

J.T.BAKER INC. 222 RED SCHOOL LANE, PHILLIPSBURG, NJ 08865
M A T E R I A L S A F E T Y D A T A S H E E T
24-HOUR EMERGENCY TELEPHONE -- (201) 859-2151
CHEMTREC # (800) 424-9300 -- NATIONAL RESPONSE CENTER # (800) 424-8802

Z2280 <04
EFFECTIVE: 05/01/89

ZINC CHLORIDE

PAGE: 1
ISSUED: 05/17/89

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SECTION I - PRODUCT IDENTIFICATION

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PRODUCT NAME: ZINC CHLORIDE
COMMON SYNONYMS: ZINC DICHLORIDE; BUTTER OF ZINC
CHEMICAL FAMILY: ZINC COMPOUNDS
FORMULA: ZNCL2
FORMULA WT.: 136.28
CAS NO.: 7646-85-7
NIOSH/RTECS NO.: ZH1400000
PRODUCT USE: LABORATORY REAGENT
PRODUCT CODES: 4326,4324,4321

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PRECAUTIONARY LABELING

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BAKER SAF-T-DATA* SYSTEM

HEALTH	-	2	MODERATE
FLAMMABILITY	-	0	NONE
REACTIVITY	-	2	MODERATE
CONTACT	-	3	SEVERE (CORROSIVE)

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES

U.S. PRECAUTIONARY LABELING

DANGER

CAUSES BURNS. HARMFUL IF SWALLOWED OR INHALED. LABORATORY TEST RESULTS INDICATE MATERIAL MAY BE MUTAGENIC.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING. DO NOT BREATHE DUST. KEEP IN TIGHTLY CLOSED CONTAINER. USE WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING.

INTERNATIONAL LABELING

CAUSES BURNS.
KEEP CONTAINER TIGHTLY CLOSED AND DRY. AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF SOAP AND WATER.

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PRECAUTIONARY LABELING (CONTINUED)

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SAF-T-DATA* STORAGE COLOR CODE: WHITE (CORROSIVE)

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SECTION II - COMPONENTS

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COMPONENT	CAS NO.	WEIGHT %	OSHA/PEL	ACGIH/TLV
ZINC CHLORIDE	7646-85-7	97-100	1 MG/M3	1 MG/M3

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SECTION III - PHYSICAL DATA

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BOILING POINT: 732 C (1349 F)
(AT 760 MM HG)

VAPOR PRESSURE (MMHG): N/A

MELTING POINT: 290 C (554 F)
(AT 760 MM HG)

VAPOR DENSITY (AIR=1): 4.7

SPECIFIC GRAVITY: 2.91
(H2O=1)

EVAPORATION RATE: N/A

SOLUBILITY(H2O): APPRECIABLE (>10%)

% VOLATILES BY VOLUME: 0
(21 C)

PH: N/A

ODOR THRESHOLD (P.P.M.): N/A

PHYSICAL STATE: SOLID

COEFFICIENT WATER/OIL DISTRIBUTION: N/A

APPEARANCE & ODOR: WHITE TO OFF-WHITE GRANULES. ODORLESS.

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SECTION IV - FIRE AND EXPLOSION HAZARD DATA

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FLASH POINT (CLOSED CUP): N/A

AUTOIGNITION TEMPERATURE: N/A

FLAMMABLE LIMITS: UPPER - N/A LOWER - N/A

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SECTION IV - FIRE AND EXPLOSION HAZARD DATA (CONTINUED)
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FIRE EXTINGUISHING MEDIA

USE EXTINGUISHING MEDIA APPROPRIATE FOR SURROUNDING FIRE.

SPECIAL FIRE-FIGHTING PROCEDURES

FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE. MOVE CONTAINERS FROM FIRE AREA IF IT CAN BE DONE WITHOUT RISK. USE WATER TO KEEP FIRE-EXPOSED CONTAINERS COOL.

UNUSUAL FIRE & EXPLOSION HAZARDS

CLOSED CONTAINERS EXPOSED TO HEAT MAY EXPLODE.

