MSDS FOR ZINC POWDER, 1206, 1221, 1222, 1223, 1224, 1225 ZC-P021

SECTION I - GENERAL INFORMATION

NAME: ZINC POWDER

MANUFACTURER:
HORSEHEAD CORPORATION
300 Frankfort Road
Monaca, PA 15061
724-774-1020

900 Delaware Avenue
Palmerton, PA 18071
610-826-8604

TRANSPORTATION EMERGENCY:
CHEMTREC: 800-424-9300

CHEMICAL FAMILY: Zinc Metal

CAS NO.: 7440-66-6

FORMULA: Zn

DOT HAZARD CLASS: See Below *

UN NO.: N/A

NA NO.: N/A

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: 6/13/07

*This product has been tested using the applicable tests in Section 33 of the Second Revised Addition of the United Nations Recommendations on the Transportation of Dangerous Goods, Manual of Test and Criteria. Results of the testing show that the sample did not meet the minimum standards for classification into either Division 4.1 Flammable Solid or Division 4.3 Dangerous when Wet. Because it does not meet the classification criteria in paragraph 173.124, it is not a DOT hazardous material as shipped.

SECTION II - INGREDIENTS

MATERIAL	CAS NO.	%
ZINC	7440-66-6	>98
LEAD	7439-92-1	<0.5

SECTION III PHYSICAL DATA

BOILING POINT (760 MM HG): 1665^{o} F **MELTING POINT:** 788^{o} F

SPECIFIC GRAVITY: 7.12 **EVAPORATION RATE (=1):** N/A

VAPOR DENSITY (air = 1): N/A **SOLUBILITY IN WATER:** Insoluble, reacts with water.

PERCENT VOLATILE BY VOLUME (%): N/A **VAPOR PRESSURE AT 20^{o} C:** N/A

APPEARANCE AND ODOR: Gray granular metallic particles with no odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

The data below is based upon condensed zinc (zinc dust). Since zinc powder is produced from a different process, and is generally a larger particle size, these data are conservative.

MINIMUM EXPLOSION CONCENTRATION: 460,000 mg/M^{3}

IGNITION TEMPERATURE: Cloud 690^{o} C
Layer 540^{o} C

NFPA FIRE RATING

HEALTH	0
FLAMMABILITY	1
REACTIVITY	1

IGNITION SENSITIVITY: <0.1

EXPLOSION SEVERITY: <0.1

Dust with an ignition sensitivity less than 0.2 and an explosion severity less than 0.5 should be considered as constituting only a weak explosion hazard. Class II electrical equipment should not be required.

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. 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 AND 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.

SECTION V - HEALTH HAZARD DATA

MATERIAL	FORM	OSHA-PEL	ACGIH-TLV	
		TWA mg/m^3	TWA mg/m^3	STEL mg/m^3
ZINC	Oxide Fume	5	2	10
LEAD		0.05	0.05	--

ROUTES OF ENTRY

PRIMARY: Inhalation of zinc fume if material has been heated above the boiling point.

SECONDARY: Ingestion

EFFECTS OF SHORT TERM OVEREXPOSURE:

ZINC/ZINC OXIDE: Inhalation of high levels of zinc oxide 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.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Inhalation of dust may be an irritant to pre-existing respiratory conditions.

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. Eye contact - flush areas with copious amounts of water. In all cases, consult physician for medical attention.

EFFECTS OF LONG TERM OVEREXPOSURE:

ZINC/ZINC OXIDE: Chronic exposure to zinc may cause respiratory tract irritation with nasopharyngitis and laryngitis.

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 dysfunction 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 no 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 neurological disorders have been born to women who have experienced excessive exposure.

CARCINOGENIC ASSESSMENT:

NTP? No **IARC MONOGRAPH?** No **OSHA?** No

NOTE: Lead is a listed Group 2B possible human carcinogen.

SECTION VI - REACTIVITY DATA

STABILITY: ( ) Unstable
(X) Stable

CONDITIONS TO AVOID: Hydrogen may evolve when in contact with water or damp air.

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

HAZARDOUS DECOMPOSITION PRODUCTS: None

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: Prohibit smoking, avoid all ignition sources, and avoid dusting. Metal should be contained for recycling.

WASTE DISPOSAL METHOD: Contain in a dry closed container. Material may be recycled or disposed of in accordance with Federal, State and Local Environmental Regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE): Use NIOSH/MSHA approved type respirator for dusting conditions or in the presence of zinc vapor.

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: Barrier creams may help prevent skin irritation in hypersensitive individuals.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Store in a cool, dry, ventilated space, separate from acids and alkalis. Protect from physical damage.

OTHER PRECAUTIONS: Practice good personal hygiene when working in areas where this material is used.

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