Product ID:SODIUM HYPOCHLORITE SOLUTION-15 MSDS Date:01/13/2000 FSC:6810 NIIN:01-029-5565 Status Code:A MSDS Number: CKDTV === Responsible Party === Company Name: HYDRITE CHEMICAL CO Address:300 N. PATRICK BLVD City:BROOKFIELD State:WI ZIP:53008-0948 Country:US Info Phone Num:414-354-375 0 Emergency Phone Num:414-277-1311 Resp. Party Other MSDS Num.:CL1500 Preparer's Name:KJV Chemtrec Ind/Phone:(800)424-9300 CAGE:53270 === Contractor Identification === Company Name: HYDRITE CHEMICAL CO Address:300 N. PATRICK BLVD Box:City:BROOKFIELD State:WI ZIP:53008-0948 Country:US Phone:414-354-3750 CAGE:53270 Company Name: TELECHEM INTERNATIONAL, INC Address:524 E WEDDELL DRIVE SUITE 3 Box:City:SUNNYVALE State:CA ZIP:94089-2115 Country:US Phone:916-941-3688 Contract Num:SP0450-00-M-D757 CAGE:1

KH20

Ingred Name:SODIUM HYPOCHLORITE (SARA III) CAS:7681-52-9 RTECS #:NH3486300 = Wt:12.5 EPA Rpt Qty:100 LBS DOT Rpt Qty:100 LBS

Ingred Name:WATER CAS:7732-18-5 RTECS #:ZC0110000 = Wt:87.5

LD50 LC50 Mixture:NO DATA PROVIDED BY RESPONSIBLE PARTY. Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO

Health Hazards Acute and Chronic:ACUTE-EYE CONTACT:CORROSIVE. CAUSES SEVERE BURNS & DESTRUCTION OF TISSUES. SKIN CONTACT: CORROSIVE. CAUSES SEVERE IRRITATION AND BURNS. SKIN ABSORPTION: NO ABSORPTION HAZARD EXPECTED UNDER NORMAL USE. INHALATION: CORROSIVE. CAUSES SEVERE IRRITATION AND BURNS. INGESTION: CORROSIE. CAUSES SEVERE DAMAE AND BURNS. MAY CAUSE DAMAGE TO THE MOUTH AND ESOPHAGUS. CHRONIC: NO DATA PROVIDED BY RESPONSIBLE P ARTY.

Explanation of Carcinogenicity:THI

S PRODUCT DOES NOT CONTAIN GREATER THAN 0.1% OF THE KNOWN OR POTENTIAL CARCINOGENS LISTED IN NTP, IARC, OR OSHA.

Effects of Overexposure:EYES: SEVERE IRRITATION, BURNS, PERMANENT EYE DAMAGE, BLINDNESS. SKIN CONTACT: DEEP ULCERATION, SCARRING, REDNESS, SWELLING, BURNS, BLISTERING, TISSUE DESTRUCTION. INHALATIION: COUGHING, DIFFICULTY BR EATHING, PULMONARY EDEMA, NAUSEA, IRRITATION OF NOSE, THROAT AND MUCOUS MEMBRANES. INGESTION: VOMITING, COLITIS, HYPOTENSION, PERFORAT

ION OF THE ESOPHAGUS,

CIRCULATORY COLLAPSE, CONVULSIONS, COMA, DEA TH. Medical Cond Aggravated by Exposure:RESPIRATORY SYSTEM DISORDERS.

First Aid:EYES: IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, HOLD LIDS OPEN. SKIN : IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHES & SHOES. GET MEDICAL ATTENTION IMMEDIATELY. DO NOT REUSE CLOTHING & S HOES UNTIL CLEANED. DO NOT APPLY OILS OR OINTMENTS UNLESS ORDERED BY PHYSICIAN. INHALATION: REMOVE TO FRESH AIR. IF BREATHING IS DIFFICULT, ADMINISTER OXYGEN. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. GET MEDICAL ATTENTION IMMEDIATELY.INGESTION: IF CONSCIOUS, GIVE A QUART OF WATER. DO NOT INDUCE VOMITING! CALL A PHYSICIAN IMMMEDIATE LY.

