-- IODINE, 0984 MALLINCKRODT BAKER INC ______ MSDS Safety Information ______ FSC: 6810 NIIN: 00-153-8481 MSDS Date: 09/08/1997 MSDS Num: CJQFZ Product ID: IODINE, 0984 MFN: 01 Responsible Party Cage: 70829 Name: MALLINCKRODT BAKER INC Address: 222 RED SCHOOL LANE City: PHILLIPSBURG NJ 08865 Info Phone Number: 800-582-2537 Emergency Phone Number: 908-859-2151;800-424-9300 Resp. Party Other MSDS No.: I2680 Chemtrec IND/Phone: (800)424-9300 Published: Y ______ Contractor Summary ______ Cage: 70829 Name: MALLINCKRODT BAKER, Address: 222 RED SCHOOL LANE City: PHILLIPSBURG NJ 08865 Phone: 800-582-2537 ______ Item Description Information ______ ______ Ingredients ______ Cas: 7553-56-2 RTECS #: NN1575000 Name: IODINE Percent by Wt: 100. OSHA PEL: C1 MG/M3;C0.1 PPM ACGIH TLV: NOT ESTABLISHED ACGIH STEL: C1.0 MG/M3;C0.1 PPM ______ Health Hazards Data ______ LD50 LC50 Mixture: LD50: (ORAL, RAT) 14 GM/KG Route Of Entry Inds - Inhalation: YES Skin: YES

Ingestion: YES

Carcinogenicity Inds - NTP: NO

IARC: NO OSHA: NO

Effects of Exposure: ACUTE: INHAL: CORR. VAPS SEVERELY IRRITATE & CAN BURN MUC MEMB & RESP TRACT. EXCESS TEARS, RHINITIS, TIGHTNESS IN CHEST, SORE THROAT, HEADACHE AND DELAYED PULMONARY EDEMA CAN RESULT. INHAL OF CONCENTR ATED VAPS MAY BE FATAL. INGEST: CORR. CAN CAUSE SEV BURNS OF MOUTH, THROAT & STOM. CAUSES ABDOM PAIN, DIARR FEVER, VOMIT, STUPOR & SHOCK. PROBABLE LETHAL DOSE IS 2-4 GM OF FREE IODINE. SKIN CONT: CORR . LIQ CONT MAY CAUSE BLISTERING BURNS, IRRIT, & PAIN. VAPS MAY BE SEVERLY IRRITATING. EYE CONT: CORR! VAPS ARE SEVERELY IRRITATING & MAY CAUSE DMG TO EYES. CONT MAY CAUSE SEVERE (EFTS OF OVEREXP)

- Signs And Symptions Of Overexposure: HLTH HAZS: BURNS & PERM EYE DMG.
 CHRONIC: CHRONIC EXPOSURE TO IDODINE MAY CAUSE INSOMNIA, CONJUNCITIVITIS,
 INFLAMMATION OF THE NASAL MUCOUS, BRONCHITIS, TREMOR, RAPID HEART BEAT,
 DIARRHEA AND WEIGHT L OSS. ALLERGIC SENSITIZATION MAY OCCUR.
- Medical Cond Aggravated By Exposure: PERSON W/PRE-EXISTING SKIN DISORDERS, EYE PROBLEMS, IMPAIRED RESP FUNCTION, OR DISEASE OF THE THYROID, LUNGS, OR KIDNEY MAY BE MORE SUSCEPTIBLE TO THE EFFECTS OF THE SUBSTANCE.
- First Aid: INHAL: REMOVE TO FRESH AIR. IF NOT BRTHG, GIVE ARTF RESP. IF BRTHG IS DFCLT, GIVE OXYGEN. GET MED ATTN IMMED. OBSERVE FOR DEVELOPMENT OF PULM EDEMA. INGEST: INDUCE VOMIT IMMED AS DIRECTED BY MED PERSO NNEL. NEVER GIVE ANYTHING BY MOUTH TO UNCON PERSON. GET MED ATTN IMMED. SKIN CONT: WIPE OFF EXCESS MATL FROM SKIN THEN IMMED FLUSH SKIN W/PLENTY OF WATER FOR AT LST 15 MINS WHILE REMOVING CONTAMD CLTH G & SHOES. GET MED ATTN IMMED. WASH CLTHG BEFORE REUSE. THOROUGHLY CLEAN SHOES BEFORE REUSE. IODINE STAINS CAN BE REMOVED BY IMMED WASHING SKIN W/5% SODIUM THIOSULFATE SOLN. (SUPDAT)

Handling and Disposal

Spill Release Procedures: NOTIFY SFTY PERSONNEL OF IODINE SPILL/LEAKS.

