### Section 1. Product and Company Identification

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Ferric Chloride, Hexahydrate, GR</th>
<th>Product Code</th>
<th>FX0210</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer</td>
<td>EMD Chemicals Inc.</td>
<td>Effective Date</td>
<td>11/9/2005</td>
</tr>
<tr>
<td>P.O. Box 70</td>
<td></td>
<td>Print Date</td>
<td>12/15/2005</td>
</tr>
<tr>
<td>480 Democrat Road</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gibbstown, NJ 08027</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prior to January 1, 2003 EMD</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemicals Inc. was EM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industries, Inc. or EM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Science, Division of EM</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industries, Inc.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For More Information Call
856-423-6300 Technical Service
Monday-Friday: 8:00 AM - 5:00 PM

In Case of Emergency Call
800-424-9300 CHEMTREC (USA)
613-996-6666 CANUTEC (Canada)
24 Hours/Day: 7 Days/Week

### Section 2. Composition and Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS #</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferric Chloride, Hexahydrate</td>
<td>10025-77-1</td>
<td>100</td>
</tr>
</tbody>
</table>

### Section 3. Hazards Identification

**Physical State and Appearance**
Solid. (Crystals solid.)

**Emergency Overview**
DANGER!
CAUSES EYE BURNS.
MAY CAUSE SKIN BURNS.
CAUSES SKIN IRRITATION.
HARMFUL IF SWALLOWED.
MAY BE HARMFUL IF INHALED.

**Routes of Entry**
Inhalation. Ingestion.

**Potential Acute Health Effects**

<table>
<thead>
<tr>
<th>Route</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eyes</td>
<td>Hazardous in case of eye contact (corrosive). Causes eye burns.</td>
</tr>
<tr>
<td>Skin</td>
<td>Hazardous in case of skin contact (corrosive, irritant). Skin contact may produce burns. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.</td>
</tr>
</tbody>
</table>

**Inhalation**
May be hazardous in case of inhalation.

**Ingestion**
Hazardous in case of ingestion.

**Potential Chronic Health Effects**

Continued on Next Page
Carcinogenic Effects
This material is not known to cause cancer in animals or humans.

Additional information  See Toxicological Information (section 11)

Medical Conditions Aggravated by Overexposure:
Repeated exposure of the eyes to a low level of dust can produce eye irritation. Repeated skin exposure can produce local skin destruction, or dermatitis. Repeated inhalation of dust can produce varying degree of respiratory irritation or lung damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4. First Aid Measures

Eye Contact
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Inhalation
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion
DO NOT induce vomiting. If affected person is conscious give plenty of water to drink. NEVER give an unconscious person anything to ingest.

Section 5. Fire Fighting Measures

Flammability of the Product
May be combustible at high temperature.

Auto-ignition Temperature
Not available.

Flash Points
Not available.

Flammable Limits
Not available.

Products of Combustion
These products are carbon oxides (CO, CO2), halogenated compounds. Some metallic oxides.

Fire Hazards in Presence of Various Substances
Not available.

Explosion Hazards in Presence of Various Substances
Risks of explosion of the product in presence of static discharge: No.
Risks of explosion of the product in presence of mechanical impact: No.

Fire Fighting Media and Instructions
SMALL FIRE: Use DRY chemical powder.
LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Protective Clothing (Fire)
Be sure to use an approved/certified respirator or equivalent.

Special Remarks on Fire Hazards
Not available.

Special Remarks on Explosion Hazards
Not available.
**Section 6. Accidental Release Measures**

**Small Spill and Leak**
Use appropriate tools to put the spilled solid in a convenient waste disposal container.

**Large Spill and Leak**
Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all ignition sources. Call for assistance on disposal.

**Spill Kit Information**
No specific spill kit required for this product.

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**Section 7. Handling and Storage**

**Handling**
Do not ingest. Do not breathe dust. Keep container closed. Do not get in eyes, on skin, or on clothing.

**Storage**
Keep container in a cool, well-ventilated area.

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**Section 8. Exposure Controls/Personal Protection**

**Engineering Controls**
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Personal Protection**

<table>
<thead>
<tr>
<th>Eyes</th>
<th>Body</th>
<th>Respiratory</th>
<th>Hands</th>
<th>Feet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Splash goggles.</td>
<td>Synthetic apron.</td>
<td>Vapor and dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.</td>
<td>Gloves.</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

**Protective Clothing (Pictograms)**

**Personal Protection in Case of a Large Spill**
Splash goggles. Full suit. Vapor and dust respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

**Product Name**
Ferric Chloride, Hexahydrate

**Exposure Limits**
Not available.

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**Section 9. Physical and Chemical Properties**

