

**MATERIAL SAFETY DATA SHEET****Product Name:** Zinc metal granulated**CAS No.:** 7440-66-6**Version:** 0**1. Identification**

**Product Code** : 90592  
**Company Name** : Advent Chembio Private Limited  
**Address** : W-288, MIDC, TTC INDUSTRIAL AREA, THANE-BELAPUR ROAD, RABALE, NAVI MUMBAI - 400 701.  
**E-mail** : [info@adventchembio.com](mailto:info@adventchembio.com)  
**WEBSITE** : [www.adventchembio.com](http://www.adventchembio.com)  
**Company Phone Number** : 022-27690837

**2. Composition/Information on Ingredients**

Ingredient	CAS No	Percent
ZINC	7440-66-6	99-100 %

**3. Hazards Identification**

**Emergency Overview** : WARNING

Suspect cancer hazard - may cause cancer. Harmful if inhaled, absorbed through skin, or swallowed. Irritating to eyes and respiratory system. Can cause adverse reproductive effects - such as birth defects, miscarriages, or infertility. Causes central nervous system effects. Can cause blood disorders. Can cause kidney damage. Suspected of causing genetic defects. Prolonged exposure may cause chronic effects.

OSHA regulatory status : This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

**Saf-T-Data**

Health Rating : 2 - Moderate (Cancer)  
Flammability Rating : 2 - Moderate  
Reactivity Rating : 2 - Moderate  
Contact Rating : 2 - Moderate

**Potential Health Effects**

Routes of exposure : Ingestion. Inhalation. Skin contact. Eye contact.

**Inhalation** : Harmful if inhaled. Dust irritating to respiratory tract. Can cause severe central nervous system depression (including unconsciousness). Inhalation of powder or fumes may cause metal fume fever.

**Ingestion** : Harmful if swallowed. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue,

**MATERIAL SAFETY DATA SHEET****Product Name:** Zinc metal granulated**CAS No.:** 7440-66-6**Version:** 0

mental confusion and blurred vision) and/or damage.

**Skin Contact**

- : Harmful if absorbed through skin. May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage.

**Eye Contact**

Target organs

- : Irritating to eyes.
- : Eyes. Skin. Respiratory system. Central nervous system. Reproductive organs. Blood. Brain. Kidneys. Lung

**Chronic Exposure**

- : Suspect cancer hazard - may cause cancer. Can cause adverse reproductive effects - such as birth defects, miscarriages, or infertility. Suspected of causing genetic defects. Causes central nervous system effects. Can cause kidney damage. Risk of damage to blood system. Can cause lung damage. Lead is accumulated in the body and may cause damage to the brain and nervous system after prolonged exposure.

Potential environmental effects

- : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**4. First Aid Measures****General information**

- : Get medical advice/attention if you feel unwell. If medical advice is needed, have product container or label at hand. Show this safety data sheet to the doctor in attendance.

**Inhalation**

- : Move to fresh air. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen. Call a physician or poison control center immediately.

**Ingestion**

- : Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.

**Skin Contact**

- : Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician or poison control center immediately. Wash clothing separately before reuse. Destroy or thoroughly clean contaminated shoes.

**Eye contact**

- : Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately. In case of irritation from airborne exposure, move to fresh air. Get medical attention immediately.

**Notes to physician**

- : Lead - To avoid further damage, those with kidney, neurological or blood disease should avoid exposure. Exposure during pregnancy should be avoided. Keep victim under observation. Treat symptomatically. Symptoms may be delayed.

**MATERIAL SAFETY DATA SHEET****Product Name:** Zinc metal granulated**CAS No.:** 7440-66-6**Version:** 0**5. Fire fighting measures**

- General fire hazards** : Dust may form explosive mixture with air. Contact with water releases flammable gases, which may ignite spontaneously.
- Suitable (and unsuitable) extinguishing media**
- Suitable extinguishing media** : Dry chemical.
- Unsuitable extinguishing media** : Dousing metallic fires with water may generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment. Do not use halogenated extinguishing agents or foam. Carbon dioxide (CO<sub>2</sub>).
- Specific hazards arising from the chemical** : In the event of fire and/or explosion do not breathe fumes. Use water spray to cool unopened containers
- Special protective equipment and precautions for firefighters**
- Special fire fighting procedures** : Firefighters should wear full protective gear. Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask
- Special protective equipment for fire-fighters** : Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

