

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 -- (908) 859-2151

CHEMTREC # (800) 424-9300 -- NATIONAL RESPONSE CENTER # (800) 424-8802

Z0858 <06

ZINC, POWDER

PAGE: 1

EFFECTIVE: 01/31/94

ISSUED: 04/09/94

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SECTION I - PRODUCT IDENTIFICATION

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PRODUCT NAME: ZINC, POWDER
COMMON SYNONYMS: BLUE POWDER, CI 77945; CI PIGMENT BLACK 16
CHEMICAL FAMILY: NONFERROUS METALS
FORMULA: ZN
FORMULA WT.: 65.37
CAS NO.: 7440-66-6
NIOSH/RTECS NO.: ZG8600000
PRODUCT USE: LABORATORY REAGENT
PRODUCT CODES: 4282,4280

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PRECAUTIONARY LABELING

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BAKER SAF-T-DATA* SYSTEM

HEALTH	-	1	SLIGHT
FLAMMABILITY	-	3	SEVERE (FLAMMABLE)
REACTIVITY	-	2	MODERATE
CONTACT	-	1	SLIGHT

LABORATORY PROTECTIVE EQUIPMENT

GOGGLES; LAB COAT; CLASS D EXTINGUISHER

U.S. PRECAUTIONARY LABELING

DANGER

DANGEROUS WHEN WET, SPONTANEOUSLY COMBUSTIBLE. AVOID CREATING DUST. DUST MAY FORM FLAMMABLE OR EXPLOSIVE MIXTURE WITH AIR. REACTS VIOLENTLY WITH WATER AND ACIDS. MAY BE HARMFUL IF SWALLOWED OR INHALED. MAY CAUSE SKIN IRRITATION. KEEP FROM ANY POSSIBLE CONTACT WITH WATER. KEEP AWAY FROM HEAT, SPARKS, FLAME. AVOID CONTACT WITH EYES, SKIN, CLOTHING. AVOID BREATHING DUST. KEEP IN TIGHTLY CLOSED CONTAINER. USE WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING. IN CASE OF FIRE, DO NOT USE WATER. USE DRY SAND, EARTH OR SODA ASH. IN CASE OF SPILL, SWEEP UP AND CAREFULLY REMOVE.

CONTINUED ON PAGE: 2

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PRECAUTIONARY LABELING (CONTINUED)

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INTERNATIONAL LABELING

AVOID CONTACT WITH EYES. AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH
PLENTY OF WATER. KEEP CONTAINER TIGHTLY CLOSED.

SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

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SECTION II - COMPONENTS

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<u>COMPONENT</u>	<u>CAS NO.</u>	<u>WEIGHT %</u>	<u>OSHA/PEL</u>	<u>ACGIH/TLV</u>
ZINC	7440-66-6	96-97	N/E	N/E
ZINC OXIDE	1314-13-2	3	10 MG/M	10 MG/M
LEAD	7439-92-1	0.3	0.05 MG/M	0.15 MG/M

CONTAINS A TRACE OF CADMIUM.

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SECTION III - PHYSICAL DATA

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BOILING POINT: 907 C (1664 F)
(AT 760 MM HG)

VAPOR PRESSURE (MMHG): N/A

MELTING POINT: 788 C (1450 F)
(AT 760 MM HG)

VAPOR DENSITY (AIR=1): N/A

SPECIFIC GRAVITY: 7.14
(H2O=1)

EVAPORATION RATE: N/A

SOLUBILITY (H2O): NEGLIGIBLE (<0.1%)

% 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: BLUE TO GRAY METALLIC POWDER. ODORLESS.

CONTINUED ON PAGE: 3

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SECTION IV - FIRE AND EXPLOSION HAZARD DATA

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FLASH POINT (CLOSED CUP): N/A

NFPA 704M RATING: 0-1-1

AUTOIGNITION TEMPERATURE: N/A

FLAMMABLE LIMITS: UPPER - N/A

LOWER - N/A

FIRE EXTINGUISHING MEDIA

SMOTHER AND COOL WITH A SUITABLE DRY EXTINGUISHING AGENT (CLASS D FIRES)
SUCH AS DRY POWDER (ANSUL MET-L-X), OR DRY SAND. DO NOT USE WATER.

SPECIAL FIRE-FIGHTING PROCEDURES

USE NIOSH/MSHA APPROVED SELF-CONTAINED BREATHING APPARATUS. DO NOT SPREAD
BURNING MATERIAL. SMOTHER AND ALLOW FIRE TO GO OUT. DRY ZINC DUST WILL
NOT IGNITE SPONTANEOUSLY, BUT ONCE IGNITED, MAY BURN READILY IN AIR.

