



Safety Data Sheet

In accordance with CFR 1910.1200 (OSHA HCS)

SDS No. 800

Date of review: November 1, 2018

1 Identification of substance and company

Product name: **Iron (III) nitrate, nonahydrate**
Product code: 11215, 12636, C2847
Relevant use and restrictions on use: Research and product development
Manufacturer/Supplier: Noah Technologies Corporation
1 Noah Park
San Antonio, Texas 78249-3419
Phone: 210-691-2000
Fax: 210-691-2600
Web site: www.noahtech.com
Emergency information: CHEMTREC
800-424-9300

2 Hazards identification

Emergency Overview:

Pictogram(s):



Signal word(s):

Warning

Hazard statements:

H272 May intensify fire; oxidizer
H315 Causes skin irritation
H319 Causes serious eye irritation

Precautionary statements:

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P220 Keep/Store away from clothing/combustible materials
P221 Take any precaution to avoid mixing with combustibles
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P280 Wear protective gloves/protective clothing/eye protection/face protection
P301+312 IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell
P302+352 IF ON SKIN: Wash with plenty of soap and water
P305+351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501 Dispose of contents/container to an approved waste disposal plant

GHS Classification:

Oxidizing solid: 3
Skin irritation - 2
Eye irritation - 2A

Hazards not otherwise classified:

None

HMIS ratings (scale 0-4):

Health hazard: 2
Flammability: 0
Physical hazard: 0

3 Composition/Information on ingredients

Chemical name: Iron (III) nitrate, nonahydrate
Designation:
CAS number: 7782-61-8
EC number: 233-899-5
Formula: Fe(NO₃)₃·9H₂O
Synonyms: Ferric nitrate
Ingredients of known acute toxicity: Iron (III) nitrate, nonahydrate

4 First aid measures

After inhalation:	Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek immediate medical advice
After skin contact:	Instantly wash with water and soap and rinse thoroughly Seek immediate medical advice
After eye contact:	Rinse opened eye for at least 15 minutes under running water. Assure adequate flushing by separating the eyelids with fingers. Seek immediate medical advice
After ingestion:	If conscious, rinse mouth out with water and seek immediate medical advice. Never give anything by mouth to an unconscious individual.
Information for doctor:	Show this safety data sheet to the doctor in attendance
Symptoms/effects; acute and delayed:	Coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting Inhalation may result in respiratory effects such as inflammation, edema, and chemical pneumonitis
Immediate medical attention and special treatment needed:	Large doses may cause dizziness, abdominal cramps, vomiting, bloody diarrhea, convulsions and collapse

5 Fire-fighting measures

Suitable and unsuitable extinguishing agents:	Use extinguishing media most suitable to surrounding fire conditions
Special hazards caused by the material, its products of combustion or resulting gases:	In case of fire, the following can be released: Oxides of iron and nitrogen (NO _x)
Special fire fighting procedures:	Wear SCBA Always wear fully protective fire fighting equipment/clothing in fire situations
Unusual fire and explosion hazard:	This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition

6 Accidental release measures

Person-related safety precautions:	Wear personal protective equipment. Keep unprotected persons away. Ensure adequate ventilation
Measures for environmental protection:	Do not allow material to be released to the environment without proper governmental permits Dispose of contaminated material as waste according to item 13
Measures for cleaning/collecting:	Ventilate and wash spill site after material removal is complete
Additional information:	See Section 7 for information on safe handling See Section 8 for information on personal protective equipment See Section 13 for information on disposal See Section 15 for regulatory information

7 Handling and storage

Information for safe handling:	Keep containers tightly sealed Store in cool, dry place in tightly closed containers Ensure good ventilation/exhaustion at the workplace
Information about protection against explosions and fires:	Oxidizer. Contact with reducing agents, combustible material or flammables may cause fire.
Storage requirements to be met by storerooms and containers:	No special requirements
Incompatibility (avoid contact with):	Store away from strong reducing agents, organics, flammables and powdered metals
Further information about storage conditions:	Keep container tightly sealed Store in cool, dry conditions in well sealed containers Keep from contact with clothing and other combustible materials

8 Exposure controls/personal protection

Ventilation requirements:	Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute
Components with exposure limits that require monitoring:	ACGIH TLV: TWA 1 mg(Fe)/m ³ OSHA PEL: TWA 1 mg(Fe)/m ³
Additional information:	No data
General protective and hygienic measures:	The usual precautionary measures for handling chemicals should be adhered to Keep away from foodstuffs, beverages and food Instantly remove any soiled and impregnated garments Wash hands during breaks and at the end of the work Avoid contact with the eyes and skin
Personal protective equipment:	
Respiratory protection:	Use suitable respirator when high concentrations are present
(Use only NIOSH or CEN approved Equipment)	Use only NIOSH/MESA or CEN approved respirators
Hand protection:	Impervious gloves. Check protective gloves prior to each use for their proper condition.
Eye protection:	Safety glasses