TOXIC GASES PRODUCED

HYDROGEN CHLORIDE, ZINC FUMES

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT

NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE

NONE IDENTIFIED.

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SECTION V - HEALTH HAZARD DATA
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THRESHOLD LIMIT VALUE (TLV/TWA): 1 MG/M3

TLV IS FOR ZINC CHLORIDE FUME.

SHORT-TERM EXPOSURE LIMIT (STEL): 2 MG/M3

STEL IS FOR ZINC CHLORIDE FUME.

PERMISSIBLE EXPOSURE LIMIT (PEL): 1 MG/M3

PEL IS FOR ZINC CHLORIDE FUME.

TOXICITY OF COMPONENTS

ORAL RAT LD50 FOR ZINC CHLORIDE

350 MG/KG

ORAL MOUSE LD50 FOR ZINC CHLORIDE

350 MG/KG

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SECTION V - HEALTH HAZARD DATA (CONTINUED)
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INTRAPERITONEAL MOUSE LD50 FOR ZINC CHLORIDE 31 MG/KG
SUBCUTANEOUS MOUSE LD50 FOR ZINC CHLORIDE 330 MG/KG
CARCINOGENICITY: NTP: NO IARC: NO Z LIST: NO OSHA REG: NO

CARCINOGENICITY
NONE IDENTIFIED.

REPRODUCTIVE EFFECTS
TESTS ON LABORATORY ANIMALS INDICATE MATERIAL MAY BE MUTAGENIC AND
EMBRYOTOXIC.

EFFECTS OF OVEREXPOSURE

INHALATION: HEADACHE, COUGHING, DIFFICULT BREATHING, CHEST PAINS,
SEVERE LUNG IRRITATION, PULMONARY EDEMA

SKIN CONTACT: SEVERE IRRITATION OR BURNS

EYE CONTACT: SEVERE IRRITATION OR BURNS

SKIN ABSORPTION: NONE IDENTIFIED

INGESTION: NAUSEA, VOMITING, GASTROINTESTINAL IRRITATION, BURNS TO
MOUTH AND THROAT

CHRONIC EFFECTS: DAMAGE TO LIVER, KIDNEYS, LUNGS

TARGET ORGANS
RESPIRATORY SYSTEM, LUNGS, EYES, SKIN, GI TRACT, LIVER, KIDNEYS

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE
LUNG DISEASE

PRIMARY ROUTES OF ENTRY
INHALATION, INGESTION, EYE CONTACT, SKIN CONTACT

EMERGENCY AND FIRST AID PROCEDURES

INGESTION: CALL A PHYSICIAN. IF SWALLOWED, DO NOT INDUCE VOMITING. IF
CONSCIOUS, GIVE WATER, MILK, OR MILK OF MAGNESIA.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE
ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE
OXYGEN.

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SECTION V - HEALTH HAZARD DATA (CONTINUED)

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SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. WASH CLOTHING BEFORE RE-USE.

EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES.

SARA/TITLE III HAZARD CATEGORIES AND LISTS

ACUTE: YES CHRONIC: YES FLAMMABILITY: NO PRESSURE: NO REACTIVITY: NO

EXTREMELY HAZARDOUS SUBSTANCE: NO
CERCLA HAZARDOUS SUBSTANCE: YES CONTAINS ZINC CHLORIDE (RQ = 1000 LBS)
TOXIC CHEMICALS: YES CONTAINS ZINC
GENERIC CLASS: C15
TSCA INVENTORY: YES

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SECTION VI - REACTIVITY DATA

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STABILITY: STABLE HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: MOISTURE, DUSTING

INCOMPATIBLES: POTASSIUM, CYANIDES, SULFIDES

DECOMPOSITION PRODUCTS: CHLORINE, OXIDES OF ZINC, HYDROGEN CHLORIDE

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SECTION VII - SPILL & DISPOSAL PROCEDURES

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STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE
WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. WITH CLEAN SHOVEL, CAREFULLY PLACE MATERIAL INTO CLEAN, DRY CONTAINER AND COVER; REMOVE FROM AREA. FLUSH SPILL AREA WITH WATER.

