

SAFETY DATA SHEET

1. Identification

Product identifier: FERROUS AMMONIUM SULFATE

Other means of identification

Product No.: 2054, 5064

Recommended use and restriction on use

Recommended use: Not available.

Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company Name: Avantor Performance Materials, Inc.
Address: 3477 Corporate Parkway, Suite 200
Center Valley, PA 18034

Telephone: Customer Service: 855-282-6867

Fax:
Contact Person: Environmental Health & Safety
e-mail: info@avantormaterials.com

Emergency telephone number:

24 Hour Emergency: 908-859-2151

Chemtrec: 800-424-9300

2. Hazard(s) identification

Hazard classification

Health hazards

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity - single exposure	Category 3

Label elements

Hazard symbol:



Signal word: Warning

Hazard statement: Causes skin irritation.
Causes serious eye irritation.
May cause respiratory irritation.

Precautionary statement

Prevention: Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing

dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area.

Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing. 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. IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical advice/attention. Call a POISON CENTER/doctor if you feel unwell. Specific treatment (see this label). Take off contaminated clothing and wash before reuse.

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

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

Chemical identity	Common name and synonyms	CAS number	Content in percent (%)*
FERROUS AMMONIUM SULFATE (HYDRATED FORM)		7783-85-9	90 - 100%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information: Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance.

Ingestion: Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

Inhalation: Move to fresh air. Get medical attention if symptoms persist.

Skin contact: Wash skin thoroughly with soap and water. Get medical attention if symptoms occur.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Symptoms: Irritating to eyes, respiratory system and skin.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically.

5. Fire-fighting measures

General fire hazards: In case of fire and/or explosion do not breathe fumes.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: None known.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

Special protective equipment for fire-fighters: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Keep unauthorized personnel away. Ventilate closed spaces before entering them. Use personal protective equipment. See Section 8 of the MSDS for Personal Protective Equipment.

Methods and material for containment and cleaning up: Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination.

Notification Procedures: Inform authorities if large amounts are involved.

Environmental precautions: Do not contaminate water sources or sewer. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling: Use personal protective equipment as required. Avoid contact with eyes, skin, and clothing. Avoid inhalation of dust. Do not eat, drink or smoke when using the product. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities: Keep container tightly closed. Store in a well-ventilated place. Store in a dry place.

8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
FERROUS AMMONIUM SULFATE (HYDRATED FORM) - as Fe	TWA	1 mg/m ³	US. ACGIH Threshold Limit Values (2011)
	REL	1 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	TWA	1 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)

Appropriate engineering controls

No data available.

Individual protection measures, such as personal protective equipment

General information:	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.
Eye/face protection:	Wear safety glasses with side shields (or goggles).
Skin protection	
Hand protection:	Chemical resistant gloves
Other:	Wear suitable protective clothing.
Respiratory protection:	In case of inadequate ventilation use suitable respirator. Air-purifying respirator with a high efficiency particulate filter.
Hygiene measures:	Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties
Appearance

Physical state:	Solid
Form:	Crystals or powder.
Color:	Blue-green
Odor:	Odorless
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	100 °C
Initial boiling point and boiling range:	No data available.
Flash Point:	Not applicable
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density:	1.86 (20 °C)
Solubility(ies)	
Solubility in water:	Soluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.

Viscosity: No data available.

10. Stability and reactivity

Reactivity: No dangerous reaction known under conditions of normal use.

Chemical stability: Material is stable under normal conditions.

Possibility of hazardous reactions: Hazardous polymerization does not occur.

Conditions to avoid: Heat. Light. Moisture.

Incompatible materials: Sulfuric acid. Strong oxidizing agents. Strong acids.

Hazardous decomposition products: Thermal decomposition may produce oxides of carbon and nitrogen. Oxides of sulfur. ammonia

11. Toxicological information

Information on likely routes of exposure

Ingestion: May be harmful if swallowed.

Inhalation: Dust may irritate respiratory system.

Skin contact: Causes skin irritation.

Eye contact: Causes serious eye irritation.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product: LD 50 (Rat): 3,250 mg/kg

Dermal Product: No data available.

Inhalation Product: No data available.

Repeated dose toxicity Product: No data available.

Skin corrosion/irritation Product: Causes skin irritation.

Serious eye damage/eye irritation Product: Causes serious eye irritation.

Respiratory or skin sensitization Product: Not a skin sensitizer.

Carcinogenicity Product: This substance has no evidence of carcinogenic properties.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ cell mutagenicity
In vitro
Product: No mutagenic components identified

In vivo
Product: No mutagenic components identified

Reproductive toxicity
Product: No components toxic to reproduction

Specific target organ toxicity - single exposure
Product: Respiratory tract irritation.

Specific target organ toxicity - repeated exposure
Product: None known.

Aspiration hazard
Product: Not classified

Other effects:

None known.

12. Ecological information
Ecotoxicity:
Acute hazards to the aquatic environment:
Fish
Product: No data available.

Aquatic invertebrates
Product: No data available.

Chronic hazards to the aquatic environment:
Fish
Product: No data available.

Aquatic invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and degradability
Biodegradation
Product: There are no data on the degradability of this product.

BOD/COD ratio
Product: No data available.

Bioaccumulative potential
Bioconcentration factor (BCF)

Product: No data available on bioaccumulation.

Partition coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility in soil: No data available.

Other adverse effects: The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated packaging: Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT
Not regulated.

IMDG
Not regulated.

IATA
Not regulated.

15. Regulatory information

US federal regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):
FERROUS AMMONIUM Reportable quantity: 1000 lbs.
SULFATE (HYDRATED
FORM)

Superfund amendments and reauthorization act of 1986 (SARA)

Hazard categories

☒ Acute (Immediate) ☐ Chronic (Delayed) ☐ Fire ☐ Reactive ☐ Pressure Generating

SARA 302 Extremely hazardous substance
None present or none present in regulated quantities.

SARA 304 Emergency release notification

Chemical identity	RQ
FERROUS AMMONIUM	1000 lbs.
SULFATE (HYDRATED FORM)	

SARA 311/312 Hazardous chemical

Chemical identity	Threshold Planning Quantity
FERROUS AMMONIUM SULFATE (HYDRATED FORM)	500 lbs

SARA 313 (TRI reporting)

Chemical identity	Reporting threshold for other users	Reporting threshold for manufacturing and processing
FERROUS AMMONIUM SULFATE (HYDRATED FORM)	10000 lbs	25000 lbs.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

FERROUS AMMONIUM SULFATE (HYDRATED FORM)	Reportable quantity: 1000 lbs.
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Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):

None present or none present in regulated quantities.

US state regulations
US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

FERROUS AMMONIUM SULFATE (HYDRATED FORM)	Listed
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US. Massachusetts RTK - Substance List

FERROUS AMMONIUM SULFATE (HYDRATED FORM)	Listed
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US. Pennsylvania RTK - Hazardous Substances

FERROUS AMMONIUM SULFATE (HYDRATED FORM)	Listed
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US. Rhode Island RTK

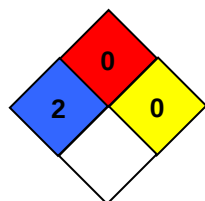
FERROUS AMMONIUM SULFATE (HYDRATED FORM)	Listed
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Inventory Status:

Canada DSL Inventory List:	On or in compliance with the inventory
EU EINECS List:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
Australia AICS:	On or in compliance with the inventory
EINECS, ELINCS or NLP:	On or in compliance with the inventory
Japan (ENCS) List:	Not in compliance with the inventory.
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Japan ISHL Listing:	Not in compliance with the inventory.
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

16. Other information, including date of preparation or last revision

NFPA Hazard ID



	Flammability
	Health
	Reactivity
	Special hazard.

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

Issue date:	08-20-2014
Revision date:	No data available.
Version #:	1.1
Further information:	No data available.

Disclaimer:

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