



Material Safety Data Sheet (MSDS)
Product: ZINC OXIDE
Issue date: March 8, 2010
Last revision: March 8, 2010

Section 1 – Product and Manufacturer Information

Product:

Name: Zinc Oxide
Formula: ZnO
CAS Registration Number: 1314-13-2
Synonyms: White zinc, Chinese white, Zinc monoxide, ZnO
TDG/DOT: Not Listed
Applications: Rubber, Ceramics, Paints, Zinc Chemicals, Lubricants, Adhesives, Plastics, Pharmaceuticals, Cosmetics, Fertilizer, Animal Feed, Electronics

Manufacturer:

Address: ZETOXIDE MANUFACTURING INC.
5008 South Service Rd.
Burlington, Ontario, Canada
L7L 5Y7
Telephone: 1-905-616-9462

Section 2 – Hazards

Flammability/Explosion Hazard: Zinc oxide is not flammable or combustible
Zinc oxide does not burn or decompose and hence there is no product of decomposition
For fires, use water spray, foam or dry chemical extinguishers

Environmental Hazard: Zinc oxide is not soluble in water and has no bioavailability

Health Effects:

Eye contact	May cause eye irritation, redness and tearing due to its fine particles or dust
Skin contact	No irritation over short exposure. Some dryness and irritation may occur on skin with prolonged exposure
Ingestion	May cause nausea, vomiting, abdominal pains, diarrhoea and dry throat
Inhalation	It is non-toxic. With high exposure, metal fumes released during zinc oxide production may cause metal fume fever – symptoms last 24 hours or less with no permanent effects. They include feeling general weakness, chills, fever, head and muscular aches
Carcinogenic	Not a carcinogen

Section 3 – First Aid Measures

Eye contact	Flush eyes with running water until all dust is removed
Skin contact	Wash exposed skin with soap and water till removed
Ingestion	Drink water
Inhalation	In case of metal fume fever take person away to area with fresh air for sufficient time. Allow bed rest and medication to provide relief from chills and pains

Section 4 – Preventative Measures

Use appropriate Personal Protective Equipment (PPE) as follows:

Respiratory	Put on NIOSH/MSHA-approved respirators for protection against inhalation of dust. Ensure sufficient ventilation to allow dust concentration to be low
Face	Put on dust-tight safety glasses. Ensure an eyewash station is within reach
Skin	Wear protective gloves. Wear industrial safety boots and clothing
Other	Ensure a thorough wash-off before eating or drinking

Section 5 – Accidental Leakage Measures

Ensure sufficient ventilation. Collect and recover spillages by sweeping and putting into suitable containers. Label and cover them before storing in dry conditions. Smaller spills can also be vacuumed

Section 6 – Storage Precautions

Ensure storage in well ventilated, cool and dry areas. To minimize dusting, keep closed in original packaging until required. Store product away from incompatible substances (listed in Section 8 below)

Section 7 – Physical and Chemical Properties

Melting Point	1975 °C	Boiling point	Not applicable
Specific gravity	5.61	Molecular weight	81.38
Water solubility	Negligible	Solubility	In acids and bases
Vapour pressure	Not applicable	Vapour density	Not applicable
Smell, Odour	Odourless	Appearance	Fine white powder

Section 8 – Reactivity and Incompatible Materials

Zinc oxide is stable at normal temperatures and pressure. The following are incompatible with zinc oxide:

Chlorinated rubber at 215 °C will have a violent reaction with possibility of explosion

Strong acids and bases will decompose zinc oxide into zincates in a violent reaction

Magnesium will have a violent and explosive reaction

Linseed oil will result in an exothermic reaction with zinc oxide and may even ignite

Section 9 – Toxicological Information

Carcinogenicity	Is not carcinogenicity
Mutation	Is not being toxic to genetics
Reproduction toxicity	Is not toxic to reproduction
Sensitization	Does not cause sensitization
Corrosiveness	Is not corrosive
Skin exposure	No effect

It may cause **mild** irritation to the eye due to dust and ingestion of large doses may cause nausea and vomiting. Zinc metal fumes may cause zinc fever and there are no permanent effects from of up to 15 mg/m³.

Section 10 – Disposal

Zinc oxide may be recycled, contact Zetoxide. It is not a listed waste under EPA however, if being disposed, follow government regulations.

Section 11 – Transportation

NAFTA Tariff Code	2817.00.00
TDG Classification	Not listed
DOT Classification	XCP; Domestic transport not regulated
IMO Listing	Not regulated
Origin	Canada

Section 12 – Regulatory Information

Canada	WHMIS Class – not regulated Listed on Domestic Substance List
--------	--

Section 13 – Other Information

HMIS Ratings		Ratings are defined as:				
Health	1	Minimum-0	Slight-1	Moderate-2	Serious-3	Severe-4
Flammability	0					
Reactivity	0					
Personal Protection	E					

Product Label: CAUTION – May cause irritation to eyes, nose, throat, eyes and skin. Use safety gear including Dust Mask, Safety Gloves and Glasses when handling.

Disclaimer

The content and information made available on this MSDS is to account for the known hazards associated when working with this product and is based on the experience of our company and also several publications. It however does not cover the risks associated with the specific uses of the material and this would be the responsibility of the end-user. It also remains the end-user's responsibility to ensure the adoption of the recommendations. As further information is acquired, we may revise versions. The most recent revision date is stated on the front page of this document.