**6. Accidental Release Measures**

- Personal precautions, protective equipment and emergency procedures** : Keep unauthorized personnel away. Keep upwind. Ventilate closed spaces before entering them. Avoid inhalation of dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Methods and material for containment and cleaning up** : Sweep up and place in a clearly labeled container for chemical waste.  
Clean surface thoroughly to remove residual contamination.
- Notification Procedures** : Prevent entry into waterways, sewer, basements or confined areas. Inform authorities if large amounts are involved.
- Environmental precautions** : Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

# MATERIAL SAFETY DATA SHEET

**Product Name:** Zinc metal granulated

**CAS No.:** 7440-66-6

**Version:** 0

## 7. Handling and Storage

- Precautions for safe handling** : Keep formation of airborne dusts to a minimum. Dust may form explosive mixture with air. Avoid heat, sparks, open flames and other ignition sources. Do not breathe dust or vapor from heated material. Do not get this material in your eyes, on your skin, or on your clothing. Use only with adequate ventilation. Wash thoroughly after handling. See Section 8 of the MSDS for Personal Protective Equipment
- Conditions for safe storage, including any incompatibilities** : Keep containers tightly closed. Store in cool, dry place. Store in a well-ventilated place.

## 8. Exposure Controls Personal Protection

### Control parameters

### Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Form
ACGIH			
LEAD (7439-92-1)	BEL	300.0000 µg/l	
	TWA	0.0500 mg/m3	
ZINC OXIDE (1314-13-2)	STEL	010.0000 mg/m3	Respirable fraction.
	TWA	2.0000 mg/m3	Respirable fraction.
U.S. - OSHA			
LEAD (7439-92-1)	TWA	0.0500 mg/m3	
ZINC OXIDE (1314-13-2)	PEL	15.0000 mg/m3	Total dust.
		5.0000 mg/m3	Respirable fraction
		5.0000 mg/m3	Fume.

- Ventilation System** : Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.  
Explosion proof exhaust ventilation should be used.
- Skin Protection** : Wear appropriate chemical resistant clothing. Wear appropriate chemical resistant gloves.
- Eye Protection:** : Chemical goggles and face shield are recommended.
- Other** : Clothing contaminated with this material may be an increased fire hazard. Wash contaminated clothing as soon as possible.
- Respiratory protection** : If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Respirator type: High-efficiency particulate respirator with full facepiece.
- Hygiene measures** : Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove

**MATERIAL SAFETY DATA SHEET****Product Name:** Zinc metal granulated**CAS No.:** 7440-66-6**Version:** 0

contaminants. Provide eyewash station and safety shower.

**9. Physical and Chemical Properties**

Appearance	:	A bright silver grey metal.
Odor	:	Odorless.
pH	:	No information found.
Melting point/freezing point	:	786.2 °F (419 °C)
Initial boiling point and boiling range	:	1664.6 °F (907 °C)
Flash Point	:	No information found.
Vapor pressure	:	No information found.
Vapor density	:	No information found.
Relative density	:	7.14
Solubility in water	:	Soluble in water.
Solubility (other)	:	No data available.
Formula	:	Zn
Molecular Weight	:	65.39 g/mol

**10. Stability and Reactivity**

<b>Stability</b>	:	Material is stable under normal conditions. Material reacts with water.
<b>Hazardous Decomposition Products</b>	:	Zinc oxide. May include oxides of lead.
<b>Hazardous Polymerization</b>	:	This substance does not polymerize.
<b>Incompatibilities:</b>	:	Water, moisture. Strong oxidizing agents. Strong acids. Strong bases. Halogens. This product may react with some chlorinated and non-chlorinated hydrocarbon solvents.
<b>Conditions to Avoid:</b>	:	Heat, flames and sparks. Exposure to moisture.

