

J.T.BAKER INC. 222 RED SCHOOL LANE, PHILLIPSBURG, NJ 08865

M A T E R I A L S A F E T Y D A T A S H E E T

24-HOUR EMERGENCY TELEPHONE -- (908) 859-2151

CHEMTREC # (800) 424-9300 -- NATIONAL RESPONSE CENTER # (800) 424-8802

F1060 -06
EFFECTIVE: 06/09/93

FERRIC CHLORIDE, 6-HYDRATE

PAGE: 1
ISSUED: 01/15/94

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SECTION I - PRODUCT IDENTIFICATION
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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

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PRECAUTIONARY LABELING
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BAKER SAF-T-DATA* SYSTEM

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

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES

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.

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)

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SECTION II - COMPONENTS

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<u>COMPONENT</u>	<u>CAS NO.</u>	<u>WEIGHT %</u>	<u>OSHA/PEL</u>	<u>ACGIH/TLV</u>
FERRIC CHLORIDE, 6-HYDRATE	10025-77-1	90-100	1 MG/M	1 MG/M

TLV AND PEL ARE FOR IRON SALTS, SOLUBLE, AS FE.

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SECTION III - PHYSICAL DATA

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BOILING POINT: 280 C (536 F)
(AT 760 MM HG) VAPOR PRESSURE (MMHG): N/A

MELTING POINT: 37 C (98 F)
(AT 760 MM HG) VAPOR DENSITY (AIR=1): N/A

SPECIFIC GRAVITY: 1.82
(H2O=1) EVAPORATION RATE: N/A

SOLUBILITY(H2O): APPRECIABLE (>10%) % VOLATILES BY VOLUME: 0
(21 C)

PH: N/A

ODOR THRESHOLD (P.P.M.): N/A PHYSICAL STATE: SOLID

COEFFICIENT WATER/OIL DISTRIBUTION: N/A

APPEARANCE & ODOR: YELLOW-BROWN TO ORANGE CRYSTALS.

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SECTION IV - FIRE AND EXPLOSION HAZARD DATA

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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.

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SECTION IV - FIRE AND EXPLOSION HAZARD DATA (CONTINUED)
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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.

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SECTION V - HEALTH HAZARD DATA
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THRESHOLD LIMIT VALUE (TLV/TWA): 1 MG/M

TLV IS FOR IRON SALTS, SOLUBLE, AS FE.

SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED

PERMISSIBLE EXPOSURE LIMIT (PEL): 1 MG/M

PEL IS FOR IRON SALTS, SOLUBLE, AS FE.

TOXICITY OF COMPONENTS

INTRAPERITONEAL MOUSE LD50 FOR FERRIC CHLORIDE, 6-HYDRATE 260 MG/KG
CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

CARCINOGENICITY

NONE IDENTIFIED.

REPRODUCTIVE EFFECTS

NONE IDENTIFIED.

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SECTION V - HEALTH HAZARD DATA (CONTINUED)
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EFFECTS OF OVEREXPOSUR

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.
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

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SECTION V - HEALTH HAZARD DATA (CONTINUED)
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EXTREMELY HAZARDOUS SUBSTANCE: NO
CERCLA HAZARDOUS SUBSTANCE: NO
SARA 313 TOXIC CHEMICALS: NO
TSCA INVENTORY: YES

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SECTION VI - REACTIVITY DATA
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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

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SECTION VII - SPILL & DISPOSAL PROCEDURES
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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

DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL
ENVIRONMENTAL REGULATIONS.

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SECTION VIII - INDUSTRIAL PROTECTIVE EQUIPMENT
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VENTILATION: USE GENERAL OR LOCAL EXHAUST VENTILATION TO MEET TLV
REQUIREMENTS.

RESPIRATORY PROTECTION: RESPIRATORY PROTECTION REQUIRED IF AIRBORNE
CONCENTRATION EXCEEDS TLV. AT CONCENTRATIONS UP TO 1
MG/M , A DUST/MIST RESPIRATOR IS RECOMMENDED. IF
AIRBORNE CONCENTRATION EXCEEDS CAPACITY OF RESPIRATOR,
A SELF-CONTAINED BREATHING APPARATUS IS ADVISED.

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SECTION VIII - INDUSTRIAL PROTECTIVE EQUIPMENT (CONTINUED)
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EYE/SKIN PROTECTION: SAFETY GOGGLES, UNIFORM, PROPER GLOVES ARE
RECOMMENDED.

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SECTION IX - STORAGE AND HANDLING PRECAUTIONS
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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.

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SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION
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DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: FERRIC CHLORIDE
HAZARD CLASS: 8
UN/NA: UN1773 REPORTABLE QUANTITY: 1000 LBS. PACKAGING GROUP: III
LABELS: 8 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 I.M.O. PAGE: 8151
UN: UN1759 MARINE POLLUTANTS: NO PACKAGING GROUP: III
LABELS: CORROSIVE
REGULATORY REFERENCES: 49CFR PART 176; IMDG CODE

AIR (I.C.A.O.)

PROPER SHIPPING NAME: FERRIC CHLORIDE
HAZARD CLASS: 8
UN: UN1773 PACKAGING GROUP: III
LABELS: CORROSIVE
REGULATORY REFERENCES: 49CFR PART 175; ICAO=== WE BELIEVE THE TRANSPORTATION
DATA AND REFERENCES CONTAINED HEREIN TO BE FACTUAL AND
THE OPINION OF QUALIFIED EXPERTS. THE DATA IS MEANT
A GUIDE TO THE OVERALL CLASSIFICATION OF THE PRODUCT
AND IS NOT PACKAGE SIZE SPECIFIC, NOR SHOULD IT BE
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SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (CONTINUED)
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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 171.2, CERTIFICATION 172.204, AND EMPLOYEE TRAINING 49 CFR 173.1(B).

U.S. CUSTOMS HARMONIZATION NUMBER: 28273300008

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NOTE: WHEN HANDLING LIQUID PRODUCTS, SECONDARY PROTECTIVE CONTAINERS MUST BE USED FOR CARRYING.

-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 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 HEEDDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY RE-
RISE 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

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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.