Product ID:FERRIC CHLORIDE ANHYDROUS 99% NCI 007351 MSDS Date:06/02/1999 FSC:6810 NIIN:00-682-6677 MSDS Number: CJSMT === Responsible Party === Company Name: BASF CORPORATION Address:3000 CONTINENTAL DRIVE NORTH City:MOUNT OLIVE State:NJ ZIP:07828 Country:US Info Phone Num:973-426-46 71 Emergency Phone Num:800-832-HELP (BASF HOTLINE) Resp. Party Other MSDS Num.: PROD ID# NCI 007351 Chemtrec Ind/Phone:(800)424-9300 CAGE:TO384 === Contractor Identification === Company Name: BASF CORPORATION Address:3000 CONTINENTAL DRIVE NORTH Box:City:MOUNT OLIVE State:NJ ZIP:07828 Country:US Phone:973-426-4671 CAGE:TO384 Company Name: SIGMA TECH ENTERPRISES INC Address:90 GLEN WAY SUITE 16 Box:City:SAN CARLOS State:CA ZIP:94070 Country:US Phone:415-591-2510 Contract Num:SP0450-00-M-D098 CAGE:04

KF9

Company Name:WAITE R M CO Address:2100 EMBARCADERO SUITE 203 Box:City:OAKLAND State:CA ZIP:94606 Country:US Phone:510-535-1266 Contract Num:SP0450-00-M-SG36 CAGE:0V485

Ingred Name:FERRIC CHLORIDE ANHYDROUS CAS:7705-08-0 RTECS #:LJ9100000 > Wt:99. EPA Rpt Qty:1000 LBS DOT Rpt Qty:1000 LBS

LD50 LC50 Mixture:ORAL RAT LD50 = 1160 MG/KG Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES Health Hazards Acute and Chronic:ACUTE OVEREXPOSRE EFFECTS: THIS MATERIAL IS CORROSIVE TO THE BODY TISSUES. SKIN CONTACT WITH THE SOLID MAY RESULT IN DERMATITIS AND DEEP BURNS. EYE CONTACT MAY RESULT IN BURNS AND PERMANENT INJURY. CH RONIC OVEREXPOSURE EFFECTS: THERE ARE NO KNOWN CHRONIC EFFECTS ASSOCIATED WITH THIS MATERIAL. Effects of Overexposure:IRRITATION, BURNS, PAIN, TEARING. Medical Cond Aggravated by Exposure:NO DATA AVAILABLE WHICH ADDRESSES

MEDICAL CONDITIONS THAT ARE GENERALLY RECOGNIZED AS BEING AGGRAVATED BY EXPOSURE TO PRODUCT.

First Aid:SKIN: WASH AFFECTED AREAS WITH SOAP AND WATER. REMOVE AND LAUNDER CONTAMINATED CLOTHING BEFORE REUSE. GET IMMEDIATE MEDICAL ATTENTION. EYES: IMMEDIATELY RINSE EYES WITH RUNNING WATER FOR 15 MINUTES. G ET IMMEDIATE MEDICAL ATTENTION. INGESTION: IF SWALLOWED, DILUTE WITH WATER. DO NOT IN DUCE VOMITING. NEVER GIVE FLUIDS OR INDUCE VOMITING IF THE VICTIM IS UNCONSCIOUS OR HAVING CONVULSIONS. GET IMMEDIA TE MEDICAL ATTENTION. INHALATION: MOVE TO FRESH AIR. AID IN BREATHING. IF NECESSARY, AND GET IMMEDIATE MEDICAL ATTENTION.NOTES TO PHYSICIAN: NONE KNOWN. SPECIAL PRECAUTIONS: NONE.

Extinguishing Media:USE CO2 OR DRY CHEMICAL EXTINGUISHING MEDIA. Fire Fighting Procedures:FIREFIGHTERS SHOULD BE EQUIPPED WITH

SELF-CONTAINED BREATHING APPARATUS AND TURN OUT GEAR. Unusual Fire/Explosion Hazard:EXPLODES WHEN HEATED TO 538 C OR UPON CONTACT WITH CYANIDES.

