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**MSDS FOR ZINC OXIDE: KADOX 720, 720G, 720P, 720H, 725 ZC-X004**

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**SECTION I - GENERAL INFORMATION**

**NAME:** ZINC OXIDE

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

**TRANSPORTATION EMERGENCY:**  
**CHEMTREC:** 800-424-9300

**CHEMICAL FAMILY:** Nonferrous Metal Oxide

**CAS NO.:** 1314-13-2

**FORMULA:** ZnO

**DOT HAZARD CLASS:** NAIF\*

**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 de minimis concentrations and are listed as Toxic Chemicals in 40 CFR 372.65.

**ISSUE DATE:** 2/12/88

**REVISION DATE:** 1/18/05

\* NAIF - No applicable information found.

**SECTION II - INGREDIENTS**

| <u>MATERIAL</u>   | <u>CAS NO.</u> | <u>%</u> |
|-------------------|----------------|----------|
| <u>ZINC OXIDE</u> | 1314-13-2      | 99.8     |
| <u>LEAD</u>       | 7439-92-1      | 0.04     |
| <u>CADMIUM</u>    | 7440-43-9      | 0.04     |

LEAD AND CADMIUM ARE INHERENT IN THE MANUFACTURE OF ZINC AND ARE NOT PHYSICALLY ADDED IN THE MANUFACTURE OF ZINC OXIDE.

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## SECTION III PHYSICAL DATA

**BOILING POINT (760 MM HG):** N/A                      **MELTING POINT:** 3587° F  
**SPECIFIC GRAVITY:** 5.61                              **EVAPORATION RATE (=1):** N/A  
**VAPOR DENSITY (air = 1):** N/A                      **SOLUBILITY IN WATER:** Negligible  
**PERCENT VOLATILE BY VOLUME (%):** N/A        **VAPOR PRESSURE AT 20° C:** N/A

**APPEARANCE AND ODOR:** White powder with no odor. (G, P and H suffix denote granular, pellets or hardened pellets respectively)

## SECTION IV - FIRE AND EXPLOSION HAZARD DATA

**FLASH POINT (METHOD USED):** N/A                      **NFPA FIRE RATING**

|                          |          |              |   |
|--------------------------|----------|--------------|---|
| <b>FLAMMABLE LIMITS:</b> | LEL: N/A | HEALTH       | 0 |
|                          | UEL: N/A | FLAMMABILITY | 0 |
|                          |          | REACTIVITY   | 0 |

**EXTINGUISHING MEDIA:** Zinc oxide does not burn. Water spray, dry chemical, or carbon dioxide extinguishers may be used for fires in storage areas.

**SPECIAL FIRE FIGHTING PROCEDURES:** Non-flammable.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** None

## SECTION V - HEALTH HAZARD DATA

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

## ROUTES OF ENTRY

**PRIMARY:** Inhalation

**SECONDARY:** Ingestion

**EFFECTS OF SHORT TERM OVEREXPOSURE:**

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

**EFFECTS OF LONG TERM OVEREXPOSURE:**

**ZINC OXIDE:** Chronic exposure to zinc oxide 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:** None

**INCOMPATIBILITY (MATERIALS TO AVOID):** None known.

**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:** As with any nuisance dust, avoid excessive dusting. Material should be contained for recycling.

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**WASTE DISPOSAL METHOD:** Dispose in a closed container or heavy bag. 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.

**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 dry well-ventilated location. 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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