SECTION I - PRODUCT IDENTIFICATION

Product Name: Ferric Chloride, 6-Hydrate
Common Synonyms: Iron (III) Chloride, Hexahydrate
Chemical Family: Iron Compounds
Formula: FeCl₃·6H₂O
Formula Wt.: 270.30
CAS No.: 10025-77-1
NIOSH/RTECS No.: NO5425000
Product Use: Laboratory Reagent
Product Codes: 1996, 2000

PRECAUTIONARY LABELING

BAKER SAF-T-DATA® System

HEALTH FLAMMABILITY REACTIVITY CONTACT
1 0 1 2
SLIGHT NONE SLIGHT MODERATE

Laboratory Protective Equipment

U.S. Precautionary Labeling

WARNING!
CAUSES IRRITATION. HARMFUL IF SWALLOWED OR INHALED.
Avoid contact with eyes, skin, clothing. Do not breathe dust. Keep in tightly closed container. Use with adequate ventilation. Wash thoroughly after handling.

Continued on Page: 2
Ferric Chloride, 6-Hydrate

Effect: 06/09/93

--- PRECAUTIONARY LABELING (CONTINUED) ---

International Labeling

Causes burns. Keep container tightly closed and dry. After contact with skin, wash immediately with plenty of soap and water.

SAF-T-DATA* Storage Color Code: Orange (general storage)

--- SECTION II - COMPONENTS ---

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>Weight %</th>
<th>OSHA/PEL</th>
<th>ACGIH/TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferric Chloride, 6-Hydrate</td>
<td>10025-77-1</td>
<td>90-100</td>
<td>1 mg/m³</td>
<td>1 mg/m³</td>
</tr>
</tbody>
</table>

TLV and PEL are for Iron salts, soluble, as Fe.

--- SECTION III - PHYSICAL DATA ---

Boiling Point: 280°C (536°F) (at 760 mm Hg)

Melting Point: 37°C (98°F) (at 760 mm Hg)

Specific Gravity: 1.82 (H₂O=1)

Solubility (H₂O): Appreciable (>10%)

% Volatiles by Volume: 0 (21°C)

pH: N/A

Odor Threshold (ppm): N/A

Coefficient Water/Oil Distribution: N/A

Physical State: Solid

Appearance & Odor: Yellow-brown to orange crystals.

Continued on Page: 3
F1060 -06 Ferric Chloride, 6-Hydrate Page: 3
Effective: 06/09/93
Issued: 07/10/93

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Closed Cup): N/A
Autoignition Temperature: N/A
Flammable Limits: Upper - N/A Lower - N/A

Fire Extinguishing Media
Use extinguishing media appropriate for surrounding fire.

Special Fire-Fighting Procedures
Firefighters should wear proper protective equipment and self-contained breathing apparatus with full facepiece operated in positive pressure mode.

Unusual Fire & Explosion Hazards
None identified.

Toxic Gases Produced
hydrogen chloride

Explosion Data-Sensitivity to Mechanical Impact
None identified.

Explosion Data-Sensitivity to Static Discharge
None identified.

SECTION V - HEALTH HAZARD DATA

Threshold Limit Value (TLU/TWA): 1 mg/m³
TLU is for Iron salts, soluble, as Fe.

Short-Term Exposure Limit (STEL): Not Established

Permissible Exposure Limit (PEL): 1 mg/m³
PEL is for Iron salts, soluble, as Fe.

Toxicity of components

Intraperitoneal Mouse LD₅₀ for Ferric Chloride, 6-Hydrate 260 mg/kg

Continued on Page: 4
Ferric Chloride, 6-Hydrate

Carcinogenicity: NTP: No  IARC: No  Z List: No  OSHA Reg: No

Reproductive Effects
None identified.

Effects of Overexposure

INHALATION: irritation of upper respiratory tract
SKIN CONTACT: severe irritation or burns
EYE CONTACT: severe irritation or burns
SKIN ABSORPTION: none identified
INGESTION: nausea, vomiting, gastrointestinal irritation, burns to mouth and throat

CHRONIC EFFECTS: liver damage

Target Organs
liver

Medical Conditions Generally Aggravated by Exposure
none identified

Primary Routes of Entry
ingestion, inhalation, skin contact, eye contact

Emergency and First Aid Procedures

INGESTION: CALL A PHYSICIAN. If swallowed, if conscious, give large amounts of water. Induce vomiting.

INHALATION: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

SKIN CONTACT: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before re-use.

Continued on Page: 5
EYE CONTACT: In case of eye contact, immediately flush with plenty of water for at least 15 minutes.

