Ferric Chloride, 10%

1. Identification

Product Name: Ferric Chloride, 10%
Item #: N/A
Synonyms: N/A
Recommended Use: Special Stains
Restrictions on Use: N/A
Manufacturer/Supplier:
Avantik Biogroup
32 Commerce Street
Springfield, NJ 07081
1-888-392-8411

In Case of Emergency:
Chemtrec US 1-800-424-9300
Chemtrec International 703-527-3887

2. Hazards Identification

OSHA Hazard Classification(s):
Skin Corrosion - Category 1A
Eye Damage - Category 1

Signal Word: Danger

Hazard Statement(s): Causes severe skin burns and eye damage. Causes serious eye damage.
Pictogram(s):

Precautionary Statement(s): Prevention: Do not breathe dusts or mists. Wash body thoroughly after handling. Wear protective gloves, protective clothing, eye protection and face protection. Wear eye protection, face protection.

Response: If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Take off all contaminated clothing and wash it before reuse. If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a doctor. Specific treatment (see first aid section on this label). If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue Rinsing

Storage: Store locked up.

Disposal: Dispose of contents/container in accordance with local regulations.

Descriptions of Hazards not otherwise classified: N/A
Percent of mixture with unknown acute toxicity: N/A

3. Composition and Information on Ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Common Name</th>
<th>CAS #</th>
<th>Concentration %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>90</td>
<td></td>
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<tr>
<td>Ferric Chloride</td>
<td>10025-77-1</td>
<td>10</td>
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</table>

4. First Aid Measures

Eye Contact: 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 immediately.

Skin Contact: If on skin (or hair): Take off immediately all contaminated clothing and wash before reuse. Wash with plenty of water. If skin irritation occurs: Get medical advice/attention immediately.

Inhalation: Remove to fresh air; give artificial respiration if breathing has stopped. Get medical advice/attention if you feel unwell.

Ingestion: Do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Get medical attention.

Symptoms: Irritation eyes, nose, throat; headache, dizziness

Recommendations for immediate medical care/special treatment: Get medical advice/attention if you feel unwell.
5. Fire-Fighting Measures

Extinguishing Media: Dry chemical, carbon dioxide, alcohol foam, water.
Fire Hazards (Chemical): Not flammable.
Special Protective Equipment: Fire fighters should use self-contained breathing apparatus and protective clothing.
Precautions for Firefighters: Carbon monoxide and unidentified organic compounds may be formed during combustion.

6. Accidental Release Measures

Emergency Procedures: Evacuate the area of all unnecessary personnel. Wear suitable protective equipment. Eliminate all sources of ignition and provide ventilation.
Protective Equipment: See section 8
Environmental Precautions: Prevent release to the environment by using barriers.

7. Handling and Storage

Handling: Do not breathe vapors. Do not eat, drink or smoke when using this product. See section 8 for personal protection measures.
Storage: Store locked up. Store in a well-ventilated, cool place. Keep lid tightly closed until ready to use. Do not store in metal container.

8. Exposure Controls/Personal Protection

OSHA Permissible Exposure Limits (PELs):

<table>
<thead>
<tr>
<th>Reagent</th>
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<th>OSHA PEL TWA</th>
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ACGIH Threshold Limit Values (TLVs):

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<td>1 mg(Fe)/m3</td>
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Engineering Controls: Use in a well ventilated area to prevent exposure. Maintain eyewash fountain and quick-drench facilities in work areas.
Personal Protective Measures: Wear gloves, lab coat, eye protection and impervious footwear. Contact lenses should not be worn when working with this material.
Special PPE Requirements: If ventilation hood not available wear respirator.

9. Physical and Chemical Properties Section

Appearance: Brown, Brown Liquid
Molecular Weight: N/A
Molecular Formula: N/A
pH: 1.1-1.3
Boiling Point and Boiling Range: N/A
Melting Point/Freezing Point: N/A
Flash Point: N/A
Specific Gravity/Relative Density: N/A
Odor: N/A
Odor Threshold: N/A
Color: Brown
Flammability (solid/gas): N/A
Vapor Density: N/A
Ferric Chloride, 10%

Upper/Lower flammability or explosive limits: N/A
Vapor Pressure: N/A
Evaporation Rate: N/A
Partition Coefficient: n-octanol/water: N/A
Viscosity: N/A
Auto-ignition temperature: N/A
Solubility: N/A
Decomposition Temperature: N/A

10. Stability and Reactivity
   Reactivity:
   Chemical Stability: Stable
   Conditions of Stability/Instability: N/A
   Stabilizers needed: None
   Safety issue indicated by appearance change: N/A
   Other: N/A
   Hazardous Reactions: N/A
   Hazardous Polymerization: Does not occur
   Conditions to avoid: N/A
   Classes of Incompatible Materials: Oxidizers, Strong Acids, Strong Bases, may be corrosive to metals.
   Hazardous Decomposition Products: Thermal-oxidation degradation can produce oxides of carbon. Toxic gases and vapors (i.e. Carbon monoxide) may be released in a fire.

11. Toxicological Information
   Likely Routes of Exposure
   Eyes: Corrosive to eyes. May cause permanent damage to corneal and loss of vision. May cause pain, redness, swelling. very acidic solution.
   Skin: Corrosive to skin. May cause permanent damage and scarring. May cause pain, redness and swelling. Very acidic solution.
   Inhalation: Dizziness, headache. Corrosive solution, inhalation of vapors may be harmful or irritating.
   Ingestion: Corrosive solution. May cause burns to mouth, throat, stomach and digestive tract. May cause nausea.
   Signs or Symptoms of Exposure: Nausea.
   Effects from short term exposure (delayed, immediate, chronic): Irritation to the eyes, nose, throat; headache, dizziness, nausea.
   Acute Toxicity (Numerical Measures): N/A
   Carcinogenicity (NTP, IARC, OSHA): N/A

12. Ecological Information
   Ecotoxicity: N/A
   Persistence and degradability: N/A
   Bioaccumulation Potential (octanol-water partition coefficient, BCF): N/A
   Mobility in the soil: N/A
   Adverse Environmental Effects: Toxic to aquatic life with long lasting effects.

13. Disposal Considerations
   Recommended Disposal Containers: Check with your local waste authorities*
   Recommended Disposal Methods: Do not dispose of in drains, check with your local waste authorities.*
   Physical/Chemical Properties affecting Disposal: See section 2 and section 9 applicable information.*
   Special Precautions for Landfill and Incineration Activities: Check with your local waste authorities.*
Waste Stream: Consult your local or regional authorities.*

14. Transport Information
UN Number: UN2582
UN Proper Shipping Name: Ferric Chloride Solution
Transport Hazard Class(es): 8
Packing Group Number: III
Environmental Hazards (IMDG code):
   Marine Pollutant: No
Transport in Bulk (IBC Code):
Special Transport Precautions:

15. Regulatory Information
OSHA:
DOT:
EPA:
CPSC:
Ferric Chloride, 10%

16. Other Information

Revision Date: 01/12/2015

NFPA

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<tbody>
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National Fire Protection Association (USA) NFPA

Fire Hazard

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HMIS

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Hazardous Material Information System HMIS

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Notice to Reader:

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