

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 Pho

ne 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

State:NJ

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Composition/Information on Ingredients
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Ingred Name:HYDROGEN CHLORIDE

CAS:7647-01-0

RTECS #:MW4025000

Minumum % Wt:33.

Maxumum % Wt:40.

OSHA PEL:C7 MG/M3;C5 PPM

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

M
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,
TH
ROAT 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 I
RRITATING 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 SU
BSTANCE.

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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 IMMEDIATE. 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/PLENTY 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 BECAUS

E 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.

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===== 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 CONCENTRATIONS 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.

LD .

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

R TEAM(TM) 'LOW NA+' ACID NEUTRALIZERS ARE RECOMMENDED FOR SPILLS OF THIS PRODUCT.

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===== 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 T

O 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 (7647-0

1-0) 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

BIODEGRADE. WHEN RELEASED INTO THE SOIL, THIS

MATL MAY LEACH INTO GROUNDWATER. ENVIRONMENTAL TOXICITY: THIS MATL IS EXPECTED 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 CAN CONTROL EMISSIONS OF CONTAMINANT AT ITS SOURCE, PREVENTING DISPERSION OF IT INTO GEN WORK AREA.

PLEASE REFER TO ACGIH DOCUMENT, INDUSTRIAL VENTIL

ATION, 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 WATER: 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 - 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 WEAPONS 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 I

NFO: GIVE ANYTHING BY MOUTH TO

AN UNCON PERSON. IF INHALED, REMOVE TO FRESH AIR. IF NOT BRTHG, GIVE ARTF RESP. IF BRTHG IS DFCLT, GIVE OXYGEN. IN ALL CASES GET MED ATTN IMMED. PROD 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 EQUIP: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES. STORAGE COLOR CODE: WHITE (CORROSIVE).

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

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