VENTILATE AREA OF LEAK/SPILL. WEAR PROT EQUIP AS SPECIFIED IN EXPOS

CTLS/PERSONAL PROT SECTION 8. ISOLATE HAZ AREA. KEEP UNNEC & UNPROTECTED

PERSONNEL FROM ENTERING. COLLECT & CONTAINERIZE AS MUCH SOLID IODINE AS

POSS. COVER SPILL AREA W/EXCESS OF REDUCING AGENT (SODIUM THIOSULFATE,

BISULFATE/FERROUS SALTS IN 3M SULFURIC ACID) AND (SUPDAT)

Neutralizing Agent: SODA ASH.

- Waste Disposal Methods: WHATEVER CANNOT BE SAVED FOR RECOVERY/RECYCLING SHOULD BE MANAGED IN APPROP & APPRVD WASTE FACILITY. ALTHOUGH NOT LISTED RCRA HAZ WASTE, THIS MATL MAY EXHIBIT ONE/MORE CHARACTERISTICS OF HAZ WASTE & R EQ APPROP ANALYSIS TO DETERM SPECIFIC DISP REQUIREMENTS. PROCESSING, USE/CONTAM OF THIS PROD (SUPDAT)
- Handling And Storage Precautions: KEEP IN TIGHTLY CLSD CNTNR. STORE IN COOL, DRY, VENTD AREA AWAY FROM SOURCES OF HEAT/IGNIT. PROTECT AGAINST PHYSICAL DMG. STORE SEPARATELY FROM REACTIVE/COMBUST MATLS, & OUT OF DIRECT SUNLIGHT. POISON! DANGER! CORR. DO NOT BREATHE VAP OR MIST. DO NOT GET IN EYES, ON SKIN, OR ON CLOTHING.

Other Precautions: CNTNRS OF MATL MAY BE HAZ WHEN EMTPY SINCE THEY RETAIN PROD RESIDUES (DUST, SOLIDS); OBSERVE ALL WARNINGS & PRECS LISTED FOR PROD. USE ONLY W/ADEQ VENT. DO NOT STORE NEAR COMBUST MATLS. KEEP FROM CONT W/CLTHG & OTHER COMBUST MATLS.

Fire and Explosion Hazard Information

Extinguishing Media: USE ANY MEANS SUITABLE FOR EXTINGUISHING SURROUNDING FIRE. WATER SPRAY MAY BE USED TO KEEP FIRE EXPOSED CONTAINERS COOL

Fire Fighting Procedures: USE NIOSH APPRVD SCBA AND FULL PROTECTIVE EQUIPMENT (FP N).

Unusual Fire/Explosion Hazard: CONTACT WITH OXIDIZABLE SUBSTANCES & INCOMPATIBLES MAY CAUSE EXTREMELY VIOLENT COMBUSTION. FIRE: NOT COMBUSTIBLE, BUT SUBSTANCE IS A STRONG OXIDIZER AND ITS HEAT OF REACTION WITH REDUCING AGENTS OR CO MBUSTIBLES MAY CAUSE IGNITION.

Control Measures

Respiratory Protection: IF EXPOSURE LIMIT IS EXCEEDED, WEAR SUPPLIED AIR, FULL-FACEPIECE RESPIRATOR, AIRLINED HOOD, OR FULL FACEPIECE SELF-CONTAINED BREATHING APPARATUS. THIS SUBSTANCE HAS UNKNOWN WARNING PROPERTIES.

Ventilation: SYS OF LOC &/OR GEN EXHST IS REC TO KEEP EMPLOYEE EXPOS BELOW AIRBORNE EXPOSURE LIMITS. LOC EXHST VENT IS GENERALLY PREFERRED (OTHER INFO) Protective Gloves: IMPERVIOUS GLOVES.

Eye Protection: ANSI APPROVED CHEMICAL WORKERS GOGGS & FULL LENGTH FACESHILED (FP N).

Other Protective Equipment: EYE WASH & DELUGE SHOWER MEETING ANSI DESIGN CRITERIA (FP N). WEAR IMPERVIOUS PROT CLTHG, INCL BOOTS, LAB COAT, APRON OR COVERALLS, AS APPROPRIATE, TO PREVENT SKIN CONTACT.

Work Hygienic Practices: WASH THOROUGHLY AFTER HANDLING. REMOVE & WASH CONTAMD CLOTHING PROMPTLY.

