Material Safety Data Sheet
Iron (II) Ammonium Sulfate Hexahydrate

ACC# 09715

Section 1 - Chemical Product and Company Identification

**MSDS Name:** Iron (II) Ammonium Sulfate Hexahydrate  
**Catalog Numbers:** S80014, S800141, 177-212, I77-500  
**Synonyms:** Ferrous Ammonium Sulfate, Hexahydrate; Sulfuric Acid, Ammonium Iron (2+) Salt, Hexahydrate; Iron Ammonium Sulfate Hydrate.  
**Company Identification:**  
- Fisher Scientific  
- 1 Reagent Lane  
- Fair Lawn, NJ 07410  
**For information, call:** 201-796-7100  
**Emergency Number:** 201-796-7100  
**For CHEMTREC assistance, call:** 800-424-9300  
**For International CHEMTREC assistance, call:** 703-527-3887

Section 2 - Composition, Information on Ingredients

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>7783-85-9</td>
<td>Iron (II) Ammonium Sulfate Hexahydrate</td>
<td>&gt;98.5</td>
<td>unlisted</td>
</tr>
</tbody>
</table>

**Hazard Symbols:** XI  
**Risk Phrases:** 36/37/38

Section 3 - Hazards Identification

**EMERGENCY OVERVIEW**

**Target Organs:** Liver, cardiovascular system.

Potential Health Effects  
**Eye:** Causes eye irritation. May cause chemical conjunctivitis.  
**Skin:** Causes skin irritation.  
**Ingestion:** May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause liver damage. May cause cardiac disturbances.  
**Inhalation:** Causes respiratory tract irritation. Can produce delayed pulmonary edema.  
**Chronic:** Effects may be delayed. Chronic exposure may cause liver damage.

Section 4 - First Aid Measures
Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

Ingestion: Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water. Wash mouth out with water. Get medical aid if irritation or symptoms occur.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear. Do NOT use mouth-to-mouth resuscitation.

Notes to Physician: Treat symptomatically and supportively.

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Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Use agent most appropriate to extinguish fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Flash Point: Not applicable.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower: Not available.

Explosion Limits, Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 0; Instability: 0

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Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Clean up spills immediately, observing precautions in the Protective Equipment section. Avoid generating dusty conditions. Provide ventilation. Place under an inert atmosphere.

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Section 7 - Handling and Storage

Handling: Wash hands before eating. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Use with adequate ventilation. Store protected from light. Handle under an inert atmosphere. Store protected from air. Wash clothing before reuse.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Do not expose to air. Store protected from light. Store under an inert atmosphere.

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Section 8 - Exposure Controls, Personal Protection
**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

**Exposure Limits**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron (II) Ammonium Sulfate Hexahydrate</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
<tr>
<td>Ferrous ammonium sulfate</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

**OSHA Vacated PELs:** Iron (II) Ammonium Sulfate Hexahydrate: No OSHA Vacated PELs are listed for this chemical. Ferrous ammonium sulfate: No OSHA Vacated PELs are listed for this chemical.

**Personal Protective Equipment**

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

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**Section 9 - Physical and Chemical Properties**

**Physical State:** Powder
**Appearance:** light green
**Odor:** sulfurous odor
**pH:** 3.0-5.0, 5% @ 20C
**Vapor Pressure:** Not available.
**Vapor Density:** Not available.
**Evaporation Rate:** Not available.
**Viscosity:** Not available.
**Boiling Point:** Not available.
**Freezing/Melting Point:** 212 deg F
**Decomposition Temperature:** > 212 deg F
**Solubility:** Not available.
**Specific Gravity/Density:** 1.860
**Molecular Formula:** H8FeN2O8S2
**Molecular Weight:** 284.0316

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**Section 10 - Stability and Reactivity**

**Chemical Stability:** Stable at room temperature in closed containers under normal storage and handling conditions.
**Conditions to Avoid:** Incompatible materials, light, dust generation, exposure to air, excess heat.

**Incompatibilities with Other Materials:** Strong oxidizing agents, strong acids, air.

**Hazardous Decomposition Products:** Irritating and toxic fumes and gases, sulfur oxides (SOx), including sulfur oxide and sulfur dioxide, ammonia.

**Hazardous Polymerization:** Has not been reported

https://fscimage.fishersci.com/msds/09715.htm

11/29/2004
Section 11 - Toxicological Information

RTECS#: 
CAS# 7783-85-9: BR6500000
CAS# 10045-89-3: WS5890000
LD50/LC50: 
CAS# 7783-85-9: Oral, rat: LD50 = 3250 mg/kg;
CAS# 10045-89-3:
Carcinogenicity: 
CAS# 7783-85-9: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA. CAS# 10045-89-3: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology: No information available.
Teratogenicity: No information available.
Reproductive Effects: No information available.
Neurotoxicity: No information available.
Mutagenicity: No information available.
Other Studies: No data available.

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

<table>
<thead>
<tr>
<th>US DOT</th>
<th>IATA</th>
<th>RID/ADR</th>
<th>IMO</th>
<th>Canada TDG</th>
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<tbody>
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<td>Shipping Name:</td>
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<td>No information available.</td>
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<tr>
<td>Hazard Class:</td>
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<tr>
<td>UN Number:</td>
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<tr>
<td>Packing Group:</td>
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Section 15 - Regulatory Information

US FEDERAL
TSCA
CAS# 7783-85-9 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)).
CAS# 10045-89-3 is listed on the TSCA inventory.

Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.

Section 12b
None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.

SARA

CERCLA Hazardous Substances and corresponding RQs
CAS# 10045-89-3: 1000 lb final RQ; 454 kg final RQ

SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.

Section 313
No chemicals are reportable under Section 313.

Clean Air Act:
This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

Clean Water Act:
CAS# 10045-89-3 is listed as a Hazardous Substance under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.

STATE
CAS# 7783-85-9 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
CAS# 10045-89-3 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Massachusetts.
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols:
XI

Risk Phrases:
R 36/37/38 Irritating to eyes, respiratory system and skin.

Safety Phrases:
S 37 Wear suitable gloves.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 28A After contact with skin, wash immediately with plenty of water.

WGK (Water Danger/Protection)
CAS# 7783-85-9: No information available.
CAS# 10045-89-3: 1
Canada - DSL/NDSL
CAS# 10045-89-3 is listed on Canada's DSL List.

Canada - WHMIS
This product has a WHMIS classification of D2B.

Canadian Ingredient Disclosure List
CAS# 7783-85-9 (listed as Iron salts (soluble)) is listed on the Canadian Ingredient Disclosure List.

Exposure Limits
CAS# 7783-85-9: OEL-DENMARK:TWA 1 mg(Fe)/m3 JANUARY 1993 OEL-FINLAND
ND:TWA 1 mg(Fe)/m3 JANUARY 1993 OEL-THE NETHERLANDS:TWA 1 mg(Fe)/m3
JANUARY 1993 OEL-SWITZERLAND:TWA 1 mg(Fe)/m3 JANUARY 1993 OEL-UNITED
ED KINGDOM:TWA 1 mg(Fe)/m3; STEL 2 mg(Fe)/m3 JANUARY 1993

Section 16 - Additional Information

MSDS Creation Date: 9/02/1997
Revision #5 Date: 1/25/2002

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.