SARA/TITLE III HAZARD CATEGORIES and LISTS

Acute: Yes Chronic: Yes Flammability: No Pressure: No Reactivity: No

Extremely Hazardous Substance: No CERCLA Hazardous Substance: No SARA 313 Toxic Chemicals: No TSCA Inventory: Yes

SECTION VI - REACTIVITY DATA

Stability: Stable Hazardous Polymerization: Will not occur

Conditions to Avoid: moisture, light, heat

Incompatibles: most common metals, strong bases, sodium, potassium, mineral acids

Decomposition Products: hydrogen chloride

SECTION VII - SPILL & DISPOSAL PROCEDURES

Steps to be Taken in the Event of a Spill or Discharge

Wear self-contained breathing apparatus and full protective clothing. With clean shovel, carefully place material into clean, dry container and cover; remove from area. Flush spill area with water.

Disposal Procedure
Disposal in accordance with all applicable federal, state, and local environmental regulations.
SECTION VIII - INDUSTRIAL PROTECTIVE EQUIPMENT

Ventilation: Use general or local exhaust ventilation to meet TLV requirements.

Respiratory Protection: Respiratory protection required if airborne concentration exceeds TLU. At concentrations up to 1 mg/m³, a dust/mist respirator is recommended. If airborne concentration exceeds capacity of respirator, a self-contained breathing apparatus is advised.

Eye/Skin Protection: Safety goggles, uniform, proper gloves are recommended.

SECTION IX - STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA* Storage Color Code: Orange (general storage)

Storage Requirements
Keep container tightly closed. Suitable for any general chemical storage area. Keep containers out of sun and away from heat.

SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

Domestic (D.O.T.)

Proper Shipping Name: Ferric Chloride
Hazard Class: 8 (Corrosive material)
UN/NA: UN1773 Reportable Quantity: 1000 LBS. Packaging Group: III
Labels: CORROSIVE
Regulatory References: 49CFR 172.101

International (I.M.O.)

Proper Shipping Name: Corrosive solids, n.o.s. (Ferric Chloride, 6-Hydrate)
Hazard Class: 8
UN: UN1759 Marine Pollutants: No
Labels: CORROSIVE
Regulatory References: 49CFR 172.12(b); IMDG Code

Continued on Page: 7
F1060-06  Ferric Chloride, 6-Hydrate  Page: 7
Effective: 06/09/93  Issued: 07/10/93

SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (CONTINUED)

AIR (I.C.A.O.)

Proper Shipping Name: Ferric Chloride
Hazard Class: 8
UN: UN1773
Labels: CORROSIVE
Packaging Group: III

Regulatory References: 49CFR 172.101; ICAO== We believe the transportation data and references contained herein to be factual and the opinion of qualified experts. The data is meant as a guide to the overall classification of the product and is not package size specific, nor should it be taken as a warranty or representation for which the company assumes legal responsibility.== The information is offered solely for your consideration, investigation, and verification. Any use of the information must be determined by the user to be in accordance with applicable Federal, State, and Local laws and regulations. See shipper requirements 49CFR 172.3 and employee training 49CFR 173.1.

U.S. Customs Harmonization Number: 282733000008

N/A = Not Applicable or Not Available
N/E = Not Established

The information in this Material Safety Data Sheet meets the requirements of the United States OCCUPATIONAL SAFETY AND HEALTH ACT and regulations promulgated thereunder (29 CFR 1910.1200 et. seq.) and the Canadian WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. This document is intended only as a guide to the appropriate precautionary handling of the material by a person trained in, or supervised by a person trained in, chemical handling. The user is responsible for determining the precautions and dangers of this chemical for his or her particular application. Depending on usage, protective clothing including eye and face guards and respirators must be used to avoid contact with material or breathing chemical vapors/fumes.

Exposure to this product may have serious adverse health effects. This chemical may interact with other substances. Since the potential uses are so varied, Baker cannot warn of all of the potential dangers of use or interaction with other chemicals or materials. Baker warrants that the chemical meets the specifications set forth on the label. BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS

Continued on Page: 8
FOR A PARTICULAR PURPOSE.
The user should recognize that this product can cause severe injury and
even death, especially if improperly handled or the known dangers of use
are not heeded. READ ALL PRECAUTIONARY INFORMATION. As new documented
general safety information becomes available, Baker will periodically
revise this Material Safety Data Sheet.
Note: CHEMTREC, CANUTEC, and NATIONAL RESPONSE CENTER emergency telephone
numbers are 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-JTBAKER) for assistance.

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Approved by Quality Assurance Department.