Supplemental Safety and Health: FIRST AID PROC: EYE CONT: IMMED FLUSH W/PLENTY OF WATER FOR AT LST 15 MINS, LIFTING LOWER & UPPER EYELIDS OCCASNLY. GET MED ATTN IMMED. SPILL PROC: THEN NEUT W/SODA ASH. COLLECT SLURRY INTO APPRVD CNT NRS. WASTE DISP: MAY CHANGE WASTE MANAGEMENT OPTIONS. STATE & LOC DISP REGS MAY DIFFER FROM FED DISP REGS. (OTHER INFO)

Physical/Chemical Properties

Boiling Point: =183.9C, 363.F B.P. Text: 184C(363F)(SUBLIMES) Melt/Freeze Pt: =113.9C, 237.F Vapor Pres: 0.3 @ 20C (68F)

Vapor Density: 8.8(AIR=1)

Spec Gravity: 4.98

PH: OTHER INFO

Evaporation Rate & Reference: NO INFORMATION FOUND

Solubility in Water: OTHER INFO

Appearance and Odor: BLUISH-BLACK CRYSTALS; METALLIC LUSTER.

Percent Volatiles by Volume: <1

Reactivity Data

Stability Indicator: YES

Stability Condition To Avoid: STABLE UNDER ORDINARY CONDITIONS OF USE AND STORAGE. HEAT, SUNLIGHT, AND POOR VENTILATION.

Materials To Avoid: INCOMPAT W/AMMONIA, POWDERED METALS, ALKALI METALS/STRONG REDUCING AGENTS. RXN CAN BE VIOLENT/EXPLO W/ACETALDEHYDE & ACETYLENE. REACTS W/AMMONIUM HYDROXIDE TO FORM SHOCK-SENSITIVE IODIDES ON DRYING.

Hazardous Decomposition Products: TOXIC GASES AND VAPORS MAY BE RELEASED IF INVOLVED IN A FIRE.

Hazardous Polymerization Indicator: NO

Toxicological Information

Toxicological Information: ORAL RAT LD50: 14 GM/KG; HUMAN LDLO: 28 MG/KG; INVESTIGATED AS REPRODUCTIVE EFFECTOR. CANCER LISTS. INGRED: IDODINE (U553-56-2). NTP CARCIN: NONE KNOWN, NONE ANTICIPATED OR NONE IARC CATEGORY.

Ecological Information

Ecological: ENVIRONMENTAL FATE: NO INFORMATION FOUND. ENVIRONMENTAL TOXICITY: NO INFORMATION FOUND.

MSDS Transport Information

Transport Information: DOMESTIC(LAND, D.O.T.). PROPER SHIPPING NAME: CORROSIVE SOLID, N.O.S. (IODINE). HAZARD CLASS: 8. UN/NA: UN1759. PACKING GROUP: III. INFO RPTD FOR PROD/SIZE: 100LB. INTERNATIONAL(WATER, I.M.O.). PROPER SHIPPING NAME: CORROSIVE SOLIDS, N.O.S. (IODINE). HAZARD CLASS: 8. UN/NA: UN1759. PACKING GROUP: III. INFO RPTD FOR PROD/SIZE: 100LB. INTERNATIONAL (AIR, I.C.A.O.). PROPER SHIPPING NAME: CORROSIVE SO LID, N.O.S. (IODINE). HAZARD CLASS: 8. UN/NA: UN1759. PACKING GROUP: III. INFO RPTD FOR PROD/SIZE: 100LB.

Regulatory Information

Sara Title III Information: FED, STATE & INTERNATIONAL REGS - PART 1. INGRED: IODINE (7553-56-2) SARA 302-RQ-NO, TPQ-NO.

SARA 313: LIST-NO, CHEMICAL CATG.-NO. FED, STATE & INTERNATION REGS - PART 2. INGRES: IODINE (7553-56-2). C ERCAL-NO, RCRA-261.33-NO, TSCA 8(D) - NO. CHEMICAL WEAPONS CONVENTION: NO, TSCA 12(B): NO. CDTA: NO. SARA 311,312: ACUTE: YES. CHRONIC: YES. FIRE: YES. PRESSURE: NO. REACTIVITY: NO. (PURE/SOLID).

Federal Regulatory Information: CHEM INVENTORY STATUS - PART 1. INGRED: IODINE (7553-56-2). TSCA-YES, EC-YES, JAPAN-NO, AUSTRALIA-YES. CHEMICAL INVENTORY

STATUS - PART 2. INGRED: IODINE (7553-56-2) CANADA. KOREA-YES, DSL-YES, NDSL-N O, PHIL-YES.AUSTRALIAN HAZCHEM CODE:NO INFO FOUND. POISON SCHEDULE: S6. S: THIS MSDS HAS BEEN PREPARED ACCORD TO HAZARD CRITERIA OF CONTROLLED PRODS REGS (CPR) AND MSDS CONTAINS ALL OF INFO REQD B Y CPR.

