

MATERIAL SAFETY DATA SHEET (MSDS) ZINC DUST

SECTION 1 - PRODUCER & SUPPLIERS DETAILS


Manufacturer & Supplier: NUMINOR CHEMICAL INDUSTRIES LTD.

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SECTION 2 - CHEMICAL NAME & INFORMATION ON INGREDIENTS

Chemical Name: Zinc Powder, Zinc Dust (CAS : 7440 -66-6) (EINECS: 231-175-3)

Hazard Symbol:  F Highly Flammable

R-Phrases: R15- Contact with water liberates highly flammable gases.
R17- Spontaneously flammable in air.

Formula: Zn and ZnO

Synonyms: Zinc Dust, Zinc Powder, Zinc Blue Powder

% Range: 92-98.0%

SECTION 3 - PHYSICAL & CHEMICAL CHARACTERISTICS

Physical State: Solid

Melting Point: 419.5°C

Boiling Point: 908°C

Specific Gravity: 7.14 g/cm³

Solubility in water: Low.

Molecular Wt. 65.38

Appearance & Odour: Silver/grey powder, odourless.

SECTION 4 - HAZARDS IDENTIFICATION

Physical / chemical hazards :	Appearance: slightly gray solid. Danger! Water-Reactive. May ignite or explode on contact with moist air. Reacts violently and/or explosively with water, steam or moisture. Causes eye and skin irritation. Causes digestive and respiratory tract irritation. Target Organs: Kidneys
Adverse human health effects	
- Inhalation :	Inhalation of fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell count.
- Skin contact :	Skin contact may cause irritation.
- Eye contact :	Excessive dust exposure may cause eye irritation.
- Ingestion :	Health hazard if ingested and can cause abdominal pain, nausea, diarrhea, cramps, and damage to gastrointestinal tract.
-Chronic :	Repeated inhalation may cause chronic bronchitis.

SECTION 5 - FIRE, FIGHTING & EXPLOSION DATA

General Information:	As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Water Reactive. Material will react with water and may release a flammable and/or toxic gas. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. May ignite or explode on contact with steam or moist air.
Flammability:	Flammable
Flash point:	Not Available
Extinguishing media:	Use dry sand or earth to smother fire. DO NOT USE WATER! Do NOT get water inside containers. Contact professional fire-fighters immediately. Cool containers with flooding quantities of water until well after fire is out.
Protection of fire-fighters:	Use breathing apparatus (self-contained breathing apparatus with full face shield). Wear suitable protective clothing.
Emergency Code:	4Y
NFPA Rating:	Health: 2, Flammability: 1, Instability: 1, Special Hazard: W

SECTION 6 - STABILITY & REACTIVITY DATA

Stability:	Stable in dry air. Combines vigorously or explosively with water.
Conditions to Avoid:	Incompatible materials, ignition sources, excess heat, strong oxidants, exposure to moist air or water, mechanical shock.
Incompatibilities:	Halogenated agents, strong oxidizing agents, alkali hydroxides, chlorinated solvents, strong acids, strong bases.
Hazardous combustion or Decomposition Products:	Irritating and toxic fumes and gases, toxic fumes of zinc oxide.

SECTION 7 - Toxicological Information

Acute effects:	
- Inhalation:	n/a
- Dermal:	Moderate irritation to rabbits, mice and guinea pigs with 1% solution applied for 5 days.
- Ingestion:	50 mg/3 times per day caused gastrointestinal problems.
Eyes irritation (rabbit):	420 ug - moderate irritation.
Chronic toxicity:	n/a
Sensitization:	Contact with skin causes irritation.
Carcinogenicity:	NTP: No IARC: No Z List: No OHA Reg: No
Mutagenicity:	In vitro and in vivo test of short-term genotoxicity : no evidence of genotoxicity.
Reproductive toxicity:	No experimental or epidemiological evidence of reproduction toxicity.

SECTION 8 - FIRST AID MEASURES

First aid	
- Skin contact:	Rinse immediately with plenty of soap and water. Remove contaminated clothing and seek medical attention if irritation develops.
- Inhalation:	Remove victim from exposure to fresh air. If feeling unwell, immediately seek medical attention.
- Eye contact:	Rinse immediately with clean water for at least 15 minutes occasionally lifting the upper and lower eyelids. Seek medical attention.
- Ingestion:	If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
Protection of rescue personnel:	Avoid all unnecessary exposure. Use appropriate protection. (see Section 9).

SECTION 9 - PERSONAL PROTECTION & EXPOSURE CONTROLS

- **Respiratory protection:** A respiratory protection program that meets European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use. Follow the respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.
- **Hand protection:** Appropriate gloves to prevent skin exposure.
- **Skin protection:** Appropriate work clothes to prevent skin exposure..
- **Eye protection:** Chemical goggles or safety glasses.
- **Engineering measures:** Use explosion-proof ventilation equipment. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits..

SECTION 10 - ACCIDENTAL RELEASE MEASURES & SPILL LEAK PROCEDURES

- Personal precautions:** Wear suitable gloves and eye/face protection as indicated in Section 8. Avoid dust creation.
- Environmental precautions:** Do not let product enter drains, sewage system, ground water.
- Methods for cleaning up:** Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. Do not expose spill to water.

SECTION 11 - HANDLING AND STORAGE

- Handling & storing:** Good housekeeping - store in a cool dry place - keep containers tightly shut. Keep away from water. Avoid making dust. Wash thoroughly after handling. Avoid contact with skin and eyes. Avoid ingestion and inhalation.
- Packing Materials:** Use only UN approved types of packaging. Water tight.

SECTION 12 - ECOLOGICAL INFORMATION

No information available

SECTION 13 - DISPOSAL CONSIDERATIONS

- Disposal:** Comply with local regulations for disposal. Zinc should be recovered for recycling.
- Waste of residues:** This material and its container must be disposed of as hazardous waste. Because of possible pollution, remove as industrial waste or hazardous waste. Avoid release to the environment. Refer to special instructions/safety data sheets.
- Contaminated packaging:** Keep waste packaging separate.

SECTION 14 - TRANSPORT INFORMATION

Hazard Labels:



4.3

Emergency Code: 4Y
Hazard Symbol: F
UN - No: UN 1436
ADR/IMO-IMDG: 4.3,4.2
Shipping Name: UN 1436 Solid, Dangerous when Wet, Spontaneously Combustible
Packaging Group: II
EMS Code: F-G, S-O

SECTION 15 - REGULATORY INFORMATION

Symbol:



F Highly Flammable

R Phrase(s): R10- Flammable.
R15- Contact with water liberates extremely flammable gas.
R17- Spontaneously flammable in air.

S Phrase(s): S7/8 - Keep container tightly closed and dry..
S43- In case of fire, use dry powder. NEVER USE WATER.

SECTION 16 - OTHER INFORMATION

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MSDS prepared by: AVK

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