

Safety Data Sheet

according to 29CFR1910/1200 and GHS Rev. 3

Effective date : 10.24.2014

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Ferric Nitrate, Crystal

SECTION 1 : Identification of the substance/mixture and of the supplier

Product name : Ferric Nitrate, Crystal

Manufacturer/Supplier Trade name:

Manufacturer/Supplier Article number: S25319

Recommended uses of the product and uses restrictions on use:

Manufacturer Details:

AquaPhoenix Scientific
9 Barnhart Drive, Hanover, PA 17331

Supplier Details:

Fisher Science Education
15 Jet View Drive, Rochester, NY 14624

Emergency telephone number:

Fisher Science Education Emergency Telephone No.: 800-535-5053

SECTION 2 : Hazards identification

Classification of the substance or mixture:



Irritant

Skin irritation, category 2
Eye irritation, category 2A
Specific target organ toxicity following single exposure, category 3



Oxidizing

Oxidizing solids, category 3

Ox. Sol. 3
Skin Irrit. 2
Eye Irrit. 2
STOT SE 3

Signal word :Warning

Hazard statements:

May intensify fire; oxidizer
Causes skin irritation
Causes 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/vapours/spray
Wash skin thoroughly after handling

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Use only outdoors or in a well-ventilated 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

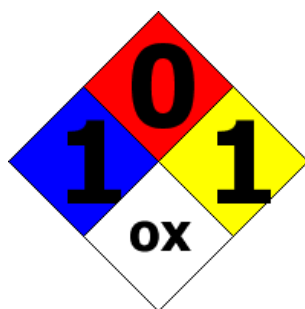
Store locked up

Do not expose to temperatures exceeding 50 °C/122 °F

Dispose of contents and container to an approved waste disposal plant

Other Non-GHS Classification:

WHMIS
NFPA/HMIS



NFPA SCALE (0-4)

Health	1
Flammability	0
Physical Hazard	1
Personal Protection	X

HMIS RATINGS (0-4)

SECTION 3 : Composition/information on ingredients

Ingredients:

CAS 7782-61-8	Ferric nitrate nonahydrate	100 %
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Percentages are by weight

SECTION 4 : First aid measures

Description of first aid measures

After inhalation: Loosen clothing as necessary and position individual 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.

After skin contact: Rinse/flush exposed skin gently using soap and water for 15-20 minutes. Seek medical advice if discomfort or irritation persists.

After 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 if irritation persists or if concerned.

After swallowing: Rinse mouth thoroughly. Do not induce vomiting. Have exposed individual drink sips of water. Seek medical attention if irritation, discomfort or vomiting persists. Never give anything by mouth to an unconscious person.

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Most important symptoms and effects, both acute and delayed:

Irritation, Nausea, Headache, Shortness of breath.; Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer., Nausea, Dizziness, Headache, Weakness, Incoordination., Confusion., Cyanosis, Coma

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

Extinguishing media

Suitable extinguishing agents: Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition. Use water only

For safety reasons unsuitable extinguishing agents: carbon dioxide or dry chemical

Special hazards arising from the substance or mixture:

Combustion products may include carbon oxides or other toxic vapors. Thermal decomposition can lead to release of irritating gases and vapors. Nitrogen oxides (NOx), Sulphur oxides, Borane/boron oxides, Iron oxides

Advice for firefighters:

Protective equipment: Use NIOSH-approved respiratory protection/breathing apparatus.

Additional information (precautions): 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.

SECTION 6 : Accidental release measures

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.

Environmental precautions:

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

Methods and material for containment and cleaning up:

Keep in suitable closed containers for disposal. Wear protective eyewear, gloves, and clothing. Refer to Section 8. Always obey local regulations. Dust deposits should not be allowed to accumulate on surfaces, 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 surfaces with compressed air). Collect solids in powder form using vacuum with (HEPA filter). Evacuate personnel to safe areas.

Reference to other sections:

SECTION 7 : Handling and storage

Precautions for 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.

Conditions for safe storage, including any incompatibilities:

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

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like hazards

SECTION 8 : Exposure controls/personal protection



Control Parameters:

7782-61-8, Ferric nitrate nonahydrate, OSHA PEL TWA 1 mg/m³
7782-61-8, Ferric nitrate nonahydrate, ACGIH TLV TWA 1 mg/m³

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 applicable 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).

Respiratory protection:

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

Protection of skin:

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.