Other Information

Other Information: SUPDAT: DISPOSE OF CNTNR & UNUSED CONTENTS I/A/W FED, STATE & LOC REQ. VENT: BECAUSE IT CAN CTL EMISSIONS OF CONTAMINANT @ ITS SOURCE, PVNTG DISPERSION OF IT INTO GEN WORK AREA. PLEASE REFER TO ACGIH DOCUMENT, INDUS VENT, A MANUAL OF REC PRACTICES, MOST RECENT EDITION, FOR DETAILS. PHYSICAL DATA:PH: 5.4(SATURATED SOLN). SOL IN H*20: SLIGHT WATER SOLUBILITY (0.03 G/100 G WATER @ 20C). J.T. BAKER SA F-T-DATA (TM) RATING. HLTH RATING: 2-MOD. FLAMMABILITY RATING: 0-NONE. REACTIVITY RATING: 2-MODERATE. CONT RATING: 3-SEV(CORR). LAB RPOT EQUIP: GOGGS; LAB COAT, VENT HOOD; PROPER GLOVES. STOR COLOR CO DE: WHITE (CORR).

Transportation Information

Responsible Party Cage: 70829

Trans ID NO: 152466

Product ID: IODINE, 0984

MSDS Prepared Date: 09/08/1997

Review Date: 04/18/2000

MFN: 1

Multiple KIT Number: 0

Detail DOT Information

DOT PSN Code: DXA

Symbols: G

DOT Proper Shipping Name: CORROSIVE SOLIDS, N.O.S.

Hazard Class: 8
UN ID Num: UN1759

DOT Packaging Group: III

Label: CORROSIVE

Packaging Exception: 154

Non Bulk Pack: 213

Bulk Pack: 240

Max Qty Pass: 25 KG Max Qty Cargo: 100 KG Vessel Stow Req: A

Detail IMO Information

IMO PSN Code: ESJ

IMO Proper Shipping Name: CORROSIVE SOLID, N.O.S. o

IMDG Page Number: 8151

http://www.alli.wnyric.org/district/documents/msds/files/cjq/cjqfz.html UN Number: 1759 UN Hazard Class: 8 IMO Packaging Group: I/II/III Subsidiary Risk Label: -EMS Number: 8-15 MED First Aid Guide NUM: 760 ______ Detail IATA Information ______ IATA PSN Code: HMK IATA UN ID Num: 1759 IATA Proper Shipping Name: CORROSIVE SOLID, N.O.S. * IATA UN Class: 8 IATA Label: CORROSIVE UN Packing Group: III Packing Note Passenger: 822 Max Quant Pass: 25KG Max Quant Cargo: 100KG Packaging Note Cargo: 823 _____ Detail AFI Information ______ AFI PSN Code: HMK AFI Symbols: * AFI Proper Shipping Name: CORROSIVE SOLID, N.O.S. AFI Hazard Class: 8 AFI UN ID NUM: UN1759 AFI Packing Group: III Special Provisions: P5 Back Pack Reference: A12.4 ______ HAZCOM Label ______ Product ID: IODINE, 0984 Cage: 70829 Company Name: MALLINCKRODT BAKER, INC. Street: 222 RED SCHOOL LANE City: PHILLIPSBURG NJ Zipcode: 08865 Health Emergency Phone: 908-859-2151;800-424-9300 Label Required IND: Y Date Of Label Review: 08/24/1999 Status Code: A Origination Code: F Chronic Hazard IND: Y

Signal Word: DANGER

Eye Protection IND: YES Skin Protection IND: YES Respiratory Protection IND: YES

Health Hazard: Severe Contact Hazard: Severe

Fire Hazard: None

Reactivity Hazard: None

Hazard And Precautions: ACUTE: INHAL: CORR. SEV IRRIT W/BURN MUC MEMB & RESP TRACT. EXCESS TEARS, RHINITIS, TIGHT CHEST, SORE THROAT, HDCH & DELAYED PULM EDEMA. VAPS MAY BE FATAL. INGEST: CORR. CAN CAUSE SEV BURNS OF MOUTH, THROAT & STOM. ABDOM PAIN, DIARR, FEVER, VOMIT, STUPOR & SHOCK. PROBABLE LETHAL DOSE IS 2-4 GM OF FREE IODINE. SKIN: CORR. LIQ CONT MAY CAUSE BLISTERING BURNS, IRRIT, & PAIN. VAPS MAY BE SEV IRRIT. E YE: CORR! VAPS ARE SEV IRRIT & MAY CAUSE DMG TO EYES. CONT MAY CAUSE SEV BURNS & PERM EYE DMG. CHRONIC: IODINE MAY CAUSE INSOMNIA, CONJ, INFLAMM OF NASAL MUC, BRONCHITIS, TREMOR, RAPID HEART BEAT, D IARR & WT LOSS. ALLERGIC SENSITIZ MAY OCCUR.

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