Combustible materials. Temperatures above 50 °C.

10.5 Incompatible materials
Reducting agents. Organic materials. Powdered metals.

10.6 Hazardous decomposition products
Nitrogen oxides, sulfur oxides, borane/boron oxides, iron oxides.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Product Information, Component Information

Acute toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ferric nitrate	3250 mg/kg (rat)	-	-

Skin corrosion/irritation
Irritating to skin.

Serious eye damage/eye irritation
Irritating to eyes.

Respiratory or skin sensitization
May cause respiratory irritation.

Germ cell mutagenicity
No information available.

Carcinogenicity

Component	CAS	IARC	NTP	ACGIH	OSHA	Mexico
Ferric nitrate	7782-61-8	Not listed	Not listed	Not listed	Not listed	Not listed

Specific target organ toxicity - single exposure

Respiratory system.

Specific target organ toxicity - repeated exposure
No information available

Reproductive toxicity
No information available.

Chronic effects
No information available.

11.2 Additional Information
No information available.

SECTION 12: Ecological information

12.1 Toxicity
No information available.

12.2 Persistence and degradability
Not readily biodegradable.

12.3 Bio accumulative potential
Not bioaccumulative.

12.4 Mobility in soil
Not determined.

12.5 Results of PBT and vPvB assessment
No information available.

12.6 Endocrine disrupting properties
No information available.

12.7 Other adverse effects
None identified.

SECTION 13: Disposal considerations

13.1 Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

SECTION 14: Transport information

DOT (US)

UN-No	UN1466
Proper Shipping Name	FERRIC NITRATE
Hazard Class	5.1
Packing Group	III

IMDG

UN-No	UN1466
Proper Shipping Name	FERRIC NITRATE
Hazard Class	5.1
Packing Group	III

IATA

UN-No	UN1466
Proper Shipping Name	FERRIC NITRATE
Hazard Class	5.1
Packing Group	III

SECTION 15: Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Listed under anhydrous form Ferric Nitrate

CERCLA Hazardous Substance List (40 CFR 302.4)

Listed, 1000 lb

SARA 304 Emergency release notification

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous

Listed, Reactive, Acute, Chronic.

SARA 313 (TRI reporting)

Listed.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act

Not regulated

FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace

Not listed

US state regulations

US. Massachusetts RTK - Substance List

Not listed

US. New Jersey Worker and Community Right-to-Know Act

Not listed

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed

California Proposition 65

Not listed

SECTION 16: Other information

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SECTION 17: Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.