UNUSUAL FIRE & EXPLOSION HAZARDS

BULK DUST IN CONTACT WITH WATER OR DAMP AIR EVOLVES HYDROGEN. THE HEAT
PRODUCED DURING THIS REACTION COULD IGNITE THE HYDROGEN. AN EXPLOSIVE
CONDITION MAY EXIST IF THIS HAPPENS IN A CONFINED SPACE. DRY DUST MAY
FORM A DUST EXPLOSIVE MIXTURE IN AIR. ZINC OXIDE FUME MAY RESULT FROM
COMBUSTION OF ZINC DUST.

TOXIC GASES PRODUCED

ZINC FUMES, HYDROGEN

EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT

NONE IDENTIFIED.

EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE

YES.

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SECTION V - HEALTH HAZARD DATA

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THRESHOLD LIMIT VALUE (TLV/TWA): 0.15 MG/M

TLV IS FOR LEAD

SHORT-TERM EXPOSURE LIMIT (STEL): NOT ESTABLISHED

PERMISSIBLE EXPOSURE LIMIT (PEL): 0.05 MG/M

CONTINUED ON PAGE: 4

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SECTION V - HEALTH HAZARD DATA (CONTINUED)

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PEL IS FOR LEAD

TOXICITY OF COMPONENTS

ORAL RAT LD50 FOR ZINC OXIDE 630 MG/KG
CARCINOGENICITY: NTP: NO IARC: YES Z LIST: YES OSHA REG: YES

CARCINOGENICITY

THIS PRODUCT CONTAINS 0.3% OF LEAD (CAS NO. 7439-92-1), WHICH IS LISTED BY IARC, GROUP 2B AS POSSIBLY CARCINOGENIC TO HUMANS.

REPRODUCTIVE EFFECTS

NONE IDENTIFIED.

EFFECTS OF OVEREXPOSURE

INHALATION: IRRITATION OF UPPER RESPIRATORY TRACT, HEADACHE, NAUSEA, VOMITING, DIARRHEA, CHILLS, FEVER, ACHING MUSCLES

SKIN CONTACT: PROLONGED CONTACT MAY CAUSE DERMATITIS

EYE CONTACT: NONE IDENTIFIED

SKIN ABSORPTION: NONE IDENTIFIED

INGESTION: HEADACHE, NAUSEA, VOMITING, DIZZINESS, GASTROINTESTINAL IRRITATION

CHRONIC EFFECTS: NONE IDENTIFIED

TARGET ORGANS

RESPIRATORY SYSTEM, LUNGS, PULMONARY SYSTEM, SKIN

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

RESPIRATORY SYSTEM DISEASE, GASTROINTESTINAL DISORDERS

PRIMARY ROUTES OF ENTRY

INHALATION, INGESTION, SKIN CONTACT, EYE CONTACT

CONTINUED ON PAGE: 5

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SECTION V - HEALTH HAZARD DATA (CONTINUED)

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EMERGENCY AND FIRST AID PROCEDURES

INGESTION: CALL A PHYSICIAN. IF SWALLOWED, IF CONSCIOUS, IMMEDIATELY INDUCE VOMITING.

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

SKIN CONTACT: IN CASE OF CONTACT, FLUSH SKIN WITH WATER.

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: YES PRESSURE: NO REACTIVITY: NO

EXTREMELY HAZARDOUS SUBSTANCE: NO

CERCLA HAZARDOUS SUBSTANCE: YES CONTAINS ZINC (RQ = 1000 LBS)

SARA 313 TOXIC CHEMICALS: YES CONTAINS ZINC

GENERIC CLASS: GENERIC CLASS REMOVED FROM CFR: 7/1/91

TSCA INVENTORY: YES

STATE LISTS: FOR PRODUCTS SOLD IN THE STATE OF CALIFORNIA, THE STATE REQUIRES THAT WE PROVIDE TO USERS AND THEIR EMPLOYEES THE FOLLOWING MESSAGE: WARNING: THIS PRODUCT CONTAINS A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

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SECTION VI - REACTIVITY DATA

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STABILITY: STABLE

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

CONDITIONS TO AVOID: MOISTURE, AIR, HEAT, FLAME, OTHER SOURCES OF IGNITION

INCOMPATIBLES: WATER, STRONG BASES, STRONG ACIDS, HALOGENATED HYDROCARBONS, STRONG OXIDIZING AGENTS

DECOMPOSITION PRODUCTS: OXIDES OF ZINC, HYDROGEN

CONTINUED ON PAGE: 6

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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 SUITABLE PROTECTIVE CLOTHING. SHUT OFF IGNITION SOURCES; NO FLARES,
SMOKING, OR FLAMES IN AREA. DO NOT USE WATER.
CAREFULLY SWEEP UP AND REMOVE.
FLUSH AREA WITH WATER.

