



Material Safety Data Sheet

1. IDENTIFICATION

COMPANY IDENTIFICATION

Purity Zinc Metals, LLC
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PRODUCT

Product Name: Purity Zinc Dust
Chemical Name: Zinc Dust
Trade Name: Purity Zinc Dust, UltraPure™ Zinc Dust
Chemical Family: Metal / Metal Oxide
Chemical Formula: Zn / ZnO

EMERGENCY TELEPHONE - (931) 552-8080

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2. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS #	Weight %	Occupational Exposure Limits (OEL)	LD ₅₀ /LC ₅₀ Species & Route
Total Zinc		99.0 min	OSHA PEL None Established	No Data
Metallic Zinc	7440-66-6	96.0 min	ACGIH None Established	
Zinc Oxide	1314-13-2	2 – 4	NIOSH None Established	

- OSHA - Occupational Safety & Health Administration
- ACHIH - American Institute for Occupational Safety and Health
- NIOSH - National Institute for Occupational Safety and Health
- PEL - Permissible Exposure Limit
- REL - Recommended Exposure Limit
- TLV - Threshold Limit Value

Note: OEL's for individual jurisdictions may differ from OSHA PEL's. Check with local authorities for the applicable OEL's in your jurisdiction.

OSHA PEL final rule limits for zinc oxide dust are 10 mg/m³ (total) and 5 mg/m³ (respirable). The OSHA PEL final rule limit for zinc oxide fume is 5 mg/m³. Note that the OSHA PEL final rule limits are currently non-enforceable due to court decision. The OSHA PEL transitional limits therefore remain in force at present. They are 15 mg/m³ (total) and 5 mg/m³ (respirable) while the transitional PEL for zinc oxide fume is 5 mg/m³.

The ACGIH TLV for zinc oxide is 2 mg/m³ (respirable fraction) with a Short Term Exposure Limit (STEL) of 10 mg/m³ (respirable fraction).

The NIOSH REL for zinc oxide (dust or fume) is 5 mg/m³. The 10 hour TWA is 15 mg/m³ ceiling limit (15 minute sample) for zinc oxide dust and a 10 mg/m³ STEL for zinc oxide fume (15 minute sample).

3. HAZARDS IDENTIFICATION

Emergency Overview: A greyish dust that may form explosive mixture if dispersed in air as a fine powder and ignited.

Material Safety Data Sheet

Zinc is not a known carcinogen by OSHA, NTP, IARC, ACGIH, or EU.

EU Risk Phrase(s): Not applicable – zinc is not listed as a dangerous substance.

Potential Health Effects: Pure zinc dust is relatively non-toxic to humans by inhalation. Minor inhalation may irritate respiratory tract causing coughing whereas larger doses may give zinc shakes or metal fume fever (a benign transient flu-like condition).

4. FIRST AID MEASURES

Inhalation: Remove exposed person to fresh air immediately. Seek medical attention as soon as possible.

Ingestion: Give 2 to 3 cupfuls of water or milk if victim is conscious. Do not induce vomiting. Get medical attention immediately.

Skin: Wash with soap and water. Seek medical attention if irritation persists.

Eyes: Flush eyes and under eyelids with warm, gently running water for at least 15 minutes. If irritation persists, consult a physician.

5. FIRE FIGHTING MEASURES

Means of Extinction: Blanket with Class D dry powder type extinguisher or smoother with dry sand. Avoid water. Do not disturb until extinguished. Contact with acids and alkali hydroxides results in generation of potentially explosive hydrogen gas.

6. ACCIDENTAL RELEASE MEASURES

Personal Precaution: Wear approved respirator.

Environmental Precautions: Transfer wet zinc dust to an open container in a well-ventilated area until dry. Transfer dry zinc dust into dry containers. Store in a dry area. Avoid getting wet.

Leakage To Water: Report to local environmental authorities for appropriate clean up measures.

Leakage On Roads And Ground: Restrict access to clean up personnel only. Sweep up and keep nuisance dust cloud formation to a minimum.

7. HANDLING AND STORAGE

Avoid spillage. Keep nuisance dust cloud formation to a minimum. No smoking while handling.

Store sealed at room temperature in dry areas indoors.

8. EXPOSURE CONTROLS AND PERSONAL PRTECTION

Keep nuisance dust cloud levels low.

