



<b>MSDS</b> Material Safety Data Sheet	24 Hour Emergency Telephone: 908-859-2151 CHEMTREC: 1-800-424-9300
	National Response in Canada CANUTEC: 613-996-6666
From: Mallinckrodt Baker, Inc. 222 Red School Lane Phillipsburg, NJ 08865	Outside U.S. and Canada Chemtrec: 703-527-3887
 	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.
All non-emergency questions should be directed to Customer Service (1-800-582-2637) for assistance.	

# FERRIC AMMONIUM SULFATE

## 1. Product Identification

**Synonyms:** Iron ammonium sulfate; sulfuric acid, ammonium iron (3+) salt (2:1:1), dodecahydrate; ammonium ferric sulfate  
**CAS No.:** 10138-04-2 (Anhydrous) 7783-83-7 (Dodecahydrate)  
**Molecular Weight:** 482.20  
**Chemical Formula:** FeNH<sub>4</sub>(SO<sub>4</sub>)<sub>2</sub>.12H<sub>2</sub>O  
**Product Codes:**  
J.T. Baker: 1988  
Mallinckrodt: 5044, 5640

## 2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Ferric Ammonium Sulfate	10138-04-2	99 - 100%	Yes

## 3. Hazards Identification

### Emergency Overview

**CAUTION! MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.**

**SAF-T-DATA<sup>(tm)</sup>** Ratings (Provided here for your convenience)

Health Rating: 3 - Severe (Life)  
Flammability Rating: 0 - None  
Reactivity Rating: 0 - None  
Contact Rating: 2 - Moderate  
Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES  
Storage Color Code: Green (General Storage)

### Potential Health Effects

#### Inhalation:

May cause irritation to the respiratory tract. Symptoms may include coughing, sore throat, labored breathing, and chest pain.

#### Ingestion:

Large oral doses may cause irritation to the gastrointestinal tract. 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 has been recorded.

#### Skin Contact:

May cause irritation with redness and pain.

#### Eye Contact:

May cause irritation, redness and pain. Crystals may be abrasive.

#### Chronic Exposure:

No information found.

#### 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. Get medical attention for any breathing difficulty.

**Ingestion:**

Give several glasses of water to drink to dilute. If large amounts were swallowed, get medical advice.

**Skin Contact:**

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

**Eye Contact:**

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

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## 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:**

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

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## 6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.

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## 7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. 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.

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## 8. Exposure Controls/Personal Protection

**Airborne Exposure Limits:**

-ACGIH Threshold Limit Value (TLV):

1 mg/m<sup>3</sup> (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 Respirators (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, glycerine, 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 protective gloves and clean body-covering clothing.

**Eye Protection:**

Use chemical safety goggles. Maintain eye wash fountain and quick-drench facilities in work area.

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## 9. Physical and Chemical Properties

**Appearance:**

Pale violet, transparent crystals.

**Odor:**

Odorless.

**Solubility:**

Soluble in water.

**Specific Gravity:**

1.71

**pH:**

No information found.

**% Volatiles by volume @ 21C (70F):**

0

**Boiling Point:**

230C (446F) Water

**Melting Point:**

39 - 41C (102 - 106F)

**Vapor Density (Air=1):**  
No information found.  
**Vapor Pressure (mm Hg):**  
No information found.  
**Evaporation Rate (BuAc=1):**  
No information found.

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## 10. Stability and Reactivity

**Stability:**  
Stable under ordinary conditions of use and storage.  
**Hazardous Decomposition Products:**  
May emit toxic fumes of ammonia and sulfur oxide when heated to decomposition.  
**Hazardous Polymerization:**  
Will not occur.  
**Incompatibilities:**  
No incompatibility data found.  
**Conditions to Avoid:**  
Heat, moisture, incompatibles.

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## 11. Toxicological Information

No LD50/LC50 information found relating to normal routes of occupational exposure. Investigated as a mutagen.

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-----\Cancer Lists\-----  
Ingredient                ---NTP Carcinogen---  
                          Known    Anticipated    IARC Category  
-----  
Ferric Ammonium Sulfate  
(10138-04-2)              No             No             None
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## 12. Ecological Information

**Environmental Fate:**  
No information found.  
**Environmental Toxicity:**  
No information found.

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## 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.

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## 14. Transport Information

Not regulated.

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## 15. Regulatory Information

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-----\Chemical Inventory Status - Part 1\-----  
Ingredient                TSCA  EC   Japan  Australia  
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Ferric Ammonium Sulfate (10138-04-2)  Yes  Yes  No     Yes  
  
-----\Chemical Inventory Status - Part 2\-----  
Ingredient                Korea  DSL  NDSL  Phil.  
-----  
Ferric Ammonium Sulfate (10138-04-2)  Yes   Yes  No     Yes  
  
-----\Federal, State & International Regulations - Part 1\-----  
Ingredient                -SARA 302-  -SARA 313-  
                          RQ   TPQ   List  Chemical Catg.  
-----  
Ferric Ammonium Sulfate (10138-04-2)  No    No    No     No  
  
-----\Federal, State & International Regulations - Part 2\-----  
Ingredient                CERCLA  -RCRA-  -TSCA-  
                          CERCLA  261.33  8(d)  
-----  
Ferric Ammonium Sulfate (10138-04-2)  No     No     No
```

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No  
SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No  
Reactivity: No (Pure / Solid)

**Australian Hazchem Code:** None allocated.

**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.

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## 16. Other Information

**NFPA Ratings:** Health: 1 Flammability: 0 Reactivity: 0

**Label Hazard Warning:**

CAUTION! MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

**Label Precautions:**

Avoid contact with eyes, skin and clothing.

Wash thoroughly after handling.

Avoid breathing dust.

Keep container closed.

Use with adequate ventilation.

**Label First Aid:**

If inhaled, remove to fresh air. Get medical attention for any breathing difficulty. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists.

**Product Use:**

Laboratory Reagent.

**Revision Information:**

MSDS Section(s) changed since last revision of document include: 3.

**Disclaimer:**

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**This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product.**

**Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose.**

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