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## MATERIAL SAFETY DATA SHEET

### Section 1- PRODUCT IDENTIFICATION

COMPOSITION <b>Zn</b>	PRODUCT NAME <b>Zinc metal, pigment black</b>
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### Section 2- HAZARDOUS INGREDIENTS

Note: Products under normal conditions do not represent an inhalation, ingestion or contact health hazard.

MATERIAL OR COMPONENT	CAS NUMBER	WT%	EXPOSURE LIMITS	
			OSHA PEL (Mg/M3)	ACGIH TLV(MG/M3)
<b>Zinc</b>	<b>7440-66-6</b>	<b>100.0</b>	<b>NE</b>	<b>NE</b>
			<b>ZnO: 5mg/m3</b>	<b>ZnO:5mg/m3</b>

### Section 3- PHYSICAL DATA

MATERIAL IS (AT NORMAL CONDITIONS) <input type="checkbox"/> Liquid <input type="checkbox"/> Solid <input type="checkbox"/> Gas <input type="checkbox"/> Other	APPEARANCE AND ODOR <b>Bluish-white metal, no odor</b>
MELTING POINT (BASE METAL)  <div style="text-align: center;"><b>419.50° C</b></div>	SPECIFIC GRAVITY  <div style="text-align: center;"><b>7.14gm/cc</b></div>

### Section 4- FIRE AND EXPLOSION

Flash Point (Method Used)	Flammable Limits	LEL	UEL
<b>N/A</b>	<b>Non Flammable</b>	<b>N.A.</b>	<b>N.A.</b>

#### EXTINGUISHING MEDIA

**Agent for metal fires, such as G-1 or TEC powder – DO NOT USE WATER!!! Use suitable extinguishing media for surrounding materials and type of fire.**

#### SPECIAL FIRED FIGHTING PROCEDURES

**Wear a full face, self-contained breathing apparatus and full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.**

#### UNUSUAL FIRE AND EXPLOSION HAZARDS

**When heated to decomposition, zinc metal may emit toxic fumes of ZnO. Flammable in the form of dust when exposed to heat or flame. Contact with water may speed up burning rate. Damp zinc dust may heat spontaneously and ignite on exposure to air.**

Section 5- REACTIVITY DATA	
STABILITY <b>Stable</b>	INCOMPATABILITY (MATERIALS TO AVOID) <b>SEE ATTACHED LIST</b>
CONDITIONS TO AVOID <b>None</b>	
HAZARDOUS DECOMPOSITION PRODUCTS <b>ZnO and Hydrogen</b>	

