



**MATERIAL SAFETY DATA SHEET**  
Revised or Reviewed: September 16, 2005

**ZINC OXIDE, USP**

REF 310-16200 (1.5-oz), 310-16250 (8-oz), and 310-16300 (16-oz)

A primary ingredient in the formulation of ZOE dental cements.

**Section 1- Product and Company Information**

Manufactured for: Miltex, Inc.; 589 Davies Drive, York, PA 17402

Information: 717-840-9335, 717-840-9347 (fax)

Chemical Name & Synonyms: Amalox, calamine, felling zinc oxide, zincite, zinc white, AZO 22, emar, outmine, pasco.

Chemical Formula: ZnO

**Section 2 – Composition/ Information on Ingredients**

- Zinc Oxide; CAS # 1314-13-2; 99.9%; OSHA PEL (TWA) = 15 mg/m<sup>3</sup> total dust and 15 mg/m<sup>3</sup> respirable dust, ACGIH TLV = 10 mg/m<sup>3</sup> total dust.
- Lead; CAS # 7439-92-1; 0.0021% maximum; No information on threshold limit value.
- Cadmium; CAS # 7440-43-9; 0.0017% maximum; No information on threshold limit value.

Note- lead and cadmium are inherent in the manufacture of zinc and are not physically added in the manufacture of zinc oxide.

**Section 3 - Health Identification**

Potential Health Effects: Acute overexposure may result in coughing, sub-sternal pain, upper respiratory tract irritation, rales, chills, fever, nausea, and vomiting. Chronic overexposure may result in papular-pustular skin eruptions in the axilla, inner thigh, inner arm, scrotum, and pubic areas.

Primary Route(s) of Entry: Inhalation.

Carcinogen: NTP Program-No IARC Program- No OSHA Program- No

Medical Conditions Aggravated by Exposure: May be an irritant to pre-existing upper respiratory and lung disease.

HMIS Ratings: Health = 0; Flammability = 0; Reactivity = 0; PPE = B

**Section 4 - First Aid Measures**

Eyes: Immediately flush with water for 15 minutes. Seek medical attention.

Skin: Wash affected area twice with soap and water.

Ingestion: Dilute with water or milk, then administer calcium disodium edetate. Seek medical attention.

Inhalation: Remove to fresh air. Symptoms resulting from inhalation overexposure usually disappear within 24-hours. Seek medical attention.

## Section 5 – Fire Fighting Measures

Flash Point (Test Method): Not applicable, material is non-flammable

Auto Ignition Temperature: Not applicable

Flammable Limits- Not applicable

Extinguishing Media: Use suitable for surrounding materials.

Special Fire Fighting Procedures: Fires involving zinc oxide should be fought from upwind from the maximum distance possible. Isolate the hazard area and deny access to unnecessary personnel. Firefighters should wear a full set of protective clothing and self-contained breathing apparatus.

Unusual Fire and Explosion Hazards: Toxic gases such as zinc oxide fumes may be released.

## Section 6 - Physical and Chemical Properties

Physical State: Solid (powder)

Vapor Density (Air=1): Not applicable

Appearance and Odor: A white powder with no odor.

Melting Point (°C): Not applicable

Evaporation Rate (butyl acetate=1): Not applicable

Solubility in Water: Negligible

Specific Gravity (H<sub>2</sub>O=1): 5.61 @ 20°C

pH: No information available

Vapor Pressure (mm Hg): Not applicable

## Section 7 – Stability and Reactivity

Stability: Stable

Conditions to Avoid: None known

Incompatibility/ Materials to Avoid: Chlorinated rubber, linseed oil, magnesium, hydrogen fluoride, aluminum + hexachloroethane, zinc chloride, phosphoric acid.

Hazardous Polymerization: Will not occur

Hazardous Decomposition Products: Toxic gases such as zinc oxide fumes.

## Section 8 – Accidental Release, Disposal, and Ecological Information

Spill Response: Collect the spilled material in the most safe and convenient manner and place it into a sealed container for disposal. Avoid excessive dusting.

Waste Disposal Method: Dispose of in accordance with all applicable federal, state, and local regulations.

Ecological, General: No information available.

## Section 9 – Exposure Controls/ Personal Protection

Eye Protection: Safety goggles

Respiratory Protection: If necessary, NIOSH-approved respirator for nuisance dust.

Ventilation Recommendations: Local as necessary to keep exposure beneath threshold limit.

Skin Protection: Impervious gloves

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

## Section 10 – Storage and Handling

Storage: Store in a cool, dry, well-ventilated place in tightly sealed containers. Protect containers from damage and repair all ruptured containers immediately.

Handling: Workers who handle the material should thoroughly wash hands, forearms, and face with soap and water before eating, using tobacco products, using toilet facilities, applying cosmetics, or taking medication. Workers in areas where the material is handled or processed should observe similar precautions.

## Section 11 – Miscellaneous

Toxicological Information: Epidemiological studies of zinc refinery workers found no correlation between industrial zinc exposures and lung or other types of cancer. Oral LD<sub>50</sub> (mice) = 7,950 mg/kg; LC<sub>50</sub> (mice) = 2,500 mg/m<sup>3</sup>.

Transportation Information: *Not* a DOT Hazardous Material

Other: WARNING: Using this product will expose you to chemicals known to the State of California to cause cancer/ birth defects/ other reproductive harm.

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