

A. PRODUCT/COMPANY IDENTIFICATIONTRADE NAME (COMMON NAME OR SYNONYM)

Zinc Oxide (French Process)

ASARCO PRODUCT CODE#

AZO, AZODOX, AZOFLO

CHEMICAL NAME

Zinc Oxide

FORMULA

ZnO

MOLECULAR WEIGHT

81.38

ADDRESS (No., STREET, CITY, STATE AND ZIP CODE)

MIDWEST ZINC

180 Maiden Lane

New York, New York 10038 Phone: 212-510-2000

CONTACT

General Information -

PHONE NUMBER

Department of Environmental Sciences DAY 801-262-2459

NIGHT 801-561-3044

First Aid Information - (Medical Dept.)

415-457-0383

Transportation Emergencies - CHEMTREC

800-424-9300

ISSUED DATE

2/17/83

REVISED DATE

11/1/93

B. COMPOSITION/INFORMATION ON INGREDIENTS

MATERIAL OR COMPONENT	C.A.S. #	WT. %	PERMISSIBLE AIR CONC.(mg/cu.m.)	
			OSHA	ACGIH
Zinc oxide	1314-13-2	99.7-100	5.0 Resp. Dust 10.0 Total Dust	10.0 dust
Lead	7439-92-1	< 0.003		
Cadmium	7440-43-9	< 0.002		

C. HAZARDS IDENTIFICATIONPRIMARY ROUTES OF ENTRY INGESTION INHALATION SKIN CARCINOGENICITY

Not listed as a carcinogen by IARC, NTP, OSHA.

ACUTE OVEREXPOSURE (SYMPTOMS AND EFFECTS)

1. Metal fume fever with symptoms of fever, chills, metallic taste, chest tightness or nausea may result from inhalation of zinc oxide fume or dust.
2. Zinc oxide is relatively non-toxic by mouth, but may cause fever, nausea, stomach cramps or diarrhea in large doses.
3. Dermatitis (papulopustular eczema) with intense itching may result from excessive skin contact.

CHRONIC OVEREXPOSURE (SYMPTOMS AND EFFECTS)

None reported.

MEDICAL CONDITIONS POSSIBLY AGGRAVATED

None reported.

D. FIRST AID MEASURES

Inhalation: Remove from exposure; place individual under care of a physician.

Ingestion: Induce vomiting in conscious individual and call a physician.

Skin or Eyes: Flush with plenty of water. If symptoms develop, consult a physician.

E. FIRE FIGHTING MEASURES

<u>FLASH POINT</u> Not Applicable	<u>AUTO IGNITION TEMPERATURE</u> Not Applicable	<u>FLAMMABLE LIMITS IN AIR (% BY VOL)</u> Not Applicable
<u>UNUSUAL FIRE AND EXPLOSION HAZARDS</u> Not Applicable	<u>FIRE EXTINGUISHING AGENTS RECOMMENDED</u> No specific agents recommended	<u>FIRE EXTINGUISHING AGENTS TO AVOID</u> No specific agents

SPECIAL FIRE FIGHTING PRECAUTIONS

Use NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing if involved in fire.

RELEASE MEASURES

SPILLS OR LEAKS

Any method which keeps dust to a minimum is acceptable. Vacuuming is preferred for dust. Use approved respiratory protection if possibility of dust or fume exists. Do not use compressed air for cleaning.

G. HANDLING AND STORAGE

NORMAL HANDLING

Use of approved respirators is required for applications where adequate ventilation cannot be provided. Activities which generate dust or fume should be avoided. When melted, the temperature should be kept as low as possible.

STORAGE

General storage procedures acceptable.

H. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS

Local exhaust ventilation is recommended for dust and/or fume generating operations where airborne exposures may exceed permissible air concentrations.

PERSONAL HYGIENE

Avoid inhalation or ingestion. Practice good housekeeping and personal hygiene procedures. A shower is recommended if significant dust exposure occurs.

SPECIAL PRECAUTIONS/PROCEDURES/LABEL INSTRUCTIONS

NPCA HMIS 1H-0F-0R-PPE(E)

NFPA Classification: 1H, 0F, 0R

RESPIRATORY PROTECTION

Where airborne exposures may exceed OSHA/ACGIH permissible air concentrations, the minimum respiratory protection recommended is a negative pressure air purifying respirator with cartridges that are NIOSH/MSHA approved against dust, fumes and mists having a TWA not less than 0.05 mg/cm³.

