



UNIVAR

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For Emergency Assistance involving chemicals call - CHEMTREC (800) 424-9300

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PRODUCT NAME: FERROUS SULFATE ALL GRADES
 MSDS NUMBER: MZ1804
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Distributed by:
 Univar USA Inc.
 6100 Carillon Point
 Kirkland, WA 98033
 425-889-3400

24 Hour Emergency Telephone:
 CHEMTREC: 1-800-424-9300
 National Response in Canada
 CAN UTEC: 613-996-6666

NOTE:

CHEMTREC, CANUTEC and National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

1. Product Identification

Synonyms: Iron (II) sulfate (1:1)9; sulfuric acid, iron (2+) salt (1:1), heptahydrate
 CAS No: 7720-78-7 (Anhydrous)
 7782-63-0 (heptahydrate)
 17375-41-6 Monohydrate
 Molecular Weight: 278
 Chemical Formula: FeSO4 7H2O

2. Composition/Information on Ingredients

Ingredient	CAS No.	Percent	Hazardous
Ferrous Sulfate	7720-78-7	99-100%	Yes
Ferrous Sulfate	7782-63-0 (heptahydrate)	99-100%	Yes
Ferrous Sulfate	17375-41-6 Monohydrate	99-100%	Yes

3. Hazards Identification

Emergency Overview

Potential Health Effects

Inhalation:

Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath.

Ingestion:

Low toxicity in small quantities but larger dosages may cause nausea, vomiting, diarrhea, and black stool. Pink urine discoloration is a strong indicator of iron poisoning. Liver damage, coma, and death from iron poisoning have been recorded. Smaller doses are much more toxic to children.

Skin Contact:

Causes irritation to skin. Symptoms include redness, itching, and pain.

Eye Contact:

Causes irritation, redness, and pain.

Chronic Exposure:

Severe or chronic ferrous sulfate poisonings may damage blood vessels. Large chronic doses cause rickets in infants. Chronic exposure may cause liver effects. Prolonged exposure of the eyes may cause discoloration. Aggravation of Pre-existing Conditions:

Persons with pre-existing skin disorders or eye problems, or impaired liver, kidney or respiratory function may be more susceptible to the effects of the substance.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

Skin Contact:

Immediately flush skin with plenty of soap and water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Fire:

Not considered to be a fire hazard.

Explosion:

Not considered to be an explosion hazard.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire. Special Information:

Use protective clothing and breathing equipment appropriate for the surrounding fire.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective

equipment as specified in Section 8. Spills: Pick up and place in a suitable container for reclamation or disposal, using a method that does not generate dust. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 4248802.

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Maintain a constant temperature not to exceed 24 degrees centigrade (75 degrees Fahrenheit). Fluctuating temperatures causes product oxidation. Do not use this product if coated with brownish-yellow basic ferric sulfate. Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

-ACGIH Threshold Limit Value (TLV):

1 mg/mp (TWA) soluble iron salt as Fe

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne

Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

Personal Respirator (NIOSH Approved)

If the exposure limit is exceeded and engineering controls are not feasible, a half facepiece particulate respirator (NIOSH type N95 or better filters) may be worn for up to ten times the exposure limit or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is

lowest. A full-face piece particulate respirator (NIOSH type N100 filters) may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency, or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids, glycerin, etc.) are present, use a

NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full facepiece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

Blue green crystals.

Odor:

Odorless.

Solubility:

48.6 g/100 g water @ 50 deg C
(122 deg F)

Density:

Boiling Point:

> 300 deg C (> 572 deg F) Decomposes.

Melting Point:

57 deg C (135 deg F) Loses water

Vapor Density (Air=1):

No information found.

Vapor Pressure (mm Hg):

1.90 No information found.
 pH: Evaporation Rate (BuAc=1):
 No information found. No information found.
 Volatiles by volume
 @ 21 deg C (70 deg F):
 0

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage. Loses water in dry air and oxidizes upon exposure to moisture, forming a brown coating of extremely corrosive basic ferric sulfate.

Hazardous Decomposition Products:

Burning may produce sulfur oxides.

Hazardous Polymerization:

This substance does not polymerize.

Incompatibilities: Alkalis, soluble carbonates, and oxidizing materials.

Reacts in moist air to form ferric sulfate.

Conditions to Avoid:

Moisture.

11. Toxicological Information

Oral rat LD50: 319 mg/kg. Investigated as a tumorigen and mutagen.

[Cancer Lists]

Ingredient	---NTP Carcinogen--		IARC Category
	Known	Anticipated	
Ferrous Sulfate (7720-78-7)	No	No	None

12. Ecological Information

Environmental Fate:

No information found. Environmental

Toxicity: No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Not regulated.

15. Regulatory Information

[chemical Inventory Status]

Ingredient	---Canada--							
	TSCA	EC	Japan	Australia	Korea	DSL	NDSL	Phil.
Ferrous Sulfate (7720-78-7)	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes

[Federal, State & International Regulations]

Ingredient	--SARA 302--		--SARA 313--		CERCLA	-RCRA- 261.33	-TSCA- 8(d)
	RQ	TPQ	List	Chemical Catg.			
Ferrous Sulfate (7720-78-7)	No	No	No	No	1000	No	No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312:

Acute: Yes Chronic: Yes Fire: No Pressure: No Reactivity: No
(Pure/Solid)

Australian Hazchem Code: None allocated.

Australian Poison Schedule: None allocated.

WHMIS: This MSDS has been prepared according to the hazard criteria of the
Controlled Products Regulations (CPR) and the MSDS contains all of
the information required by the CPR.

16. Other Information

NFPA Ratings:

Health: 1 Flammability: 0 Reactivity: 0

For Additional Information:

Contact: MSDS Coordinator - Univar USA

During business hours, Pacific Time - (425) 889-3400

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END OF MSDS