

**AERCHEM INC.**  
**320 North Walnut St.**  
**Bloomington, IN 47404**

**Tel: 812.334.9996**

**Fax: 812.334.1960**

**Emergency: 800.424.9300**

---

**Effective Date:** 10/10/95  
**Product Name:** Zinc Oxide  
**Molecular Formula:** Zn-O  
**Molecular Weight:** 81.37  
**CAS Number:** 1314-13-2

---

**Hazardous Ingredients:**

Exposure limits (ACGIH):

- 10 milligrams per cubic meter of zinc oxide dust.
  - 5 milligrams per cubic meter of zinc oxide fumes.
- 

**Physical Data:**

Melting point (range) Approx.:	1975°C, 3587°F
pH (depends on quality):	6.95-7.40
Solubility in water:	1.6 milligrams at 29°C
Solubility in solvents:	In ammonia, ammonium chloride, diluted acetic acid or mineral acids and strong bases. Insoluble in alcohol, ether, diluted sulfuric acid.
Odor:	None
Physical form :	Solid: fine powder
Specific Gravity:	5.6
• Absorbs carbon dioxide from air.	

---

**Fire and Explosion Information:**

Fire and explosions hazards:	No risk when exposed to heat or flames.
Extinguishing media to be recommended:	Chemical powder, CO <sub>2</sub> , Halon, Water spray, or standard foam.
Special fire and explosions precautions:	Avoid breathing any fumes or dust.

---

**Reactivity Data:**      **Stable**     X                          **Unstable**                     

**Hazardous Decomposition:** When heated at high temperature, zinc oxide can produce toxic fumes.

---

**Incompatibilities:**

Chlorinated rubber:	Violent reaction or explosion with zinc oxide at 215°C.
Flax Oil:	Exothermic reaction with possibility of ignition.
Magnesium:	If heated: explosive reaction.
Strong bases and acids:	Possibility of violent reaction.

---

**Leak/Spill Information:**

Recover the product and place in appropriate containers. The containers should be labeled, clean, dry and fitted with a cover. Sweep and/or wash down the surface exposed to the product. Ventilate the area while cleaning.

---

**Disposal Information:**

The product recovered can be recycled if in acceptable condition. If not, dispose per published norms and/or contact

the manufacturer for assistance and recommendation on disposal of the product. Observe any Federal, Provincial or local rules relative to disposal of product.

---

**Health Hazard Information:**

**A. Exposure/Health Effect:**

**Inhalation:** When heated: Inhalation of fumes can cause fume fever.

**Symptoms:** Sweating, shivering, headache, fever, chills, thirst, muscles aches, nausea, vomiting, weakness and tiredness. The symptoms occur 4 to 12 hours after exposure and usually last up to 24 hours.

---

**AERCHEM INC.**  
**320 North Walnut**  
**Bloomington, IN 47404**

**Tel: 812.334.9996      Fax: 812.334.1960      Emergency: 800.424.9300**

---

**Health Hazard Information:**

**Ingestion:** The toxic dose is 2 grams/kilogram and over. At the extreme, zinc oxide can cause gastro-enteritis.

**Skin Contact:** No irritation of skin for short exposure.

**Eye contact:** May cause redness and irritation.

---

**Chronic Exposures:**

**Inhalation:** Liver malfunction and gastro-duodenal ulcers have been reported.

**Ingestion:** Permeates the placenta and excreted through maternal milk.

**Skin Contact:** In cases of poor personal hygiene, occupational dermatitis (oxide pox) can occur where zinc oxide dust combines with debris and bacteria to block sweat glands on the skin.

**Eye Contact:** Repetitive or prolonged exposure to zinc oxide fumes may cause conjunctivitis.

---

**B. First Aid:**

**Inhalation:** If exposed to zinc oxide fumes, remove person to a well ventilated area. Treat according to symptoms and seek medical attention.

**Ingestion:** If the victim is conscious, give him/her two to four glasses of water and provoke vomiting by placing a finger deep in the throat. Keep victim warm and rested. Consult a physician.

**Skin Contact:** Remove contaminated clothes. Wash contacted area with mild soap and water (15 minutes). Dry and seek medical attention if skin irritation occurs and persists.

**Eye Contact:** Rinse eyes immediately with water making sure to occasionally lift the eyelids (15-20 minutes). Consult a physician.

---

**C. Toxicity Data**

Zinc oxide fumes appear only upon the formation of zinc oxide from zinc metal.

-- 500 milligrams /24 hours/ skin-rabbit: light irritation

-- 500 milligrams /24 hours/ eyes-rabbit: light irritation

-- 600 milligrams /cubic meter/ inhalation-human: TCLO

-- 7950 milligrams /kilogram/ oral-mouse: DL50

-- 500 milligrams /kilogram/ oral-human: OLLO

-- 240 milligrams /kilogram/ intraperitoneal-rat: DL50

**Carcinogenic effect:** None

• Toxic by absorption through the peritoneum.

---

**Occupational Control Measures:**

**Ventilation Systems:**

It is recommended to use positive displacement air extractor and/or a mechanical ventilation system and/or a ventilation system complete with an air treatment enclosure to meet the published exposure limits norms.

**Personal Respirators:**

(NIOSH Approved) Respirator (for zinc oxide fumes). Positive pressure, anti-dust, anti-fog respirator or standard respirator.

If the concentration is over 250 milligrams/cubic meter: Requires an air purifier respirator with full facial unit complete

with high efficiency particle filter, positive pressure or standard respirator complete with full facial unit.

If the concentration is over 2500 milligrams/cubic meter: Self contained half mask apparatus.

**Skin Protection:**

Protective gloves. Appropriate working clothes.

**Eye Protection:**

If the concentration is over 2500 milligrams/cubic meter: Anti-splash or anti-dust safety goggles. Do not use contact lenses as safety equipment.

---

**Transport Information:**

**DOT classification:** not regulated