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 WHITEWATER WI 53190-1705

EMERGENCY PHONE 1-314-771-5765

DATE: 09/27/94
 CUST#: 2-097-94816
 PO#: UNE-51497

M A T E R I A L S A F E T Y D A T A S H E E T P A G E 1

SECTION 1. ----- CHEMICAL IDENTIFICATION -----

PRODUCT #: F2877 NAME: FERRIC CHLORIDE

SECTION 2. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----

MF: CL3FE1
 SYNONYMS
 FERRIC CHLORIDE, HEXAHYDRATE * FERRIC TRICHLORIDE HEXAHYDRATE * IRON
 (III), CHLORIDE, HEXAHYDRATE * IRON TRICHLORIDE HEXAHYDRATE *

SECTION 3. ----- HAZARDS IDENTIFICATION -----

LABEL PRECAUTIONARY STATEMENTS

CORROSIVE
 CAUSES BURNS.
 HARMFUL BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.
 IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
 WATER AND SEEK MEDICAL ADVICE.
 TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING.
 WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE
 PROTECTION.

SECTION 4. ----- FIRST-AID MEASURES -----

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS
 AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED
 CLOTHING AND SHOES.
 ASSURE ADEQUATE FLUSHING OF THE EYES BY SEPARATING THE EYELIDS
 WITH FINGERS.
 IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL
 RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
 IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
 CALL A PHYSICIAN.

SECTION 5. ----- FIRE FIGHTING MEASURES -----

EXTINGUISHING MEDIA
 NONCOMBUSTIBLE.
 USE EXTINGUISHING MEDIA APPROPRIATE TO SURROUNDING FIRE CONDITIONS.
 SPECIAL FIREFIGHTING PROCEDURES
 WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO
 PREVENT CONTACT WITH SKIN AND EYES.

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M A T E R I A L S A F E T Y D A T A S H E E T P A G E 2

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 MF: CL3FE1

UNUSUAL FIRE AND EXPLOSIONS HAZARDS
 EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. - - - - - ACCIDENTAL RELEASE MEASURES - - - - -

WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY
 RUBBER GLOVES.
 SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
 AVOID RAISING DUST.
 VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. - - - - - HANDLING AND STORAGE - - - - -

REFER TO SECTION 6.

ADDITIONAL INFORMATION
 ALLYL CHLORIDE MAY POLYMERIZE VIOLENTLY UNDER CONDITIONS INVOLVING AN
 ACID CATALYST SUCH AS FERRIC CHLORIDE.

SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION - - - - -

CHEMICAL SAFETY GOGGLES.
 RUBBER GLOVES.
 SAFETY SHOWER AND EYE BATH.
 USE ONLY IN A CHEMICAL FUME HOOD.
 NIOSH/MSHA-APPROVED RESPIRATOR.
 DO NOT BREATHE DUST.
 DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
 WASH THOROUGHLY AFTER HANDLING.
 CORROSIVE.
 TOXIC.
 KEEP TIGHTLY CLOSED.
 STORE IN A COOL DRY PLACE.

SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -

APPEARANCE AND ODOR
 YELLOW POWDER AND CHUNKS
 BOILING POINT: 280 C TO 285 C
 MELTING POINT: 37 C

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M A T E R I A L S A F E T Y D A T A S H E E T P A G E 3

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PRODUCT #: F2977 NAME: FERRIC CHLORIDE
 MF: CL3FE1

SPECIFIC GRAVITY: 1.653

SECTION 10. ----- STABILITY AND REACTIVITY -----

INCOMPATIBILITIES
 STRONG OXIDIZING AGENTS
 FORMS EXPLOSIVE MIXTURES WITH:
 SODIUM
 POTASSIUM
 HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
 HYDROGEN CHLORIDE GAS



SECTION 11. ----- TOXICOLOGICAL INFORMATION -----

ACUTE EFFECTS
 HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.
 MATERIAL IS EXTREMELY DESTRUCTIVE TO TISSUE OF THE MUCOUS MEMBRANES
 AND UPPER RESPIRATORY TRACT, EYES AND SKIN.
 INHALATION MAY BE FATAL AS A RESULT OF SPASM, INFLAMMATION AND EDEMA
 OF THE LARYNX AND BRONCHI, CHEMICAL PNEUMONITIS AND PULMONARY EDEMA.
 SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING,
 WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND
 VOMITING.
 TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND
 TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.
 RTECS NO: ND5425000
 IRON(3+) CHLORIDE, HEXAHYDRATE
 TOXICITY DATA
 IPR-MUS LD50:260 MG/KG
 ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES
 (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR
 COMPLETE INFORMATION.

JAFCAU 14,512,66

SECTION 12. ----- ECOLOGICAL INFORMATION -----

DATA NOT YET AVAILABLE.

SECTION 13. ----- DISPOSAL CONSIDERATIONS -----

THE MATERIAL SHOULD BE DISSOLVED IN 1) WATER; 2) ACID SOLUTION OR 3)

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M A T E R I A L S A F E T Y D A T A S H E E T P A G E 4

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 MF: CL 3FE1

OXIDIZED TO A WATER-SOLUBLE STATE. PRECIPITATE THE MATERIAL AS THE
 SULFIDE, ADJUSTING THE PH OF THE SOLUTION TO 7 TO COMPLETE PRE-
 CIPITATION. FILTER THE INSOLUBLES AND DISPOSE OF THEM IN A HAZARDOUS-
 WASTE SITE. DESTROY ANY EXCESS SULFIDE WITH SODIUM HYPOCHLORITE.
 NEUTRALIZE THE SOLUTION BEFORE FLUSHING DOWN THE DRAIN.
 OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. ----- TRANSPORT INFORMATION -----

CONTACT SIGMA CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. ----- REGULATORY INFORMATION -----

REVIEWS, STANDARDS, AND REGULATIONS

MSHA STANDARD-AIR: TWA 1 MG(Fe)/M3
 DTLVS* 3, 138, 71
 DEL-DENMARK: TWA 1 MG(Fe)/M3 JANUARY 1993
 DEL-FINLAND: TWA 1 MG(Fe)/M3 JANUARY 1993
 DEL-THE NETHERLANDS: TWA 1 MG(Fe)/M3 JANUARY 1993
 DEL-SWITZERLAND: TWA 1 MG(Fe)/M3 JANUARY 1993
 DEL-UNITED KINGDOM: TWA 1 MG(Fe)/M3; STEL 2 MG(Fe)/M3 JANUARY 1993
 DEL IN BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACCIH TLV
 DEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACCIH TLV
 NOES 1983: 470 X4675; NIS 4; TNE 100; NOS 4; TNE 871; TFE 465

SECTION 16. ----- OTHER INFORMATION -----

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