Safety Data Sheet

Iron (III) Nitrate, 9-Hydrate

CAROLINA®
www.carolina.com

Section 1 Product Description

Product Name:	Iron (III) Nitrate, 9-Hydrate
Recommended Use:	Science education applications
Synonyms:	Nitric Acid, Iron (3+) Salt; Iron (III) Nitrate, Nonahydrate; Iron Nitrate
Distributor:	Carolina Biological Supply Company 2700 York Road, Burlington, NC 27215 1-800-227-1150
Chemical Information:	800-227-1150 (8am-5pm (ET) M-F)
Chemtrec:	800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

WARNING

May intensify fire; oxidizer. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.

GHS Classification:
Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2A, Oxidizing Solid Category 3, Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 3

Acute Toxicity Dermal Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Gas Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Vapor Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Dust/Mist Contains	100 % of the mixture consists of ingredient(s) of unknown toxicity

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%
Iron (III) Nitrate, 9-Hydrate	7782-61-8	100

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation:	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Eyes:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin Contact:	IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
Ingestion:	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use alcohol resistant foam, carbon dioxide, or dry chemical when fighting fires. Water or foam may cause frothing if liquid is burning but it still may be a useful extinguishing agent if carefully applied to the surface of the fire. Do Not direct a stream of water into the hot burning liquid.

Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.

Fire and/or Explosion Hazards: Product is a strong oxidizer. Contact with combustible material may cause fire. Explosive when mixed with combustible material. Risk of explosion if heated under confinement.

Hazardous Combustion Products: Boron Compounds, Sulfur Oxides, Nitrogen oxides, Metal Oxides,

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this SDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill. Ventilate the contaminated area. Isolate area. Keep unnecessary personnel away. Avoid the generation of dusts during clean-up. Avoid creating and inhaling dust.

Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. Vacuum or sweep up material and place in a disposal container Reduce airborne dust and prevent scattering by moistening with water Use an inert absorbent such as sand or vermiculite. Place in properly labeled closed container. Do not allow the spilled product to enter public drainage system or open waterways.

Section 7 Handling and Storage

Handling: 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 thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. Keep container tightly closed in a cool, well-ventilated place. This material should be kept in an area suitable for the storage of flammable liquids. Store away from oxidizing agents, sparks and flame. Keep away from combustible material.

Storage: Store in a well-ventilated place. Keep container tightly closed. Store locked up. Keep container tightly closed in a cool, well-ventilated place.

Storage Code: Yellow - Reactive. Store separate and away from incompatible material.

Section 8 Protection Information

	ACGIH		OSHA PEL	
Chemical Name	**(TWA)**	**(STEL)**	**(TWA)**	**(STEL)**
Iron (III) Nitrate, 9-Hydrate	1 mg/m3 TWA (as Fe)	N/A	N/A	N/A

Control Parameters

Engineering Measures: Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

Personal Protective Equipment (PPE): Lab coat, apron, eye wash, safety shower.

Respiratory Protection: No respiratory protection required under normal conditions of use. Wear a NIOSH approved respirator if levels above the exposure limits are possible.

Respirator Type(s): NIOSH approved air purifying respirator with dust/mist filter.

Eye Protection: Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection: Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work. Where use can result in skin contact, practice good personal hygiene. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly.

Gloves: Nitrile

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Section 9 Physical Data

Formula: Fe(NO3)3 * 9H2O
Molecular Weight: 404.00
Appearance: Grey Purple Solid
Odor: No data available
Odor Threshold: No data available
pH: No data available
Melting Point: 47 C
Boiling Point: 100 C
Flash Point: No data available
Flammable Limits in Air: N/A

Vapor Pressure: N/A
Evaporation Rate (BuAc=1): N/A
Vapor Density (Air=1): 14.0
Specific Gravity: 1.684
Solubility in Water: Appreciable (>10%)
Log Pow (calculated): No data available
Autoignition Temperature: No data available
Decomposition Temperature: No data available
Viscosity: No data available
Percent Volatile by Volume: 0% at (21 °C)

Section 10 Reactivity Data

Reactivity: No data available
Chemical Stability: Stable under normal conditions.
Conditions to Avoid: None known.
Incompatible Materials: Metals (powdered), Organics,
Hazardous Decomposition Products: Metal Oxides,, Nitrogen oxides, Sulfur Oxides, Boron Compounds
Hazardous Polymerization: Will not occur

Section 11 Toxicity Data

Routes of Entry Inhalation, ingestion, eye or skin contact.
Symptoms (Acute): , Eye disorders, Respiratory disorders, Impaired Kidney Function, Liver disorders
Delayed Effects: No data available

Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Iron (III) Nitrate, 9-Hydrate	7782-61-8	Oral LD50 Rat 3250 mg/kg	Not determined	Not determined

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Iron (III) Nitrate, 9-Hydrate	7782-61-8	Listed	Not listed	Not listed

Chronic Effects:
Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: See Section 2
Chronic: Not listed as a carcinogen by IARC, NTP or OSHA.

Section 12 Ecological Data

Overview: Slight ecological hazard. In high concentrations, this product may be dangerous to plants and/or wildlife. Keep out of waterways.
Mobility: No data
Persistence: No data
Bioaccumulation: No data
Degradability: No data
Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
N/A	7782-61-8	

Section 13 Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s): Not Determined

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Section 14 Transport Information

Ground - DOT Proper Shipping Name:
UN1466, Ferric Nitrate, 5.1, III, 12 kg

Air - IATA Proper Shipping Name:
UN number: 1466 Class: 5.1 Packing group: III Proper shipping name: Ferric nitrate

Section 15 Regulatory Information

TSCA Status: A component (or components) of this product is not listed on the TSCA Inventory of Existing Chemical Substances. Product is for research and development use only.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
No data available	7782-61-8	No	No	No	No	No

Section 16 Additional Information

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The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
		ppm	Parts per million
		RCRA	Resource Conservation and Recovery Act
DOT	U.S. Department of Transportation	SARA	Superfund Amendments and Reauthorization Act
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
N/A	Not Available	TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health