1. IDENTIFICATION

Product identifier
Product Name
Ferrous Ammonium Sulfate, Hexahydrate, ACS

Other means of identification
Product Code 2800
UN/ID no. Not Regulated
Synonyms Ammonium iron (II) sulfate (2:1:2); Ammonium ferrous sulfate

Recommended use of the chemical and restrictions on use
Recommended Use Laboratory chemicals.
Uses advised against No information available

Details of the supplier of the safety data sheet
Manufacturer Address
Harrell Industries, Inc.
2495 Commerce Drive
Rock Hill, SC 29730
www.harrellindustries.com

Emergency telephone number
Company Phone Number 803-327-6335
Fax Number 803-327-7808
24 Hour Emergency Phone Number 800 633-8253 (PERS)

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label elements

Emergency Overview

Warning

Hazard statements
Causes skin irritation
Causes serious eye irritation
May cause respiratory irritation
Harmful if swallowed
Harmful in contact with skin
Harmful if inhaled

Warning! Causes irritation to skin, eyes, and respiratory tract. Harmful if swallowed or inhaled.
Precautionary Statements - Prevention
Avoid breathing dust/fume/gas/mist/vapors/spray
Wear protective gloves/protective clothing/eye protection/face protection

Causes irritation, redness and pain.
Causes irritation to skin. Symptoms include redness, itching and pain.
Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath.
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.

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
May be harmful if swallowed

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance</th>
<th>Synonyms</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ammonium iron (II) sulfate (2:1:2); Ammonium ferrous sulfate.</td>
<td>Fe(NH4)2(SO4)2.6H2O</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferrous Ammonium Sulfate</td>
<td>7783-85-9</td>
<td>100.0</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

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

Skin contact
Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean shoes before reuse.

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.

Most important symptoms and effects, both acute and delayed
Symptoms
No information available.

Indication of any immediate medical attention and special treatment needed
Note to physicians
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media  Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
No information available.

Explosion data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required.

Environmental precautions

Environmental precautions
See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal. Small amounts of residue may be flushed into sewer with plenty of water.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling
Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible materials. Containers of this material may be hazardous when empty since they retain product residues (dust, solids).

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials
Sulfuric acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferrous Ammonium Sulfate</td>
<td>TWA: 1 mg/m³ Fe</td>
<td>(vacated) TWA: 1 mg/m³ Fe</td>
<td>TWA: 1 mg/m³ Fe</td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Engineering Controls
Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Page 3 / 7
Eye/face protection  Use chemical safety goggles and/or full face shield. Maintain eye wash fountain and quick-drench facilities in work area.

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

Respiratory protection  If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations  Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Pale blue-green crystals</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Pale blue-green</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>100-110 °C / 212-230 °F</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
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<td></td>
</tr>
<tr>
<td>Flash point</td>
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<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
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<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
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<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
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</tr>
<tr>
<td>Upper flammability limit</td>
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<tr>
<td>Lower flammability limit</td>
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<tr>
<td>Vapor pressure</td>
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<tr>
<td>Vapor density</td>
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<tr>
<td>Relative density</td>
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<tr>
<td>Water solubility</td>
<td>26.9g/100cc water @ 20°C (68°F)</td>
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<td>Solubility in other solvents</td>
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<td></td>
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<tr>
<td>Partition coefficient</td>
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</tr>
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<td>Autoignition temperature</td>
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<tr>
<td>Decomposition temperature</td>
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</tr>
<tr>
<td>Kinematic viscosity</td>
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<td></td>
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<tr>
<td>Dynamic viscosity</td>
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<tr>
<td>Explosive properties</td>
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<td>Oxidizing properties</td>
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<tr>
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<td>VOC Content (%)</td>
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<tr>
<td>Density</td>
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</tr>
<tr>
<td>Bulk density</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Reactivity  No data available

Chemical stability  Stable under ordinary conditions of use and storage.

Possibility of Hazardous Reactions
None under normal processing.

**Hazardous polymerization** Will not occur.

**Conditions to avoid**
Heat, light and moisture.

**Incompatible materials**
Sulfuric acids.

**Hazardous Decomposition Products**
May emit ammonia, oxides of sulfur, oxides of nitrogen, and oxides of carbon.

### 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

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

**Eye contact**
Causes irritation, redness, and pain.

**Skin contact**
Causes skin irritation. Redness, itching and pain.

**Ingestion**
Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting, and diarrhea. 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.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferrous Ammonium Sulfate</td>
<td>= 3250 mg/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7783-85-9</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Information on toxicological effects**

**Symptoms**
No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Carcinogenicity**
This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP

**Numerical measures of toxicity - Product Information**

The following values are calculated based on chapter 3.1 of the GHS document.

### 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

**Persistence and degradability**

**Bioaccumulation**

**Other adverse effects**
No information available

### 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Disposal of wastes**
Disposal should be in accordance with applicable regional, national and local laws and
2800 - Ferrous Ammonium Sulfate, Hexahydrate, ACS

regulations. Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility.

Contaminated packaging

Do not reuse container.

14. TRANSPORT INFORMATION

DOT

UN/ID no.
Not regulated

Proper shipping name
Ferrous sulfate has an RQ of 1000 lbs, if less than 1000 lbs is in a single container the material is not regulated by D.O.T. as a hazardous material. Bulk Bag and Bulk DOT Description (>1000 lbs in container): Environmentally hazardous substances, Solid, N.O.S. (Ferrous Sulfate) UN3077 Haz. Class 9, Pack. group: III

Reportable Quantity (RQ)
1000 lbs (454kgs)

15. REGULATORY INFORMATION

International Inventories

TSCA
Does not comply

DSL/NDSL
Does not comply

EINECS/ELINCS
Does not comply

ENCs
Complies

IECSC
Complies

KECL
Does not comply

PICCS
Complies

AICS
Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCs - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute health hazard</td>
<td>No</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Fire hazard</td>
<td>No</td>
</tr>
<tr>
<td>Sudden release of pressure hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level
pertaining to releases of this material

**US State Regulations**

**California Proposition 65**
This product does not contain any Proposition 65 chemicals

**U.S. State Right-to-Know Regulations**
This product does not contain any substances regulated by state right-to-know regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferrous Ammonium Sulfate</td>
<td>7783-85-9</td>
<td>-</td>
<td>X</td>
</tr>
</tbody>
</table>

**U.S. EPA Label Information**
EPA Pesticide Registration Number Not applicable

**16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and Chemical Properties</th>
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<tr>
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<td>1</td>
<td>0</td>
<td>0</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health hazards</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Personal protection</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

**Issue Date** 15-Apr-2015  
**Revision Date** 01-Sep-2015  
**Revision Note** No information available

**Disclaimer**
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**