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**MSDS FOR ZINC DUST 122****ZC-D004**

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**SECTION I - GENERAL INFORMATION****NAME:** ZINC DUST**MANUFACTURER:**  
HORSEHEAD CORPORATION  
300 Frankfort Road  
Monaca, PA 15061  
724-774-1020**TRANSPORTATION EMERGENCY:**  
**CHEMTREC:** 800-424-9300**CHEMICAL FAMILY:** Nonferrous 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:** 4/5/05

\*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**

<u>MATERIAL</u>	<u>CAS NO.</u>	<u>%</u>
<u>ZINC DUST</u>	7440-66-6	97
<u>ZINC OXIDE</u>	1314-13-2	3
<u>LEAD</u>	7439-92-1	0.01 max.
<u>CADMIUM</u>	7440-43-9	0.002 max.

**SECTION III PHYSICAL DATA**

**BOILING POINT (760 MM HG):** 1665° F                      **MELTING POINT:** 788° F  
**SPECIFIC GRAVITY:** 7.11                                      **EVAPORATION RATE (=1):** N/A  
**VAPOR DENSITY (air = 1):** N/A                      **SOLUBILITY IN WATER:** Reacts with water.  
**PERCENT VOLATILE BY VOLUME (%):** N/A              **VAPOR PRESSURE AT 20° C:** N/A  
**APPEARANCE AND ODOR:** Very fine blue-gray powder

**SECTION IV - FIRE AND EXPLOSION HAZARD DATA**

**MINIMUM EXPLOSION CONCENTRATION:** 460,000 mg/M<sup>3</sup>              **NFPA FIRE RATING**

<b>IGNITION TEMPERATURE:</b>	Cloud 690° C	HEALTH	0
	Layer 540° C	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.

\*National Materials Advisory Board Publication 353-4 issued July, 1982.

**SECTION V - HEALTH HAZARD DATA**

<b><u>MATERIAL</u></b>	<b><u>FORM</u></b>	<b><u>OSHA-PEL</u></b>	<b><u>ACGIH-TLV</u></b>	
		<b>TWA mg/m<sup>3</sup></b>	<b>TWA mg/m<sup>3</sup></b>	<b>STEL mg/m<sup>3</sup></b>
<b>ZINC</b>	Oxide Fume	5	2	10
<b>ZINC OXIDE</b>	Total Dust	15	10	--
	Respirable (Fume)	5	2	10

**ROUTES OF ENTRY****PRIMARY:** Inhalation**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. Like any finely divided particulate matter, zinc oxide may cause mechanical irritation to skin and eyes.

**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 eyes 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.

**CARCINOGENIC ASSESSMENT:**

NTP? No

IARC MONOGRAPH? No

OSHA? No

**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 water, acids, and alkalis.

**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:** Avoid contact with water. Material 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. 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 fumes.

**VENTILATION:** Local exhaust ventilation to 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. Fire resistant coveralls are recommended.

### **SECTION IX - SPECIAL PRECAUTIONS**

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

**OTHER PRECAUTIONS:** Practice good personal hygiene when working in areas where this material is used. Avoid prolonged contact with skin.

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