Eye protection:

Wear equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses or goggles are appropriate eye protection.

General hygienic 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.

SECTION 9 : Physical and chemical properties

Appearance (physical state,color):	Solid	Explosion limit lower: Explosion limit upper:	Not determined Not determined
Odor:	Not Determined	Vapor pressure:	Not determined
Odor threshold:	Not determined	Vapor density:	Not determined
pH-value:	Not Determined	Relative density:	1.68 g/cm ³ at 20 °C (68 °F)
Melting/Freezing point:	47 °C (117 °F)	Solubilities:	Soluble in Water
Boiling point/Boiling range:	Not determined	Partition coefficient (n-octanol/water):	Not determined

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Flash point (closed cup):	Not determined	Auto/Self-ignition temperature:	Not determined
Evaporation rate:	Not determined	Decomposition temperature:	Not determined
Flammability (solid,gaseous):	classified as oxidizing	Viscosity:	a. Kinematic:Not determined b. Dynamic: Not determined
Density: Not determined			

SECTION 10 : Stability and reactivity

Reactivity:Nonreactive under normal conditions.

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

Possible hazardous reactions:None under normal processing

Conditions to avoid:Incompatible Materials.Light. combustible materials. temperatures above 50°C

Incompatible materials:Reducing agents.organic materials. Powdered metals.

Hazardous decomposition products:Nitrogen oxides (NOx), Sulphur oxides, Borane/boron oxides, Iron oxides

SECTION 11 : Toxicological information

Acute Toxicity:		
Oral:	7782-61-8 (Ferric Nitrate)	LD50 Rat: 3,250 mg/kg
Chronic Toxicity: No additional information.		
Corrosion Irritation:		
Dermal:	7782-61-8 (Ferric Nitrate)	Irritating to skin
Ocular:	7782-61-8 (Ferric Nitrate)	Irritating to eyes
Sensitization:	No additional information.	
Single Target Organ (STOT):	Inhalation - May cause respiratory irritation.	
Numerical Measures:	No additional information.	
Carcinogenicity:	Not listed as a carcinogen (ACGIH, IARC, NTP): 7782-61-8 (Ferric Nitrate)	
Mutagenicity:	No additional information.	
Reproductive Toxicity:	No additional information.	

SECTION 12 : Ecological information

Ecotoxicity Persistence and degradability: Not readily biodegradable.

Bioaccumulative potential: Not Bioaccumulative.

Mobility in soil: Not Determined

Other adverse effects: None identified.

SECTION 13 : Disposal considerations

Waste disposal recommendations:

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Contact a licensed professional waste disposal service to dispose of this material. Dispose of empty containers as unused product. Product or containers must not be disposed with household garbage. It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities (US 40CFR262.11). 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. Ensure complete and accurate classification.

SECTION 14 : Transport information

UN-Number

1466

UN proper shipping name

Ferric Nitrate

Transport hazard class(es)



Class:

5.1 Oxidizing substances

Packing group:III

Environmental hazard:

Transport in bulk:

Special precautions for user:

SECTION 15 : Regulatory information

United States (USA)

SARA Section 311/312 (Specific toxic chemical listings):

Reactive, Acute, Chronic

SARA Section 313 (Specific toxic chemical listings):

7782-61-8 Ferric nitrate nonahydrate

RCRA (hazardous waste code):

None of the ingredients is listed

TSCA (Toxic Substances Control Act):

10421-48-4 Listed under anhydrous form Ferric Nitrate

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act):

10421-48-4 Ferric Nitrate 1000 lb

Proposition 65 (California):

Chemicals known to cause cancer:

None of the ingredients is listed

Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed

Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed

Chemicals known to cause developmental toxicity:

None of the ingredients is listed

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Canadian Domestic Substances List (DSL):

10421-48-4 Listed under anhydrous form Ferric Nitrate

Canadian NPRI Ingredient Disclosure list (limit 0.1%):

None of the ingredients is listed

Canadian NPRI Ingredient Disclosure list (limit 1%):

None of the ingredients is listed

SECTION 16 : Other information

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations. Note: The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations applicable to this material.

GHS Full Text Phrases:

Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

CFR: Code of Federal Regulations (USA)

SARA: Superfund Amendments and Reauthorization Act (USA)

RCRA: Resource Conservation and Recovery Act (USA)

TSCA: Toxic Substances Control Act (USA)

NPRI: National Pollutant Release Inventory (Canada)

DOT: US Department of Transportation

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