LABEL SIGNAL WORD:

CAUTION

EYES AND FACE

Safety glasses recommended where the possibility of getting dust particles in eyes exists.

OTHER CLOTHING AND EQUIPMENT

Protective clothing is recommended for jobs with heavy dust exposure to prevent skin irritation. Contaminated clothing should be removed before leaving plant premises.

I. PHYSICAL/CHEMICAL PROPERTIES

MATERIAL IS (AT NORMAL CONDITIONS)

Solid

APPEARANCE AND ODOR

White powder, odorless

MELTING POINT (DEGREES C) Sublimes at 1975	BOILING POINT (DEGREES C) Not Available	SPECIFIC GRAVITY (H ₂ O = 1) 5.6	VAPOR DENSITY (AIR = 1) Not Applicable
SOLUBILITY IN WATER (% BY WT.) Insoluble	pH Not Applicable	VAPOR PRESSURE (mm Hg) Not Applicable	EVAPORATION RATE Not Applicable

J. STABILITY AND REACTIVITY

STABILITY

Stable

CONDITIONS TO AVOID

Not Applicable

INCOMPATIBILITY (MATERIALS TO AVOID)

Zinc oxide and magnesium can react explosively when heated. Zinc oxide and chlorinated rubber were mixed and exploded in one instance.

HAZARDOUS DECOMPOSITION PRODUCTS

None

HAZARDOUS POLYMERIZATION

Will not occur

CONDITIONS TO AVOID

Not Applicable

K. TOXICOLOGICAL INFORMATION

LD50(SPECIES, ROUTE)

Not available.

LC50(SPECIES)

Not available.

MUTAGENICITY

Not available.

L. ECOLOGICAL

TOXICITY

Not available.

ENVIRONMENTAL FATE

Not available.

M. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHODS (DISPOSER MUST COMPLY WITH FEDERAL, STATE, AND LOCAL DISPOSAL OR DISCHARGE LAWS)

If hazardous under 40 CFR 261, Subparts B and C, material must be treated or disposed in a facility meeting the requirements of 40 CFR 264 or 265. If non-hazardous, material should be disposed in a facility meeting the requirements of 40 CFR 257.

RCRA STATUS OF UNUSED MATERIAL

If discarded in unaltered form, material should be tested to determine if it must be classified as a hazardous waste for disposal purposes. Under specific circumstances, application can be made to the EPA Administrator to have a particular waste designated non-hazardous.

40 CFR
261

N. TRANSPORT

DOT REGULATION AND ID (OR PIN) NUMBER

This material is not regulated by the DOT.

O. REGULATORY INFORMATION

WHMIS CLASSIFICATION, SARA REGULATION AND OTHER INFORMATION

WHMIS does not classify this material

TSCA Status: On TSCA Inventory

Regulated under SARA Title III:

Sec. 302: None

Sec. 311/312: Immediate

Sec. 313 Chemicals: Zinc compounds

CERCLA Reportable Quantity: None

WARNING: The State of California has listed lead as a chemical which can cause birth defects of other reproductive harm and has listed cadmium as a chemical known to cause cancer.

REFERENCES

PERMISSIBLE CONCENTRATION REFERENCES

OSHA regulations for airborne contaminants 29 CFR 1910.1000 and 1018: ACGIH Threshold Limit Values for Chemical Substances

HAZARD INFORMATION REFERENCES

Documentation of the Threshold Limit Values, 6th Ed., ACGIH
Patty's Industrial Hygiene and Toxicology, Vol. 2A, 3rd Rev. Ed., 1981
NFPA Fire Protection Guide on Hazardous Materials, 10th Ed., 1991
Handbook of Toxic and Hazardous Chemicals; Sittig, Marshall; 1981
TOMES Plus Database; Micromedex, Inc., Vol. 17, 1993
DATATOX Database; Spectrum Research, Inc., Version 2.0, 1992

GENERAL

Handbook of Chemistry and Physics, 57th Ed., 1976-77. Weast, R.C., Editor. CRC Inc.

P. ADDITIONAL INFORMATION

INFORMATION (HAZARDS, FIRST AID, ETC.) IS ABBREVIATED. MORE INFORMATION IS CONTAINED IN REFERENCES FOUND IN SECTION P.

Additional information Contact: ASARCO Incorporated

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