Skin protection: Protective work clothing
Sufficient to prevent contact

Additional protective equipment: Emergency eyewash and safety shower

9 Physical and chemical properties

Physical state: Crystalline powder

Color: Pale violet with possible patches of brown

Odor: Slight odor of nitric acid

Odor threshold: Not determined

Molecular Weight (Calculated): 403.99

pH Not determined

Melting point/freezing point/range: 47.2 C

Boiling point/range: 125 C

Sublimation temperature/start: Not determined

Decomposition temperature: >125 C

Flammability (solid, gas): Non-flammable but contact with combustible material may cause fire

Flash point: Not applicable

Autoignition temperature: Not applicable

Danger of explosion: Not determined

Flammable limits:

Lower: Not applicable

Upper: Not applicable

Evaporation Rate: Not determined

Vapor pressure (mm Hg): Not determined

Vapor density: Not determined

Specific gravity d^{20} : 1.68

Bulk density: Not determined

Solubility in/Miscibility with water: 1500 g/L @ 25 °C

Partition coefficient n-octanol/water: Not determined

Viscosity: Not determined

Other information: None

10 Stability and reactivity

Reactivity: No decomposition if used and stored according to specifications
See section 7 for information on proper handling and storage

Chemical stability: Stable

Possibility of hazardous reactions: The heat of reaction with reducing agents or combustibles may cause ignition

Conditions to be avoided: Moisture (extremely hygroscopic)

Materials to be avoided: Strong acids
Reducing agents
Metal powders
Cyanides
Combustible materials
Oxidizable substances

Dangerous reactions: Mixing with acids, combustible materials, or readily oxidizable substances may explode when subjected to slight friction

**Hazardous decomposition products:
(thermal and other)** Oxides of iron and nitrogen (NOx)

11 Toxicological information

LD/LC50 values that are relevant for classification: oral-rat LD₅₀: 3250 mg/kg

Irritation or corrosion of skin: No data available

Irritation or corrosion of eyes: No data available

Sensitization: Not applicable

Potential health effects:

Inhalation: Causes irritation to the upper respiratory tract and mucous membranes

Ingestion: Swallowing may lead to a corrosive effect on mouth and throat

Skin: Causes moderate irritation

Eyes: Causes moderate irritation

Signs and symptoms of exposure: Harmful if ingested, inhaled or absorbed through the skin. Product causes irritation of the eyes, skin, upper respiratory tract and mucous membranes.
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known

Carcinogenicity: Not identified as a carcinogen

12 Ecotoxicological information

Toxicity:

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates:	No data available
Toxicity to algae:	No data available
Persistence and degradability:	
Biodegradability:	No data available
Bioaccumulative potential:	
Bioaccumulation:	No data available
Mobility in soil:	No data available
General:	Do not allow material to be released to the environment without proper governmental permits Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system

13 Disposal considerations

Recommendation:	Consult state, local or national regulation for proper disposal Allow professional disposal company to handle waste Must be specially treated under adherence to official regulations
Unclean packagings recommendation:	Disposal must be made according to official regulations

14 Transport information

Land transport DOT



Proper shipping name:	Ferric nitrate
DOT Hazard Class:	5.1
UN Identification number:	UN1466
Label(s):	Oxidizer
Packing group:	III
Reportable quantity (RQ):	454 kg
North American Emergency Response Guidebook No.:	140

Air transport ICAO-TI and IATA-DGR:



Proper shipping name:	Ferric nitrate
DOT Hazard Class:	5.1
UN Identification number:	UN1466
Label(s):	Oxidizer
Packing group:	III
Reportable quantity (RQ):	454 kg
North American Emergency Response Guidebook No.:	140

UPS Ground / FedEx Ground



Proper shipping name:	Ferric nitrate
DOT Hazard Class:	5.1
UN Identification number:	UN1466
Label(s):	Oxidizer
Packing group:	III
Reportable quantity (RQ):	454 kg
North American Emergency Response Guidebook No.:	140

UPS Air FORBIDDEN

15 Regulatory information

SARA Section 302 Extremely Hazardous components and corresponding TPQs:	Not subject
SARA Section 311 / 312 hazards:	Not subject
SARA Section 313 components:	Not subject
California Proposition 65 components:	Not subject
TSCA:	This product is registered with TSCA Inventory

16 Other information

The above information is accurate to the best of our knowledge. However, since data, safety standards and government regulation are subject to change and the conditions of handling and use, or misuse are beyond our control. NOAH MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use.