

J.T. BAKER COMPANY -- CALCIUM CHLORIDE DIHYDRATE -- 6810-00-247-0601

=====
Product Identification
=====

Product ID:CALCIUM CHLORIDE DIHYDRATE

MSDS Date:12/08/1996

FSC:6810

NIIN:00-247-0601

Status Code:A

MSDS Number: CJDDX

=== Responsible Party ===

Company Name:J.T. BAKER COMPANY

Address:222 RED SCHOOL LANE

City:PHILLIPSBURG

State:NJ

ZIP:08865-2219

Country:US

Emergency Phone Num:908-359-2151

Resp.

Party Other MSDS Num.:MSDS NUMBER C0352

Preparer's Name:STRATEGIC SERVICES DIVISI

Chemtec Ind/Phone:(800)424-9300

CAGE:70829

=== Contractor Identification ===

Company Name:MALLINCKRODT BAKER, INC.

Address:222 RED SCHOOL LANE

Box:City:PHILLIPSBURG

State:NJ

ZIP:08865

Country:US

Phone:800-582-2537

CAGE:70829

Company Name:PHOENIX INDUSTRIES INC

Address:1519 CHAMBERLAYNE PARKWAY

Box:City:RICHMOND

State:VA

ZIP:23222

Country:US

Phone:804-264-5183/FAX: 264-5535

Contract Num:SP0450-99-M-C392

CAGE:0YED

=====
 ===== Composition/Information on Ingredients =====
 =====

Ingred Name:CALCIUM CHLORIDE

CAS:10043-52-4

RTECS #:EV9800000

Minumum % Wt:99.

Maxumum % Wt:100.

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

LD50 LC50 Mixture:LD50 (ORAL, RAT) 1,000 MG/KG

Routes of Entry: Inhalation:YES Skin:NO Ingestion:NO

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

Health Hazards Acute and Chronic:TARGET ORGANS: EYES, SKIN, RESPIRATORY
 & GI TRACTS. ACUTE- MAY CA

USE SEVERE EYE IRRITATION OR EVEN BURNS

FROM HEAT OF HYDROLYSIS. SOLID MAY CAUSE MILD SKIN IRRITATION;
 STRONG SOLUTIONS OR SOLID IN CO NTACT WITH MOIST MAY CAUSE SEVERE
 IRRITATION, EVEN BURNS. LOW TOXICITY MATERIAL BUT INGESTION MAY
 CAUSE SERIOUS IRRITATION OF THE MUCOUS MEMBRANE DUE TO HEAT OF
 HYDROLYSIS. LARGE AMOUNTS CAN CAUSE GA STROINTESTINAL UPSET,
 VOMITING, ABDOMINAL PAIN. INHALATION OF GRANULAR MATERIAL DOES NOT
 POSE A SIGNIFICANT INHALATION HAZARD, BUT INHAL

ATION OF DUST MAY

CAUSE IRRITATION TO THE RESPIRATORY TRACT. CHR ONIC- UNKNOWN.

Explanation of Carcinogenicity:NONE

Effects of Overexposure:COUGHING, SHORTNESS OF BREATH, VOMITING,
 ABDOMINAL PAIN, SEVERE IRRITATION, BURNS, PAIN

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

First Aid:OBTAIN MEDICAL ATTENTION. INHALED: MOVE TO VENTILATED AREA.

IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS
 DIFFICULT, GIVE OXYGEN. EYES: WASH WITH COPIOUS QUA

NTITIES OF

WATER FOR 15 M INUTES. SKIN: REMOVE EXCESS. FLUSH SKIN WITH LARGE
 AMOUNT OF RUNNING WATER FOR 15 MINUTES. INGESTION: WASH OUT MOUTH
 WITH RUNNING WATER. INDUCE VOMITING IMMEDIATELY AS DIRECTED BY
 MEDICAL PERSONNEL. N EVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS
 PERSON.

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

Flash Point:NONE

Autoignition Temp:Autoignition Temp Text:NONE

Extinguishing Media:USE ANY MEANS SUITABLE FOR EXTINGUISHING

SURROUNDING FIRE.

Fire Fighting Procedures:IN THE EVENT OF A FIRE, WEAR FULL PROTECTIVE CLOTHING AND NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE.

Unusual Fire/Explosion Hazard:NOT CONSIDERED TO BE AN EXPLOSION HAZARD.

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

Spill Release Procedures:VENTILATE AREA OF LEAK OR SPILL. WEAR APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT AS SPECIFIED IN SECTION 8 (EX POSURE CONTROL/PERSONAL PROTECTION). SWEEP UP AND CONTAINERIZE FOR RECLAMATION OR DISPOSAL . VACUUMING OR WET SWEEPING MAY BE AVOID DUST DISPERSAL. SMALL AMOUNTS OF RESIDUE MAY BE FLUSHED TO SEWER WITH PLENTY OF WATER.

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

Handling and Storage Precautions:KEEP IN A TIGHTLY CLOSED CONTAINER, STORED IN A COOL, DRY, VENTILATED AREA. PROTECT AGAINST PHYSICAL DAMAGE. MOIST CALCIUM CHLORIDE AND CONCENTRATED SOLUTION

S CAN CORRODE STEEL WHEN EXPOSED TO THE ATMOSPHERE, CALCIUM CHLORIDE WILL ABSORB WATER AND FORM A SOLUTION. SEE OTHER PRECAUTIONS.

