ZINC CORPORATION OF AMERICA
300 FRANKFORT ROAD MONACA, PA 15061-2295
(412) 774-1020

MSDS FOR ZINC METAL: PRIME WESTERN

SECTION I (General Information)

NAME: ZINC METAL

MANUFACTURER: ZINC CORPORATION OF AMERICA

EMERGENCY: 412-774-1020
CHEMTREC: 800-424-9300

300 Frankfort Road
Monaca, PA 15061
412-774-1020

P.O. Box 579
Bartlesville, OK 74005
918-336-7100

TRADE NAME AND SYNONYMS: Prime Western Metal

CHEMICAL FAMILY: Nonferrous Heavy Metal

CAS NO.: 7440-66-6

FORMULA: Zn

DOT HAZARD CLASS: Not listed

UN NO.: NAIF*

NA NO.: NAIF*

SARA SECTION 313: This product is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act and 40 CFR 372. The materials underlined below are present in quantities above the applicable deminimis concentrations and are listed as Toxic Chemicals in 40 CFR 372.65.

ISSUE DATE: 2/25/88

REVISION DATE: 1/03/90

SECTION II - INGREDIENTS

MATERIAL	CAS NO	%
ZINC	7440-66-6	98.0-99.99
LEAD	7439-92-1	1.4max
ALUMINUM	7429-90-5	.55max
CADMIUM	7440-43-9	.20max

* NAIF - No applicable information found.

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SECTION III PHYSICAL DATA

BOILING POINT (760 MM HG): 1665° F

MELTING POINT: 788° F

SPECIFIC GRAVITY: 7.12

EVAPORATION RATE (= 1): N/A

VAPOR DENSITY (air = 1): N/A

SOLUBILITY IN WATER: Negligible

PERCENT VOLATILE BY VOLUME (%): N/A

VAPOR PRESSURE AT 909° F: 0.13kPa

APPEARANCE AND ODOR: Silver-white, or Bluish-white metal

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Zinc does not introduce a serious fire hazard in sheets, castings, or other massive forms because of the difficulty of ignition, although once ignited (above 1665° F), large pieces burn vigorously.

FLASH POINT (METHOD USED): N/A

NFPA FIRE RATING

FLAMMABLE LIMITS: LEL: N/A
UEL: N/A

HEALTH	0
FLAMMABILITY	0
REACTIVITY	0

EXTINGUISHING MEDIA: Smother and cool with a suitable dry extinguishing agent (class D fires) such as dry powder (Ansul Met-L-X), zinc oxide or dry sand. Water should not be used, however wherever it is necessary to cool exposures, extreme caution should be taken to prevent contact with molten zinc or burning zinc products.

SPECIAL FIRE FIGHTING PROCEDURES: Use NIOSH/MSHA approved self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Heating of metal beyond boiling point results in evolution of zinc vapors, which immediately reacts with air to form zinc oxide fume. Slabs must be completely dry before charging into molten metal to prevent a steam explosion.

SECTION V - HEALTH HAZARD DATA

MATERIAL	FORM	OSHA - PEL		ACGIH - TLV	
		TWA mg/M3	STEL mg/M3	TWA mg/M3	STEL mg/M3
ZINC	Dust	–	–	–	–
	Oxide Fume	5	10	5	–
CADMIUM	Dust	0.2	0.6	.05	–
	Oxide Fume	0.1	0.3	.05 (Ceiling)	
LEAD		0.05	–	0.15	–

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ROUTES OF ENTRY

PRIMARY: Inhalation, if material has been heated above the boiling point, driving off zinc fume.

SECONDARY: Ingestion of dusts.

EFFECTS OF SHORT TERM OVEREXPOSURE:

ZINC: Inhalation of high levels of zinc vapor (zinc oxide fumes) may result in tightness of chest, metallic taste, cough, dizziness, fever, chills, headache, nausea, and dry throat. Overexposure may produce symptoms known as metal fume fever or "zinc shakes"; an acute, self-limiting condition without recognized complications. Symptoms of metal fume fever include: chills, fever, muscular pain, nausea and vomiting.

