COLUMBUS CHEMICAL INDUSTRIES

Safety Data Sheet

Ferric Nitrate, Nonahydrate ACS

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Ferric Nitrate, Nonahydrate ACS

Synonyms/Generic Names: Iron (III) nitrate nonahydrate

Product Number: 2220

Product Use: Industrial, Manufacturing or Laboratory use

Manufacturer: Columbus Chemical Industries, Inc.
N4335 Temkin Rd.
Columbus, WI. 53925

For More Information Call: 920-623-2140 (Monday-Friday 8:00-4:30)

In Case of Emergency Call: CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

2. HAZARDS IDENTIFICATION

Signal Words: Danger

Pictograms:

GHS Classification:

Oxidizing solids	Category 3
Skin irritation	Category 1B
Serious eye damage	Category 1

GHS Label Elements, including precautionary statements:

Hazard Statements:

H272	May intensify fire; oxidizer.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye damage.

Precautionary Statements:

P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P220	Keep/Store away from clothing and other combustible materials.
P221	Take any precaution to avoid mixing with combustibles.
P260	Do not breathe dust or mist.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor.
P370+P378+P375	In case of major fire and large quantities: Evacuate area and fight fire remotely due to the risk of explosion.
P370+P375	In case of fire: Use appropriate media to extinguish.
P363	Wash contaminated clothing before reuse.
P405+P420	Store locked up. Do not store near combustible materials.
P501	Dispose of contents/container in accordance with local regulations.

Potential Health Effects

Eyes	Causes serious eye damage.
Inhalation	May be harmful if inhaled.
Skin	May be harmful if absorbed through skin. Causes serious skin burns.
Ingestion	May be harmful if swallowed.

NFPA Ratings

Health	2
Flammability	0
Reactivity	1
Specific hazard	OX

HMIS Ratings

Health	2
Fire	0
Reactivity	1

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Ferric Nitrate, Nonahydrate	>99	7782-61-8	233-899-5	$Fe(NO_3)_3 \bullet 9H_2O$	404.00 g/mol

4. FIRST-AID MEASURES

Eyes	Rinse with plenty of water for at least 15 minutes and seek medical attention.
Inhalation	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
Skin	Flush with plenty of water for at least 15 minutes while removing contaminated clothing and wash using soap. Get medical attention.
Ingestion	**Do Not Induce Vomiting!** Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO_2). Do not use water jet. Cool containers exposed to flames with water.
Special protective equipment and precautions for firefighters	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
Specific hazards arising from the chemical	Emits toxic fumes (nitrogen oxides, iron oxides) under fire conditions. (See also Stability and Reactivity section).
General fire hazards	May intensify fire; oxidizer. Contact with combustible material may cause fire.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	See section 8 for recommendations on the use of personal protective equipment.
Environmental precautions	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
Methods and materials for containment and cleaning up	Pick up and arrange disposal without creating dust. Sweep up and shovel. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations. Never return spills to original container for re-use.

7. HANDLING AND STORAGE

Precautions for safe handling
See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use. Avoid formation of dusts.

Conditions for safe storage, including any incompatibilities
Store in cool, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities). Hygroscopic. Air sensitive. Store under inert gas.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure controls:

Component	Exposure Limits	Basis	Entity
Ferric Nitrate, Nonahydrate	1 mg/m^3	TLV	ACGIH
	1 mg/m^3	PEL	OSHA
	1 mg/m^3	REL	NIOSH

TWA: Time Weighted Average over 8 hours of work.
TLV: Threshold Limit Value over 8 hours of work.
REL: Recommended Exposure Limit
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit during x minutes.
IDLH: Immediately Dangerous to Life or Health
WEEL: Workplace Environmental Exposure Levels
CEIL: Ceiling

Personal Protection

Eyes	Wear chemical safety glasses with side shields or goggles.
Inhalation	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
Skin	Wear nitrile or rubber gloves, apron or lab coat.
Other	Not Available

Other Recommendations
Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Purple solid
Odor	Slight nitric acid odor
Odor threshold	Not Available
pH	1.5 at 20°C (68°F)
Melting point/freezing point	47.2 °C (117.0 °F).
Initial boiling point and boiling range	Decomposes. (100°C or 212°F)
Flash point	Not Flammable
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Flammable
Vapor pressure	Not Available
Vapor density	Not Available
Density	1.68 g/cm3 at 20 °C (68 °F)
Solubility (ies)	Not Available
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	100°C (212°F)

10. STABILITY AND REACTIVITY

Reactivity	Combustible materials greatly increases the burning rate.
Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur.
Conditions to Avoid	Not Available.
Incompatible Materials	Organic materials. Powdered metals. Combustible materials.
Hazardous Decomposition Products	Iron oxides, nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Ferric Nitrate, Nonahydrate

Skin	LD50 Dermal – rat - >2000mg/kg, 24hrs
Eyes	Not Available
Respiratory	Not Available
Ingestion	LD50 Oral - rat - 3,250 mg/kg

Carcinogenicity

IARC	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by IARC.
ACGIH	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs & Symptoms of Exposure

Skin	Causes severe burns.
Eyes	Causes serious eye damage.
Respiratory	Possible damages: mucosal irritations.
Ingestion	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

Chronic Toxicity	Not Available
Teratogenicity	Not Available
Mutagenicity	Not Available
Embryotoxicity	Not Available
Specific Target Organ Toxicity	Not Available
Reproductive Toxicity	Not Available
Respiratory/Skin Sensitization	Not Available

12. ECOLOGICAL INFORMATION

Ecotoxicity
Ferric Nitrate, Nonahydrate

Aquatic Vertebrate	Not Available
Aquatic Invertebrate	Not Available
Terrestrial	Not Available

Persistence and Degradability	Not Available
Bioaccumulative Potential	Not Available
Mobility in Soil	Not Available
PBT and vPvB Assessment	Not Available
Other Adverse Effects	Not Available

13. DISPOSAL CONSIDERATIONS

Waste Product or Residues	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residue.
Product Containers	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

14. TRANSPORTATION INFORMATION

US DOT	UN1466, Ferric nitrate, 5.1, pg III
TDG	UN1466, FERRIC NITRATE, 5.1, pg III
IMDG	UN1466, FERRIC NITRATE, 5.1, pg III
Marine Pollutant	No
IATA/ICAO	UN1466, Ferric nitrate, 5.1, pg III

15. REGULATORY INFORMATION

TSCA Inventory Status	All ingredients are listed on the TSCA Active inventory.
DSL / NDSL	All ingredients are listed on the DSL inventory.
California Proposition 65	Not Listed
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Acute Health Hazard, Reactivity Hazard
SARA 312	Acute Health Hazard, Reactivity Hazard
SARA 313	Not Listed

WHMIS Canada	Not Listed

16. OTHER INFORMATION

Revision	Date
Revision 1	07/19/2012
Revision 2	12/15/2015
Revision 3	06/08/2020