Other Precautions:DISPOSE OF CONTAINER AND UNUSED CONTENTS IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REQUIREMENTS. CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS WHEN EMPTY SINCE THEY RETAIN PRODUCT RESIDUES (DUST, SOLIDS); OBSERVE ALL WARNINGS AND PRECAUTIONS LISTED FOR THE PRODUCT.

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

Respiratory Protection:NIOSH APPROVED: FOR CONDITIONS OF USE WHERE EXPOSURE TO THE DUST OR MIST IS APPARENT, A HALF-FACE DUST/MIST RESPIRATOR MAY BE WORN. FOR EMERGENCIES OR INSTANCES WHERE THE EXPOSURE LEVELS ARE NOT KNOWN , USE A FULL-FACE POSITIVE-PRESSURE, AIR-SUPPLIED RESPIRATOR. WARNING: AIR-PURIFYING RESPIRATORS DO NOT PROTECT WORKERS IN OXYGEN-DEFICIENT ATMOSPHERES.

Ventilation:A SYSTEM OF LOCAL AND/OR GENERAL EXHAUST IS RECOMMENDED TO KEEP EMPLOYEE EXPOSURE

OSURES AS LOW AS POSSIBLE. LOCAL EXHAUST VENTILATION IS GENERALLY (SEE SUPPL.)

Protective Gloves:WEAR PROTECTIVE GLOVES AND CLEAN BODY-COVERING CLOTHING.

Eye Protection:USE CHEMICAL SAFETY GOGGLES AND/OR FULL FACE SHIELD WHERE DUSTING OR SPLASING

Other Protective Equipment:MAINTAIN GOOD HOUSEKEEPING IN WORK AREA. DUST DEPOSITS ON FLOORS AND OTHER SURFACES MAY PICK UP MOISTURE AND CAUSE THE SURFACES TO BECOME SLIPPERY AND PRESENT SAFETY HAZARDS.

Supplemental Safety and Health

LOCAL EXHAUST VENTILATION IS GENERALLY PREFERRED BECAUSE IT CAN CONTROL THE EMISSION OF THE CONTAMINANT AT ITS SOURCE, PREVENTING DISPERSION OF IT INTO THE GENERAL WORK AREA.

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

HCC:B3

Boiling Pt:>1600.C, 2912.F

Melt/Freeze Pt:=260.C, 500.F

M.P/F.P Text:APPROX.

pH:8-9 AQUEOUS SOL

Solubility in Water:FREELY SOLUBLE IN WATER

Appearance and Odor:ODORLESS, COARSE WHITE POWDER OR MIXTURE OF COARSE WHITE POWDER AND MEDIUM

SIZ

Percent Volatiles by Volume:@ 21C 0

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES

METHYL VINYL ETHER, WATER, ZINC, BROMINE, TRIFLUORIDE, MIXTURE OF LIME AND BORIC ACID, BARIUM CHLORIDE, AND 2-FURAN PERCARBOXYLIC ACID. METALS WILL SLOWLY CORRODE IN AQUEOUS CALCIUM CHLORIDE SOLUTIONS. AL (AND ALLOYS) AND Y

Stability Condition to Avoid:INCOMPATIBILITIES. STABLE UNDER CONDITIONS OF USE AND STORAGE. SUBSTANCES WILL PICK UP MOISTURE FROM THE AIR AND GO INTO SOLUTION IF EXPOSED IN OPEN CONTAINERS.

Hazardous Decomposition Products:EMITS TOXIC CHLORINE FUMES WHEN HEATED TO DECOMPOSITION. MAY FORM HYDROGEN CHLORIDE IN PRESENCE OF SULFURIC OR PHOSPHORIC ACID OR WITH WATER AT ELEVATED TEMPERATURES.

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

Toxicological Information:FOR CALCIUM CHLORIDE ANHYDROUS: ORAL RAT LD50: 1000 MG/KG; INVESTIGATED AS A MUTAGEN, TUMORIGEN.

=====

==== Ecological Information =====

Ecological:ENVIRONMENTAL FATE: BASED ON AVAILABLE INFORMATION FOR CALCIUM CHLORIDE ANHYDROUS, THIS MATERIAL WILL NOT BIODEGRADE OR BIOACCUMULATE. ENVIRONMENTAL TOXICITY: BASED ON DATA FOR CALCIUM CHLORIDE ANHYDR OUS, THE LC50/96-HOUR VALUES FOR FISH ARE OVER 100 MG/L.

==== Disposal Considerations =====

Waste Disposal Methods:WHATEVER CANNOT BE SAVED FOR RECOVERY OR RECYCLING SHOU LD BE MANAGED IN AN APPROPRIATE AND APPROVED WASTE DISPOSAL FACILITY. PROCESSING USE OR CONTAMIANTION OF THIS PRODUCT MAY CHANGE THE WASTE MANAGE MENT OPTIONS. STATE AND LOCAL DISPOSAL REGULATIONS MAY DIFFER FROM FEDERAL DISPOSAL REGULATIONS. SEE OTHER PRECAUTIONS.

Disclaimer (provided with this information by the compiling agencies): This information is formulated for use by elements of the Department of Defense. The United States of America in no manner whatsoever, expre ssly or implied, warrants this information to be accurate and disclaims all liability for its use. Any person utilizing this document should seek competent professional advice to verify and assume responsibility for the suitability of this information to their particular situation.