LEAD: Exposure to high concentrations of lead may cause headache, nausea, vomiting, abdominal spasms, fatigue, sleep disturbances, weight loss, anemia, and pain in legs, arms and joints.

CADMIUM: Exposure to high concentrations of cadmium may cause sore throat and nasal tissue, cough, and metallic taste followed by malaise, stiffness, muscular pain, and shortness of breath.

EMERGENCY AND FIRST AID PROCEDURES: Symptoms resulting from inhalation overexposure usually disappear within 24 hours. Symptomatic treatment, such as bed rest and possibly aspirin is recommended to provide relief from fever and chills. In all cases, consult physician for medical attention.

EFFECTS OF LONG TERM EXPOSURE:

ZINC: Chronic exposure to zinc may cause respiratory tract irritation with nasopharyngitis and laryngitis. However, zinc is an essential substance for humans. The recommended daily dietary allowance (RDA) for zinc is 15mg per day.

LEAD: Prolonged exposure to lead may produce many of the symptoms of short-term exposure and may also cause central nervous system damage, gastrointestinal disturbances, anemia, and weight drop. Symptoms of central nervous system damage include fatigue, headaches, tremors, hypertension, hallucinations, convulsions, and delirium. Kidney disfunction and possible injury has also been associated with chronic lead poisoning.

Chronic overexposure to lead has been implicated as a causative agent for the impairment of male and female reproductive organs, but there is not present substantiation of this.

Pregnant women should be protected from excessive exposure. Lead can cross the placental barrier and it is reported that infants with neurologic disorders have been born to women who have experienced excessive exposure.

CADMIUM: The principal long-term effect of cadmium exposure involves the lungs, kidneys, and bones. The kidneys are the principal target organ of low-dose exposure. When the exposure is to newly generated cadmium fume, the lungs may be a primary target organ. Cadmium has also been postulated to adversely affect other organ systems adversely such as the liver and cardiovascular system. In addition, there is evidence that cadmium exposure increases rates of lung carcinomas.

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CARCINOGENIC ASSESSMENT:

NTP? No IRIAC MONOGRAPH? No OSHA? No

NOTE: Cadmium is a listed (2B-limited evidence) human carcinogen.

SECTION VI - REACTIVITY DATA

STABILITY: ( ) Unstable
(X) Stable

CONDITIONS TO AVOID: None

INCOMPATIBILITY (MATERIALS TO AVOID): Avoid contact with acids and alkalis.

HAZARDOUS DECOMPOSITION PRODUCTS: Zinc boils off as vapor at elevated temperatures.

HAZARDOUS POLYMERIZATION: ( ) May occur
(X) Will not occur

SECTION VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Material should be contained for recycling.

WASTE DISPOSAL METHOD: Material may be recycled or disposed of in accordance with Federal, State, and Local Environmental Regulations. This material may be regulated under CERCLA, TSCA, SARA, and/or RCRA Regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE): Use NIOSH/MSHA approved type respirator for protection against dust and metal fume.

VENTILATION: Local exhaust or other ventilation that will reduce dust concentrations to less than permissible exposure limits.

PROTECTIVE GLOVES: Recommended to prevent skin irritation in hypersensitive individuals.

EYE PROTECTION: Use safety eyewear for protection against airborne particulate matter.

OTHER PROTECTIVE EQUIPMENT: To prevent burns from contact with molten metal, appropriate protective garments should be worn in areas where this material exists.

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SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Store in a dry location, separate from acids and alkalis. Keep metal dry so it does not contain any moisture when ready for use.

OTHER PRECAUTIONS: Damp slabs placed in molten metal may result in a steam explosion. Always practice good personal hygiene when working in areas where this material exists.