Wear appropriate NIOSH approved respirator when dusting cannot be controlled.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Blue-grey powder
Odour	Odourless
Specific Gravity	7.0 – 7.1
PH	Not Applicable
Flash Point	Not Applicable
Melting Point	419° C
Boiling Point	906° C
Explosive Properties	No risk under normal use and conditions

10. STABILITY AND REACTIVITY

Condition To Avoid: Heat, flames, ignition sources and incompatibles like sulphur, strong oxidizing agents and alkaline hydroxides.

Material Safety Data Sheet

Hazardous Decomposition: Heat generates zinc oxide fume. Contact with acids or alkaline hydroxides may generate hydrogen gas, which is flammable. Reactivity with water is similar but very slow. Under normal conditions, zinc dust is stable.

11. TOXICOLOGICAL INFORMATION

Inhalation: Inhalation of zinc oxide fume from fire or welding on zinc-coated surfaces may cause zinc shakes, metal fume fever, stomach cramps and/or diarrhea.

Ingestion: Large oral intake may produce gastro-intestinal irritation.

Skin Contact: Zinc dust contact causes skin dryness.

Eye Contact: Becomes a mechanical irritant in the eye.

Carcinogenicity: This product is not listed by NTP or IARC and is not regulated as a carcinogen by OSHA.

12. ECOLOGICAL INFORMATION

Zinc: Zinc in the metallic dust form is insoluble but its processing or extended exposure in the aquatic and terrestrial environments may lead to the release of zinc in bioavailable forms. Zinc is mobile and can be toxic in the aquatic environment with water hardness, pH and dissolved organic carbon content being regulating factors. It bioaccumulates in both plants and animals as well as in terrestrial and aquatic systems. Zinc is moderately mobile in soils and is dependent on soil conditions such as cation exchange capacity, pH, redox potential and chemical species present in the soil. Zinc also bioaccumulates in terrestrial plants, vertebrates and mammals with plant uptake dependent on soil composition.

13. DISPOSAL CONSIDERATIONS

Return to manufacturer.

Dispose in accordance with local, provincial, state or national requirements.

14. TRANSPORT INFORMATION

Marine Pollutant - No

Not Regulated: PZM zinc dust is not classified as dangerous goods in U.S. regulations, D.O.T. Canada or International Marine Dangerous Goods regulations.

15. REGULATORY INFORMATION

This product was laboratory tested to determine classification for transportation according to flammable solids, self-heating substances, and substances which on contact with water emit flammable gasses against the following regulations:

1. U.S. Code of Federal Regulations, Transportation, Chapter 49, Parts 100 to 177, Revised as of Oct. 1 – 1992, Part 173, Appendix E
2. Transportation of Dangerous Goods Act and Regulations (Canada)
3. International Marine Dangerous Goods Regulations
4. Dangerous Goods Regulations 1995 International Air Transport Association (IATA) Flammable Solids Division 4.1

Test results confirm that this product did not meet the criteria for inclusion into class 4.1, 4.2 and 4.3 Packaging Group I, II, or III. As such zinc dust containers are not subject to hazardous labelling 4.1, 4.2, or 4.3.

United States

Ingredient Listed on TSCA Inventory	-	Yes
Hazardous Under Communication Standard	-	Yes
CERCLA Section 103 Hazardous Substance	-	Yes RQ is 1,000 lbs (454 kg)
*Reporting required when diameter of solid metal is less than 100 micrometers		
EPCRA Section 302 Extremely Hazardous Substance	-	No

Material Safety Data Sheet

EPCRA Section 313 Toxic Release Inventory

- Zinc Dust – CAS 7440-66-6
Percent by Weight 99% +

Canada

Ingredients listed on Domestic Substance List

- Yes

WHMIS Classification

- Not Applicable Zinc is not a controlled product under CPR

European Union

Listed on the European Inventory of Existing Commercial Chemical Substances

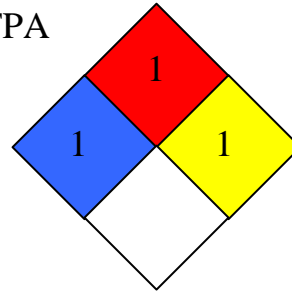
- Yes

16. OTHER INFORMATION

HMIS

Health	1
Flammability	1
Physical Hazard	1

NFPA



Disclaimer: This Material Safety Data Sheet is offered solely for your information, consideration and investigation. Purity Zinc Metals, LLC provides no warranties either expressed or implied and assumes no responsibility for the accuracy or completeness of the data contained herein and expressly disclaims all liability for reliance thereon. The MSDS for this product is provided as a guide for safe handling and usage. Those using the product should read and understand the information herein and properly train those using this product.

Prepared By: Health and Safety Department

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Canada
United States