**Odor**
Not available.

**Color**
Yellow or brown. Orange.

**Physical State and Appearance**
Solid. (Crystals solid.)

**Molecular Weight**
270.32 g/mole

**Molecular Formula**
Cl₃Fe . 6H₂O

**pH**
Not available.

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*Continued on Next Page*
**Ferric Chloride, Hexahydrate, GR**

**Section 10. Stability and Reactivity**

**Stability and Reactivity**
The product is stable.

**Conditions of Instability**
Not available.

**Incompatibility with Various Substances**
Reactive with moisture.

**Rem/Incompatibility**
Not available.

**Hazardous Decomposition Products**
These products are halogenated compounds.

**Hazardous Polymerization**
Will not occur.

**Section 11. Toxicological Information**

**RTECS Number:** Ferric Chloride, Hexahydrate NO5425000

**Toxicity**
- LD₅₀: Not available.
- LC₅₀: Not available.

**Chronic Effects on Humans**
Not available.

**Acute Effects on Humans**
Hazardous in case of eye contact (corrosive). Causes eye burns. Hazardous in case of skin contact (corrosive, irritant). Skin contact may produce burns. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. May be hazardous in case of inhalation. Hazardous in case of ingestion.

**Synergistic Products (Toxicologically)**
Not available.

**Irritancy**
Draize Test: Not available.

**Sensitization**
Not available.

**Carcinogenic Effects**
This material is not known to cause cancer in animals or humans.

**Toxicity to Reproductive System**
Not available.

**Teratogenic Effects**
Not available.

Continued on Next Page
Mutagenic Effects
Tests on laboratory animals for mutagenic effects are cited in Registry of Toxic Effects of Chemical Substances (RTECS).

Section 12. Ecological Information

Ecotoxicity
Not available.

BOD5 and COD
Not available.

Toxicity of the Products of Biodegradation
The products of degradation are as toxic as the product itself.

Section 13. Disposal Considerations

EPA Waste Number
Not available.

Treatment
Material does not have an EPA Waste Number and is not a listed waste, however consultation with a permitted waste disposal site (TSD) should be accomplished. Always contact a permitted waste disposal (TSD) to assure compliance with all current local, state, and Federal Regulations.

Section 14. Transport Information

DOT Classification
Proper Shipping Name: CORROSIVE SOLID, N.O.S. (FERRIC CHLORIDEHEXAHYDRATE)
Hazard Class: 8
UN number: UN1759
Packing Group: III
RQ: 1000 lbs. (453.6 kg)

TDG Classification
Not available.

IMO/IMDG Classification
Proper Shipping Name: CORROSIVE SOLID, N.O.S. (FERRIC CHLORIDEHEXAHYDRATE)
Hazard Class: 8
UN number: UN1759
Packing Group: III
RQ: 1000

ICAO/IATA Classification
Not available.

Section 15. Regulatory Information

U.S. Federal Regulations
TSCA 8(b) inventory: Ferric Chloride, Hexahydrate
SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: Ferric Chloride, Hexahydrate
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Ferric Chloride, Hexahydrate: Immediate (Acute) Health Hazard
SARA 313 toxic chemical notification and release reporting: No products were found.
Clean Water Act (CWA) 307: No products were found.
Clean Water Act (CWA) 311: No products were found.
Clean air act (CAA) 112 accidental release prevention: No products were found.
Clean air act (CAA) 112 regulated flammable substances: No products were found.
Clean air act (CAA) 112 regulated toxic substances: No products were found.

WHMIS (Canada)
CLASS E: Corrosive solid.

No products were found.

Continued on Next Page
This product has been classified in accordance with the hazard criteria of the Controlled Product Regulations and the MSDS contains all required information.

### International Regulations

<table>
<thead>
<tr>
<th>EINECS</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSCL (EEC)</td>
<td>R34- Causes burns.</td>
</tr>
</tbody>
</table>

### International Lists

- Australia (NICNAS): Ferric Chloride, Hexahydrate
- Japan (MITI): Ferric Chloride, Hexahydrate
- Philippines (RA6969): Ferric Chloride, Hexahydrate
- China: No products were found.

### State Regulations

- No products were found.
- California prop. 65: No products were found.

### Section 16. Other Information

**National Fire Protection Association (U.S.A.)**

- **Fire Hazard:** 2
- **Health:** 0
- **Reactivity:** 0
- **Specific Hazard:**

**Notice to Reader**

The statements contained herein are based upon technical data that EMD Chemicals Inc. believes to be reliable, are offered for information purposes only and as a guide to the appropriate precautionary and emergency handling of the material by a properly trained person having the necessary technical skills. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use, storage and disposal of these materials and the safety and health of employees and customers and the protection of the environment. EMD CHEMICALS INC. MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE, WITH RESPECT TO THE INFORMATION HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS.