

MALLINCKRODT BAKER INC -- HYDROCHLORIC ACID 33-40%, 2062 -- 6810-01-180-1273

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Product Identification  
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Product ID:HYDROCHLORIC ACID 33-40%, 2062

MSDS Date:12/08/1996

FSC:6810

NIIN:01-180-1273

MSDS Number: CJQGB

=== Responsible Party ===

Company Name:MALLINCKRODT BAKER INC

Address:222 RED SCHOOL LANE

City:PHILLIPSBURG

State:NJ

ZIP:08865

Country:US

Info Phone Num:800-582-2537

Emergency Phon

e Num:908-859-2151

Resp. Party Other MSDS Num.:H3880

Chemtrec Ind/Phone:(800)424-9300

CAGE:70829

=== Contractor Identification ===

Company Name:MALLINCKRODT BAKER, INC.

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Box:City:PHILLIPSBURG

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Composition/Information on Ingredients  
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Ingred Name:HYDROGEN CHLORIDE

CAS:7647-01-0

RTECS #:MW4025000

Minimum % Wt:33.

Maximum % Wt:40.

OSHA PEL:C7 MG/M3;C5 PPM

ACGIH STEL:C7.5 MG/M3;C5 PPM

EPA Rpt Qty:5000 LBS  
DOT Rpt Qty:5000 LBS

Ingred Name:WATER  
CAS:7732-18-5  
RTECS #:ZC0110000  
Minumum % Wt:60.  
Maxumum % Wt:67.

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===== Hazards Identification =====

LD50 LC50 Mixture:SEE TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES

Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO

Health Hazards Acute and Chronic:INHALATION: CORROSIVE! INHALATION OF VAPORS CAN CAUSE COUGHING, CHOKING, INFLAMMATION OF THE NOSE, THR

OAT AND UPPER RESPIRATORY TRACT, AND IN SEVERE CASES, PULMONARY EDEMA, CIRCULATORY FAILURE, AND DE ATH. INGESTION: CORROSIVE! SWALLOWING HYDROCHLORIC ACID CAN CAUSE IMMEDIATE PAIN AND BURNS OF THE MOUTH, THROAT, ESOPHAGUS AND GI TRACT. MAY CAUSE NAUSEA, VOMITING AND DIARRHEA. SWALLOWING MAY BE FATA L. SKIN CONTACT: CORROSIVE! CAN CAUSE REDNESS, PAIN AND SEVERE SKIN BURNS. CONCENTRATED SOLUTIONS CAUSE DEEP ULCERS AND DISCOLOR SKIN. EYE CONTACT: CORROSIVE! VAPORS ARE IR

RITATING AND MAY CAUSE DAMAG E TO THE EYES. (EFFECTS OF OVEREXPOSURE)

Effects of Overexposure:HEALTH HAZARDS: CONTACT MAY CAUSE SEVERE BURNS AND PERMANENT EYE DAMAGE. CHRONIC EXPOSURE: LONG-TERM EXPOSURE TO CONCENTRATED VAPORS MAY CAUSE EROSION OF TEETH. LONG TERM EXPOSURES SELDOM OCCUR DUE TO THE CORROSIVE PROPERTIES OF THE ACID.

Medical Cond Aggravated by Exposure:PERSONS WITH PRE-EXISTING SKIN DISORDERS OR EYE DISEASE MAY BE MORE SUSCEPTIBLE TO THE EFFECTS OF THIS SUB STANCE.

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===== First Aid Measures =====

First Aid:INHAL: REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. GET MED ATTN IMMED. INGEST: DO NOT INDUCE VOMITING! GIVE LARGE QUANTITIES OF WATER OR MILK IF AVAILABLE. NEVER GIVE ANYTHING BY MOUTH TO AN UNCON PERSON. GET MED ATTN IMMED. SKIN CONTACT: IN CASE OF CONTACT, IMMED FLUSH SKIN W/PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE

REMOVING CON TAM CLTHG & SHOES. WASH CLTHG BEFORE REUSE. THOROUGHLY CLEAN SHOES BEFORE REUSE. GET MED ATTN IMMED. EYE CONTACT: IMMED FLUSH EYES W/PLENTRY OF WATER FOR AT LEAST 15 MINUTES, LIFTING LOWER AND UPPER EY ELIDS OCCASIONALLY. GET MED ATTN IMMED.

===== Fire Fighting Measures =====

Extinguishing Media:IF INVOLVED IN A FIRE, USE WATER SPRAY. NEUTRALIZE WITH SODA ASH OR SLAKED LIME.

Fire Fighting Procedures:USE NIOSH APPROVED SCBA AND FULL PROTECTIVE

EQUIPMENT . STRUCTURAL FIREFIGHTER'S PROTECTIVE CLOTHING IS INEFFECTIVE FOR FIRES INVOLVING HYDROCHLORIC ACID. STAY AWAY FROM ENDS OF TANKS. COOL TANK S WITH WATER SPRAY UNTIL WELL AFTER FIRE IS OUT.

Unusual Fire/Explosion Hazard:EXTREME HEAT OR CONTACT WITH METALS CAN RELEASE FLAMMABLE HYDROGEN GAS. NOT CONSIDERED TO BE AN EXPLOSION HAZARD.

===== Accidental Release Measures =====

Spill Release Procedures:VENT AREA OF LEAK OR SPILL. WEAR APPROP

PERSONAL PROT EQUIP AS SPECIFIED IN EXPOS CTLS/PERSONAL PROT. ISOLATE HAZ AREA. KEEP UNNECESSARY & UNPROTECTED PERS FROM ENTERING. CONTAIN & RECOVER LIQ WHEN POSSIBLE. NEUT W/ALKALINE MATL (SODA ASH, LIME), THEN ABSORB W/INERT MATL (EG, VERMICULITE, DRY SAND, EARTH), & PLACE IN A CHEM WASTE CNTNR. DO NOT USE COMBUST MATLS, SUCH AS SAWDUST. (SUPDAT)

Neutralizing Agent:NEUTRALIZE WITH ALKALINE MATERIAL (SODA ASH, LIME), THEN ABSORB WITH AN INERT MATERIAL.

===== Handling and Storage =====

Handling and Storage Precautions:STORE IN A COOL, DRY, VENTD STORAGE AREA W/ACID RESISTANT FLOORS & GOOD DRAINAGE. PROTECT FROM PHYSICAL DMG. KEEP OUT OF DIRECT SUNLIGHT & AWAY FROM HEAT, WATER & INCOMPAT MATLS. DO NOT WASH OUT CNTNR & USE IT FOR OTHER PURPOSES. WHEN DILUTING, ACID SHOULD ALWAYS BE ADDED (TOXICOLOGICAL INFO)

Other Precautions:WHEN OPENING METAL CONTAINERS, USE NON-SPARKING TOOLS BECAUSE

OF THE POSSIBILITY OF HYDROGEN GAS BEING PRESENT.

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTY SINCE THEY RETAIN PRODUCT RESIDUES (VAPORS, LIQUID); OBSERVE ALL WARNINGS AND PRECAUTIONS LISTED FOR THE PRODUCT.

===== Exposure Controls/Personal Protection =====

Respiratory Protection: IF THE EXPOS LIMIT IS EXCEEDED, A NIOSH APPROVED FULL FACEPIECE RESP W/AN ACID GAS CARTRIDGE MAY BE WORN UP TO 50 TIMES THE EXPOS LIMIT OR MAXIMUM USE CONCENTRATION SPECIFIED BY THE APPROPRIATE REGULATORY AGENCY OR RESP SUPPLIER, WHICHEVER IS LOWEST. FOR EMERGENCIES OR INSTANCES WHERE THE EXPOS LEVELS ARE NOT KNOWN, USE A NIOSH APPROVED (ECOLOGICAL INFO)

Ventilation: A SYSTEM OF LOCAL &/OR GENERAL EXHAUST IS RECOMMENDED TO KEEP EMPLOYEE EXPOS BELOW AIRBORNE EXPOS LIMITS. LOCAL EXHAUST VENT IS GENERALLY PREFERRED (ECOLOGICAL INFO)

Protective Gloves: RUBBER OR NEOPRENE GLOVES.

Eye Protection: ANSI APPROVED CHEMICAL WORKERS GOGGLES & FULL LENGTH FACESHIELD

D.

Other Protective Equipment: EYE WASH & DELUGE SHOWER MEETING ANSI DESIGN CRITERIA. ADDITIONAL PROTECTION INCLUDING IMPERMEABLE BOOTS, APRON OR COVERALLS, AS NEEDED IN AREA OF UNUSUAL EXPOSURE TO PREVENT SKIN CONTACT.

Supplemental Safety and Health

SPILL PROC: DO NOT FLUSH TO SEWER! US REGS (CERCLA) REQUIRE REPORTING SPILLS & RELEASES TO SOIL, WATER & AIR IN EXCESS OF REPORTABLE QTY'S. TOLL FREE NUMBER FOR US COAST GUARD NRC IS 1-800-424-8802. JT BAKER NEUTRASORB(TM) OR TEAM(TM) 'LOW NA+' ACID NEUTRALIZERS ARE RECOMMENDED FOR SPILLS OF THIS PRODUCT.

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

Boiling Pt: B.P. Text: (TRANSPORT INFO)

Melt/Freeze Pt: -74.C, -101.2F

Vapor Pres: 190 @ 25C(77F)

Spec Gravity: 1.18

pH: (TRANSPORT INFO)

Evaporation Rate & Reference: NO INFO FOUND

Solubility in Water: (TRANSPORT INFO)

Appearance and Odor: COLORLESS, FUMING LIQUID; PUNGENT ODOR OF HYDROGEN CHLORIDE.

Percent Volatiles by Volume: 100

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== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid: YES

STRONG MINERAL ACID, CONC HYDROCHLORIC ACID IS INCOMPAT W/MANY SUBSTANCES & HIGHLY REACTIVE W/STRONG BASES, METALS, METAL OXIDES, HYDROXIDES, AMINES, CARBONATES & OTHER ALKALINE MATLS. INCOMPAT W/MATLS SUCH AS CYANIDES, SULF

Stability Condition to Avoid: STABLE UNDER ORDINARY CONDITIONS OF USE AND STORAGE. CONTAINERS MAY BURST WHEN HEATED.

Hazardous Decomposition Products: WHEN HEATED TO DECOMP, EMITS TOX

HYDROGEN CHLORIDE FUMES & WILL REACT W/WATER OR STEAM TO PRDCE HEAT & TOX & CORR FUMES. THERMAL OXIDATIVE DECOMP PRODUCES TOXIC CHLORINE FUMES & EXPLOSIVE HYDROGEN GAS.

===== Toxicological Information =====

Toxicological Information: INHAL RAT LC50: 3124 PPM/1H; ORAL RABBIT LD50: 900 MG/KG (HYDROCHLORIC ACID CONCENTRATED); INVESTIGATED AS A TUMORIGEN, MUTAGEN, REPRODUCTIVE EFFECTOR. CANCER LISTS - HYDROGEN CHLORIDE (7647-01

-0) NTP CARCINOGEN - KNOWN: NO, ANTICIPATED: NO; IARC CATEGORY: 3. WATER (7732-18-5) NTP CARCINOGEN - KNOWN: NO, ANTICIPATED: NO; IARC CATEGORY: NONE. HNDLG/STOR PRECS: SLOWLY TO WATER & IN SMALL AMTS. NEVER USE HOT WATER & NEVER ADD WATER TO ACID. WATER ADDED TO ACID CAN CAUSE UNCONTROLLED BOILING & SPLASHING.

===== Ecological Information =====

Ecological: ENVIRONMENTAL FATE: WHEN RELEASED INTO THE SOIL, THIS MATL IS NOT EXPECTED TO B

IODEGRADE. WHEN RELEASED INTO THE SOIL, THIS MATL MAY LEACH INTO GROUNDWATER. ENVIRONMENTAL TOXICITY: THIS MATL IS EXPECT ED TO BE TOXIC TO AQUATIC LIFE. RESP PROT: FULL-FACEPIECE POSITIVE-PRESSURE, AIR-SUPPLIED RESP. WARNING: AIR PURIFYING RESPS DO NOT PROTECT WORKERS IN OXYGEN-DEFICIENT ATMOSPHERES. VENT: BECAUSE IT C AN CONTROL EMISSIONS OF CONTAMINANT AT ITS SOURCE, PREVENTING DISPERSION OF IT INTO GEN WORK AREA. PLEASE REFER TO ACGIH DOCUMENT, INDUSTRIAL VENTILA

TION, A MANUAL OF

RECOMMENDED PRACTICES, MOST RECENT EDITION, FOR DETAILS.

===== Disposal Considerations =====

Waste Disposal Methods: WHATEVER CANNOT BE SAVED FOR RECOVERY OR RECYCLING SHOULD BE HANDLED AS HAZ WASTE & SENT TO RCRA APPROVED WASTE FACILITY. PROCESSING, USE OR CONTAINMENT OF PRODUCT MAY CHANGE WASTE MANAGEMENT OPTIONS. STATE & LOCAL DISPOSAL REGULATIONS MAY DIFFER FROM FEDERAL DISPOSAL REGULATIONS. DISPOSE OF CONTAINER & UNUSED CONTENTS IN ACCORDANCE WITH FEDERAL, STATE & LOCAL REQUIREMENTS.

===== MSDS Transport Information =====

Transport Information: DOMESTIC (LAND, DOT) - PROPER SHIPPING NAME: HYDROCHLORIC ACID. HAZ CLASS: 8. UN/NA: UN1789. PACKING GROUP: II. INFO REPORTED FOR PRODUCT/SIZE: 475LB. INTERNATIONAL (WATER, IMO) - PROPER SHIPPING NAME: HYDROCHLORIC ACID. HAZ CLASS: 8. UN/NA: UN1789. PACKING GROUP: II. INFO REPORTED FOR PRODUCT/SIZE: 475LB. PHYSICAL DATA - BP: 53C(127F) AZEOTROPE (20.2%) BOILS AT 109C(228F). PH: FOR HCL SOLUTIONS: 0.1 (1.0N), 1.1 (0.1N), 2.02 (0.01 N). SOLUBILITY IN H<sub>2</sub>O: INFINITE IN WATER WITH SLIGHT EVOLUTION OF HEAT.

===== Regulatory Information =====

SARA Title III Information: FEDERAL, STATE & INTERNATIONAL REGULATIONS - PART 1 - SARA 302: HYDROGEN CHLORIDE (7647-01-0): RQ 5000; TPQ 500. SARA 313: LIST-YES; CHEMICAL CATEGORY-NO. SARA 313: WATER (7732-18-5): RQ-NO; TPQ-NO. SARA 313: LIST-NO; CHEMICAL CATEGORY-NO. SARA 311/312; ACUTE: YES. CHRONIC: YES. FIRE: NO. PRESSURE: NO. REACTIVITY: NO. (MIXTURE/LIQUID). FEDERAL REGULATORY INFORMATION: WHMIS: THIS MSDS HAS BEEN PREPARED ACCORDING TO HAZARD CHARACTERISTICS OF THE CONTROLLED PRODUCTS REGULATIONS (CPR) & THE MSDS CONTAINS ALL OF THE INFO REQUIRED BY THE CPR. Federal Regulatory Information: CHEMICAL INVENTORY STATUS - PART 1 - HYDROGEN CHLORIDE (7647-01-0): TSCA-YES. EC-YES. JAPAN-YES. AUSTRALIA-YES. WATER (7732-18-1): TSCA-YES. EC-YES. JAPAN-YES. AUSTRALIA-YES. CHEMICAL INVENTORY STATUS

TATUS - PART 2 - HYDROGEN

CHLORIDE (7647-01-0): KOREA-YES. DSL-YES. NDSL-YES. PHIL-YES. WATER (7732-18-5): KOREA-YES. DSL-YES. NDSL-NO. PHIL-YES. FED, STATE & INTERNATL REGS - PART 2 - HYDROGEN CHLORIDE: CERCLA-5000. RCRA 261.33-NO. TSCA 8(D)-NO. WATER: CERCLA-NO. RCRA 261.33-NO. TSCA 8(D)-NO. CHEM WEAPON CONVENTION:NO. TSCA 12(B): NO. CDTA: YES. AUSTRALIAN HAZCHEM CODE: 24. POISON SCHEDULE: NO INFO FOUND. (SARA REG INFO)

State Regulatory Information:N/P. OTHER INFO:

GIVE ANYTHING BY MOUTH TO

AN UNCONSCIOUS PERSON. IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. IN ALL CASES GET MEDICAL ATTENTION IMMEDIATELY. PRODUCT USE: LABORATORY REAGENT. REVISION INFO: NEW 16 SECTION MSDS FORMAT, ALL SECTIONS HAVE BEEN REVISED. JT BAKER SAF-T-DATA RATINGS (PROVIDED FOR YOUR CONVENIENCE) - HEALTH RATING: 3 - SEVERE (POISON). FLAMMABILITY RATING: 0 - NONE. REACTIVITY RATING: 2 - MODERATE. CONTACT RATING: 3 - SEVERE (

CORROSIVE). LAB P

ROT EQUIPMENT: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES. STORAGE COLOR CODE: WHITE (CORROSIVE).

===== Other Information =====

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