Spill Release Procedures: SPILLS SHOULD BE CONTAINED, SOLIDIFIED AND PLACED IN SUITABLE CONTAINERS FOR DISPOSAL IN RCRA LICENSED FACILITY. MATL IS RCRA HAZARDOUS DUE TO ITS PROPERTIES. WASTE DISPOSAL: INCINERATE OR BURY IN RCR A LICENSED FACILITY. DO NOT

DISCHARGE INTO WATERWAYS OR SEWER SYSTEMS WITHOUT PROPER AUTHORITY.

Handling and Storage Precautions:GENERAL: PRODUCT SHELF LIFE IS ABOUT6 MONTHS. AVOID MOISTURE.

Other Precautions:CONTAINER DISPOSAL: EMPTY CONTAINERS WITH LESS THAN 1 INCH OF RESIDUE MAY BE LANDFILLED AT A LICENSED FACILITY. RECOMMEND CRUSHING OR OTHER MEANS TO PREVENT UNAUTHORIZED REUSE. OTHER CONTAINERS MUST BE DISPOSED OF IN A RCRA LICENSED FACILITY.

Respiratory Protection: IF DUSTS ARE GENERATED, WEAR AN APPROVED DUST RESPIRATOR.

Ventilation: USE LOCAL EXHAUST TO CONTROL DUSTS.

Protective Gloves: AS NECESSARY TO PREVENT CONTACT.

Eye Protection:CHEMICAL GOGGLES.

Other Protective Equipment: EYEWASH FOUNTAINS AND SAFETY SHOWERS MUST BE EASILY ACCESSIBLE. GLOVES, COVERALLS, APRON, AND BOOTS AS NECESSARY TO PREVENT CONTACT.

Work Hygienic Practices:W

ASH THOROUGHLY BEFORE EATING/DRINKING/SMOKING & AT END OF WORKDAY.
Supplemental Safety and Health
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HCC:C1 Vapor Pres:1 MILLIBARS X @ 20C pH:1 SU Solubility in Water:920 G/L @ 20C Appearance and Odor:DARK GREY CRYSTALLINE POWDER SLIGHT PUNGENT ODOR. Corrosion Rate:CORROSIVE
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Stability Indicator/Materials to Avoid:YES AVOID MOISTURE. DECOMPOSES AT TEMPERATU RES >200C. Stability Condition to Avoid:MOISTURE. Hazardous Decomposition Products:CHLORINE ON THERMAL DECOMPOSITION. PRODUCT SHELF LIFE IS ABOUT 6 MONTHS. Conditions to Avoid Polymerization:DOES NOT OCCUR
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Toxicological Information:TOXICOLOGY TEST DATA: RABBIT, EYE IRRITATION-IRRITATING. RABBIT, PRIMARY SKIN IRRITATION-IRRITATING. ORAL RAT LD50= 1160 MG/KG MODERATELY TOXIC.
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Ecological:ENVIRONMENTAL TOXICITY TEST DATA: FISH TOXICITY - 0.9 MG/L TEST RATING NOT FOUND.
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Waste Disposal Methods:INCINERATATE OR BURY IN A RCRA LICENSED FACILITY. DO NOT DISCHARGE INTO WATERWAYS OR SEWER SYSTEMS WITHOUT PROPER AUTHORITY.
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Transport Information BILL OF LADING DESCRIPTION: FERRIC CHLORIDE

Transport Information: BILL OF LADING DESCRIPTION: FERRIC CHLORIDE ANHYDRO

SARA Title III Information:CERCLA : YES. REPORTABLE QUANTITY: 1000 LBS. RCRA HAZ WASTE # D002 (CORROSIVITY). HAZARD RATING: HEALTH =2, REACTIVITY= 1, FIRE= 0.

Federal Regulatory Information:LISTED ON TSCA INVENTORY: YES. THE RCRA HAZARDOUS WASTE NUMBER D002 REFERS TO THIS MATERIAL'S RCRA HAZARDOUS WASTE CHARACTERISTIC OF CORROSIVITY. RCRA HAZ. WASTE NO.: D002.

State Regulatory Informati on:LISTED IN THE STATE OF NJ, PA, MA.

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