Flash Point:NONE

Extinguishing Media: FOR FIES IN AREA USE APPROPR

IATE MEDIA. FOR

EXAMPLE: WATER SPRAY, CARBON DIOXIDE, ALCOHOL FOAM, OR DRY CHEMICAL.

- Fire Fighting Procedures: EVACUATE AREA OF UNPROTECTED PERSONNEL. WEAR PROTECTIVE CLOTHING INCLUDING NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS. REMAIN UPWIND OF FIRE TO AVOID HAZARDOUS VAPORS AND DECOMPOSITION PRODUCTS . USE WATER SPRAY TO COOL FIRE-EXPOSED CONTAINERS AND DISPERSE VAPORS.
- Unusual Fire/Explosion Hazard:MAY GENERATE POTENTIALLY EXPLOSIVE OXYGEN.

Spill Release Procedures: EVACUATE UNPROTECTED PERSONNEL. MAINTAIN ADEQUATE VENTILATION. FOLLOW PERSONAL PROTECTIVE EQUIPMENT RECOMMENDATIONS ELSEWHERE IN MSDS. NEVER EXCEED OCCUPATIONAL EXPOSURE LIMIT. CONTAIN SPILL, PLACE IN TO DRUMS FOR PROPER DISPOSAL. FLUSH REMAININGAREA WITH WATER AND DISPOSE OF PROPERLY. AVOID DIRECT DISCHARGE TO SEWERS AND SURFACE WATERS. NOTIFY AUTHORITIES IF ENTRY OCCURS. Neutralizing Agent:NO

DATA PROVIDED BY RESPONSIBLE PARTY.

Handling and Storage Precautions:STORE IN A COOL, WELL-VENTILATED AREA, OUT OF DIRECT SUNLIGHT. STORE IN A DRY LOCATION AWAY FROM HEAT.
KEEP AWAY FROM INCOMPATIBLE MATERIALS. KEEP CONTAINERS TIGHTLY CLOSED. DO NOT STORE IN UNLABELED OR MISLABELED CONTAINERS.
RELIEVE PRESSURE IN DRUMS WEEKLY. DO NOT FREEZE.
Other Precautions:AVOID CONTACT WITH EYES, SKIN & CLOTHING. USE WITH ADEQUATE VENTILATION. DO NOT SWALLOW. AVOID BREATHING VAPORS, MISTS OR DUST. DO NOT EAT, DRINK OR SMOKE IN WORK AREA. WASH THOROUGHLY AFTER HANDLING. EMPTY CONTAINERS RETAIN PRODUCT RESIDUE & CAN BE DANGEROUS. DO NOT CUT, WELD, BRAZE, HEAT OR EXPOSE TO HEAT OR FLAME.

- Respiratory Protection: IF VAPORS OR MISTS ARE PRESENT, WEAR: NIOSH-APPROVED RESPIRATOR. NIOSH-APPROVEDSELF-CONTAINED RESPIRATOR. DO N
- OT EXCEED LIMITS ESTABLISHED BY RESPIRATOR MANUFACTURER. ALL RESPIRATORY PROGRAMS MUST COM PLY WITH OSHA 29 CFR 1910.134 ANS ANSI Z88.2 REQUIREMENTS AND MUST FOLLOWED WHENEVER WORKPLACE CONDITIONS REQUIRE A RESPIRATOR'S USE.
- Ventilation:LOCAL EXHAUST VENTILATION, PROCESS ENCLOSURES OR OTHER ENGINEERING CONTROLS ARE REQUIRED WHEN HANDLING OR USING THIS PRODUCT TO AVOID OVEREXPOSURE.
- Protective Gloves: RUBBER (LATEX), PVC, NEOPRENE.
- Eye Protection: CHEMICALSAFETY GOGGLES & FULL F
- ACE SHIELD. DO NOT WEAR
- CONTACTS.
- Other Protective Equipment: EYE-WASH STATION. SAFETY SHOWR. RUBBER APRON. CHEMICAL SAFETY SHOES. PROTECTIVE CLOTHING.
- Work Hygienic Practices:WASH WITH SOAP & WATER BEFORE MEAL TIMES & AT THE END OF EACH WORK SHIFT. GOOD MANUFACTURING PRACTICES REQUIRE GROSS AMOUNTS OF ANY CHEMICAL BE REMOVED FROM SKIN AS SOON AS PRACTICAL.
- Supplemental Safety and Health
- NO DATA PROVIDED BY RESPONSIBLE PARTY.