DISPOSAL PROCEDURE

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

EPA HAZARDOUS WASTE NUMBER: D001, D003 (IGNITABLE, REACTIVE WASTE)

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SECTION VIII - INDUSTRIAL PROTECTIVE EQUIPMENT

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VENTILATION: USE ADEQUATE GENERAL OR LOCAL EXHAUST VENTILATION TO
KEEP FUME OR DUST LEVELS AS LOW AS POSSIBLE.

RESPIRATORY PROTECTION: NONE REQUIRED WHERE ADEQUATE VENTILATION CONDITIONS
EXIST. IF AIRBORNE CONCENTRATION IS HIGH, USE AN
APPROPRIATE RESPIRATOR OR DUST MASK.

EYE/SKIN PROTECTION: SAFETY GOGGLES, PROPER GLOVES ARE RECOMMENDED.

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SECTION IX - STORAGE AND HANDLING PRECAUTIONS

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SAF-T-DATA* STORAGE COLOR CODE: ORANGE (GENERAL STORAGE)

STORAGE REQUIREMENTS

KEEP CONTAINER TIGHTLY CLOSED. STORE IN COOL, DRY, WELL-VENTILATED AREA
AWAY FROM HEAT, SPARKS, OR FLAME. ISOLATE FROM INCOMPATIBLE MATERIALS.

SPECIAL PRECAUTIONS

AVOID CREATING DUST. DUST MAY FORM EXPLOSIVE MIXTURE WITH AIR.

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SECTION X - TRANSPORTATION DATA AND ADDITIONAL INFORMATION

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DOMESTIC (D.O.T.)

PROPER SHIPPING NAME: CHEMICALS, N.O.S. (NON-REGULATED)

INTERNATIONAL (I.M.O.)

PROPER SHIPPING NAME: ZINC POWDER, NON-PYROPHORIC

HAZARD CLASS: 4.3, 4.2

I.M.O. PAGE: 4373

UN: UN1436 MARINE POLLUTANTS: NO

PACKAGING GROUP: II

LABELS: DANGEROUS WHEN WET, SPONTANEOUSLY COMBUSTIBLE

REGULATORY REFERENCES: 49CFR PART 176; IMDG CODE

AIR (I.C.A.O.)

PROPER SHIPPING NAME: ZINC POWDER, NON-PYROPHORIC

HAZARD CLASS: 4.3, 4.2

UN: UN1436

PACKAGING GROUP: II

LABELS: DANGEROUS WHEN WET, SPONTANEOUSLY COMBUSTIBLE

REGULATORY REFERENCES: 49CFR PART 175; ICAO=== WE BELIEVE THE TRANSPORTATION DATA AND REFERENCES CONTAINED HEREIN TO BE FACTUAL AND THE OPINION OF QUALIFIED EXPERTS. THE DATA IS MEANT AS A GUIDE TO THE OVERALL CLASSIFICATION OF THE PRODUCT AND IS NOT PACKAGE SIZE SPECIFIC, NOR SHOULD IT BE TAKEN AS A WARRANTY OR REPRESENTATION FOR WHICH THE COMPANY ASSUMES LEGAL RESPONSIBILITY.=== THE INFORMATION IS OFFERED SOLELY FOR YOUR CONSIDERATION, INVESTIGATION, AND VERIFICATION. ANY USE OF THE INFORMATION MUST BE DETERMINED BY THE USER TO BE IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, AND LOCAL LAWS AND REGULATIONS. SEE SHIPPER REQUIREMENTS 49CFR 171.2, CERTIFICATION 172.204, AND EMPLOYEE TRAINING 49 CFR 173.1(B).

U.S. CUSTOMS HARMONIZATION NUMBER: 79039000004

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NOTE: WHEN HANDLING LIQUID PRODUCTS, SECONDARY PROTECTIVE CONTAINERS MUST BE USED FOR CARRYING.

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

NOTE: CHEMTREC, CANUTEC, AND NATIONAL RESPONSE CENTER EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS. ALL NON-EMERGENCY QUESTIONS SHOULD BE DIRECTED TO CUSTOMER SERVICE (1-800-JTBAKER) FOR ASSISTANCE.

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APPROVED BY QUALITY ASSURANCE DEPARTMENT.