Section 6- HEALTH HAZARD GUIDE
<p>MAJOR EXPOSURE HAZARD</p> <p><input type="checkbox"/> <b>Inhalation</b>   <input type="checkbox"/> <b>Skin</b>   <input type="checkbox"/> <b>Skin Absorption</b>   <input type="checkbox"/> <b>Eye Contact</b>   <input type="checkbox"/> <b>Ingestion</b></p>
<p>EFFECTS OF OVEREXPOSURE</p> <p>Zinc compounds have variable toxicity, but generally are of low toxicity. Zinc is not inherently a toxic element. However, when heated, it evolves a fume of zinc oxide which, when inhaled can cause a disease know as "brass founders", "ague" or "brass chills". Zinc oxide dust which is not freshly formed is virtually innocuous. There is no cumulative effect from the inhalation of zinc fumes. (Sax, Dangerous Properties of Industrial Materials, eighth edition)</p> <p><b>INHALATION:</b> Can disturb respiratory system and respiration; dry throat, cough, weakness, general aches and fever, and sweating ("fume fever"). Toxicity of fumes and dust increases with heating and presence of oxidative impurities. <b>ACUTE:</b> May cause brass chills. <b>CHRONIC:</b> May cause respiratory tract irritation with nasopharyngitis and laryngitis.</p> <p><b>SKIN CONTACT:</b> <b>ACUTE:</b> May cause irritation. <b>CHRONIC:</b> No chronic health effects recorded.</p> <p><b>EYE CONTACT:</b> <b>ACUTE:</b> May cause mild irritation. <b>CHRONIC:</b> No chronic health effects recorded.</p> <p><b>INGESTION:</b> <b>ACUTE:</b> May cause coughing, shortness of breath and sweating. <b>CHRONIC:</b> No chronic health effects recorded.</p> <p><b>TARGET ORGANS:</b> No affects recorded.</p> <p><b>CARCINOGENITY:</b> NTP? N      IARC Monographs? N      OSHA Regulated? N</p> <p><u>SIGNS AND SYMPTOMS OF EXPOSURE:</u></p> <p><b>INHALATION:</b> May cause a sweet taste, throat dryness, coughing, weakness, generalized aches, chills fever, nausea and vomiting.</p> <p><b>INGESTIONS:</b> May cause coughing, shortness of breath and sweating.</p> <p><b>SKIN:</b> May cause redness and itching.</p> <p><b>EYE:</b> No acute or chronic health effects recorded.</p> <p><b>MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:</b> Pre-existing respiratory disorders.</p>
<p>EMERGENCY &amp; FIRST AID PROCEDURES</p> <p><b>INHALATION:</b> Remove from exposed area to fresh air immediately; keep warm and quiet; give oxygen if breathing is difficult. Seek medical attention.</p> <p><b>SKIN CONTACT:</b> Remove contaminated clothing; brush material off skin; wash affected area with mild soap and water. Seek medical attention if symptoms persist.</p> <p><b>EYE CONTACT:</b> Flush eyes with lukewarm water, lifting upper and lower eyelids, for fifteen minutes. Seek medical attention.</p> <p><b>INGESTION:</b> Give 1-2 cups of milk or water and induce vomiting. Seek medical attention. Never induce vomiting or give anything by mouth to an unconscious person.</p>

## Section 7- SPILL OR LEAK PROCEDURES

### SPILL OR LEAK PROCUDRES

**Wear a self-contained breathing apparatus and full protective clothing. Isolate the area where the spill occurred and insure there is proper ventilation and that water is kept out of the area. Vacuum up the spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.**

### WASTE DISPOSAL METHODS

**Observe all federal, state and local regulations when storing or disposing of this substance.**

### PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

**Hazard Label Information:** Store in cool, dry area; Store in tightly sealed container; Wash thoroughly after handling.

## Section 8- SPECIAL PROTECTION

### RESPIRATORY

**Wear NIOSH/MSHA-approved respirator.**

### VENTILATION

**Local exhaust: Local exhaust ventilation may be necessary to control any air contaminants to low exposure levels.**

**Mechanical (General): Good general ventilation is recommended.**

### EYE PROTECTION & PROTECTIVE CLOTHING

**Wear Safety glasses for eyes. Wear neoprene/rubber gloves on hands. Wear protective clothing to prevent contamination of skin and clothes.**

### WORK/HYGIENIC/MAINTENANCE PRACTICES

**Implement engineering and work place practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.**

## Section 9- SPECIAL PRECAUTIONS

**Some of the chemicals listed herein are research or experimental substances which may be toxic, as defined by various governmental regulations. In accordance with Environmental Protection Agency regulations and the Toxic Substance Control Act (TSCA), these materials should only be handled by, or under the direct supervision of, a "technically qualified individual", as defined in 40 CFR 710.2(aa).**

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## **Incompatibilities:**

Acetic acid; aluminum; aluminum, magnesium, rusted steel; ammonium nitrate, ammonium chloride, water; ammonium sulfide; arsenic trioxide; calcium chloride; carbon disulfide; carbon tetrachloride; chlorinated rubber; catalytic metals; electrolytes, silver; ethyl acetoacetate, tris(bromomethyl)ethanol; halocarbons; halogens or interhalogens; lead azide; manganese dichloride; metal oxides; 2-nitroanisole, sodium hydroxide; nitrobenzene; nitrogen compounds; non-metals: arsenic, selenium and tellurium; oxidants; paint primer base; pentacarbonyliron; transition metal halides; seleninyl bromide; sodium hydroxide; water; zinc chloride.