========= Physical/Chemical Properties

HCC:B1 Melt/Freeze Pt:=-23.3C, -10.F Vapor Density:>1 Spec Gravity:1.210 @ 25C pH:>12 Evaporation Rate & amp; Reference:N/D (NBUAC=1) Solubility in Water:COMPLETE Appearance and Odor:CLEAR, YELLOW LIQUID, CHLORINE ODOR Percent Volatiles by Volume:100 (WT)

Stability Indicator/Materials to Avoid:NO AMMONIA, ORGANIC MATERIALS, ACIDS, AMINES, AMMONIUM SALTS, AZIRIDINE, METHANOL, REDUCING AGENTS, OXIDIZING AG

 ENTS, IRON, COPPER, BISULFATES. PHENYL ACETONITRILE. CELLULOSE ETHYLENE DIAMINE. OXIDIZABLE METALS. SOAPS. Stability Condition to Avoid:AVOID TEMPERATURES GREATER THAN 70F. AVOID EXPOSURE TO LIGHT. Hazardous Decomposition Products:CHLORINE-CONTAINING GASES. REACTS WITH ACIDS TO RELEASE POISONOUS CHLORINE GAS. SODIUM OIDE. Conditions to Avoid Polymerization:WILL NOT OCCUR UNDER NORMAL CONDITIONS.
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Toxicologica I Information:LD50 ORAL: MOUSE: 5800 MG/KG (SODIUM HYPOCHLORITE. LD50 SKIN: NO DATA. LC50 INHALATION: RAT: 293 PPM/1 H (CHLORINE).
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Ecological: ECOTOXICOLOGICAL INFORMATION: NO DATA AVAILABLE. CHEMICAL FATE DATA: NO DATA AVAILABLE.
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Waste Disposal Methods:HAZARDOUS WASTE NUMBER: D002. DISPOSAL METHOD: DISPOSE OF IN A PERMITTED HAZARDOUS WASTE M ANAGEMENT FACILITY
FOLLOWING ALL LOCAL, STATE AND FEDERAL REGULATIONS. IF APPROVED, FLUSH TO SEWER WITH LARGE QUANTITIES OF WATER.
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Transport Information:US DOT: PROPER SHIPPING NAME: HYPOCHLORITE SOLUTION. HAZARD CLASS: 8. IDENTIFICATION NUMBER: UN1791. PACKING GROUP: III. LABEL REQUIRED: CORROSIVE. REPORTABLE QUANTITY (RQ): 100 LBS (SODIUM HYPOCHLORI TE).
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SARA Title III Information:SARA TITLE III SECTION 311/312 CATEGORY: IMMEDIATE (ACUTE) HEALTH HAZARD: YES; DELAYED (CHRONIC) HEALTH HAZARD: NO; FIRE HAZARD: YES; SUDDEN RELEASE OF PRESSURE HAZARD: NO; REACTIVE HAZARD: NO. SARA T ITLE II SECTION 302/304/313: NO.
Federal Regulatory Information:CERCLA REPORTABLE QUANTITY (RQ, IN LBS): 100. TSCA INVENTORY STATUS: ALL COMPONENTS OF THIS PRODUCT ARE ON THE TSCA INVENTORY OR ARE EXEMPT FROM TSCA INVENTORY REQUIR

EMENTS.

EPA REGISTRATION NUMBER: 2 686-20001.

State Regulatory Information: THE FOLLOWING COMPONENTS ARE LISTED UNDER CALIFORNIA PROPOSITION 65: NONE. THE FOLLOWING COMPONENTS ARE LISTED AS A WISCONSIN HAP: NONE.

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particular situation.