DISPOSAL PROCEDURE
DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

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SECTION VII - SPILL & DISPOSAL PROCEDURES (CONTINUED)
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EPA HAZARDDUS WASTE NUMBER: D002 (CORROSIVE WASTE)

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SECTION VIII - INDUSTRIAL PROTECTIVE EQUIPMENT
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VENTILATION: USE GENERAL OR LOCAL EXHAUST VENTILATION TO MEET TLV REQUIREMENTS.

RESPIRATORY PROTECTION: RESPIRATORY PROTECTION REQUIRED IF AIRBORNE CONCENTRATION EXCEEDS TLV. AT CONCENTRATIONS UP TO 9 PPM, A HIGH-EFFICIENCY PARTICULATE RESPIRATOR IS RECOMMENDED. ABOVE THIS LEVEL, A SELF-CONTAINED BREATHING APPARATUS IS ADVISED.

EYE/SKIN PROTECTION: SAFETY GOGGLES, UNIFORM, APRON, RUBBER GLOVES ARE RECOMMENDED.

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SECTION IX - STORAGE AND HANDLING PRECAUTIONS
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SAF-T-DATA* STORAGE COLOR CODE: WHITE (CORROSIVE)

STORAGE REQUIREMENTS
KEEP CONTAINER TIGHTLY CLOSED. STORE IN CORROSION-PROOF AREA. ISOLATE FROM INCOMPATIBLE MATERIALS.

SPECIAL PRECAUTIONS
MATERIAL IS HYGROSCOPIC.

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SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION
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DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: DRM-E, SOLID, N.O.S. (ZINC CHLORIDE)
HAZARD CLASS: DRM-E
UN/NA: NA9188 REPORTABLE QUANTITY: 1000 LBS.
LABELS: NONE
REGULATORY REFERENCES: 49CFR 172.101; 173.500; 173.510

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SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION (CONTINUED)
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INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: ZINC CHLORIDE, ANHYDROUS
HAZARD CLASS: 8 I.M.O. PAGE: 8237
UN: UN2331 MARINE POLLUTANTS: YES PACKAGING GROUP: III
LABELS: CORROSIVE
REGULATORY REFERENCES: 49CFR 172.102; PART 176; IMO

AIR (I.C.A.O.)

PROPER SHIPPING NAME: ZINC CHLORIDE, ANHYDROUS
HAZARD CLASS: 8 PACKAGING GROUP: III
UN: UN2331
LABELS: CORROSIVE
REGULATORY REFERENCES: 49CFR 172.101; 173.6; PART 175; ICAO/IATA

U.S. CUSTOMS HARMONIZATION NUMBER: 28273600005

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N/A = NOT APPLICABLE OR NOT AVAILABLE
N/E = NOT ESTABLISHED

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET MEETS THE REQUIREMENTS OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ACT AND REGULATIONS PROMULGATED THEREUNDER (29 CFR 1910.1200 ET. SEQ.) AND THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PERSON TRAINED IN, OR SUPERVISED BY A PERSON TRAINED IN, CHEMICAL HANDLING. THE USER IS RESPONSIBLE FOR DETERMINING THE PRECAUTIONS AND DANGERS OF THIS CHEMICAL FOR HIS OR HER PARTICULAR APPLICATION. DEPENDING ON USAGE, PROTECTIVE CLOTHING INCLUDING EYE AND FACE GUARDS AND RESPIRATORS MUST BE USED TO AVOID CONTACT WITH MATERIAL OR BREATHING CHEMICAL VAPORS/FUMES. EXPOSURE TO THIS PRODUCT MAY HAVE SERIOUS ADVERSE HEALTH EFFECTS. THIS CHEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES ARE SO VARIED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL. BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE. THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND

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EVEN DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE
ARE NOT HEDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED
GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY
REVISE THIS MATERIAL SAFETY DATA SHEET. IF YOU HAVE ANY QUESTIONS,
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