**11. Toxicological Information****Information on likely routes of exposure**

<b>Ingestion</b>	:	Dust may irritate throat and respiratory system and cause coughing
<b>Inhalation</b>	:	Harmful if swallowed.
<b>Skin contact</b>	:	Toxic in contact with skin. Causes skin irritation.
<b>Eye contact</b>	:	Causes serious eye irritation.

**Information on toxicological effects**

## MATERIAL SAFETY DATA SHEET

**Product Name:** Zinc metal granulated

**CAS No.:** 7440-66-6

**Version:** 0

### Acute toxicity (list all possible routes of exposure)

- |  |   |  |
|--|---|--|
| <b>Oral Product</b><br>ZINC METAL POWDER (Mixture)                               | : | Acute Oral LD50 Rat: 641 mg/kg estimated   |
| <b>Oral Product</b><br>ZINC (7440-66-6)  | : | Acute Oral LD50 Rat: 630 mg/kg   |
| <b>Oral Product</b><br>ZINC OXIDE (1314-13-2)                                    | : | Acute Oral LD50 Rat: > 5 g/kg  |
| <b>Dermal Product</b>  | : | LD 50 (Rabbit): 580 mg/kg  |
| <b>Inhalation Product</b><br>ZINC METAL POWDER (Mixture)                         | : | Acute Inhalation LC50 Mouse: 373 mg/l estimated  |
| <b>Inhalation Product</b><br>ZINC OXIDE (1314-13-2)                              | : | Acute Inhalation LC50 Mouse: > 5.7 mg/l 4.00 Hours   |
| <b>Repeated dose toxicity Product</b>  | : | No data available.   |
| <b>Skin corrosion/irritation Product</b>   | : | Not classified.  |
| <b>Serious eye damage/eye irritation Product</b>                                 | : | May irritate eyes.   |
| <b>Respiratory or skin sensitization Product</b>                                 | : | Not classified   |
| <b>Carcinogenicity Product</b>   | : | Contains a substance which has been shown to cause cancer in laboratory animals.   |
| <b>IARC Monographs on the Evaluation of Carcinogenic Risks to Humans DIOXANE</b> | : | LEAD (CAS 7439-92-1) : 2B Possibly carcinogenic to humans.   |
| <b>US. National Toxicology Program (NTP) Report on Carcinogens DIOXANE</b>       | : | LEAD (CAS 7439-92-1) : Anticipated carcinogen  |
| <b>ACGIH Carcinogens</b>   | : | LEAD (CAS 7439-92-1) : A3 Confirmed animal carcinogen with unknown relevance to humans   |
| <b>Germ cell mutagenicity</b>  |   |  |
| <b>In vitro Product</b>  | : | Suspected of causing genetic defects.  |
| <b>In vivo Product</b>   | : | Suspected of causing genetic defects.  |
| <b>Reproductive toxicity Product</b>   | : | May damage fertility or the unborn child.  |
| Symptoms and target organs   | : | Irritant effects. Drowsiness and dizziness. Decrease in motor functions. Unconsciousness. Renal injury. Circulatory collapse. Birth defects  |
| Further information  | : | Contains lead which can accumulate in the body. Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain. Danger of very serious irreversible effects. Symptoms may be delayed. |

**MATERIAL SAFETY DATA SHEET****Product Name:** Zinc metal granulated**CAS No.:** 7440-66-6**Version:** 0**12. Ecological Information****Ecotoxicity****Acute hazards to the aquatic environment :**

<b>Fish Product</b>	:	No data available.
ZINC METAL POWDER (Mixture)	:	EC50 Daphnia: 2.8479 mg/l 48.00 hours estimated LC50 Fish: 29.98 mg/l 96.00 hours estimated
ZINC OXIDE (1314-13-2)	:	LC50 Fathead minnow (Pimephales promelas): 2246 mg/l 96.00 hours
LEAD (7439-92-1)	:	LC50 Rainbow trout, donaldson trout (Oncorhynchus mykiss): 1.17 mg/l 96.00 hours
ZINC (7440-66-6)	:	EC50 Water flea (Daphnia magna): 2.8 mg/l 48.00 hours LC50 Fathead minnow (Pimephales promelas): 0.211 mg/l 96.00 hours

**Aquatic invertebrates Product** : No data available.**Chronic hazards to the aquatic environment :**

<b>Fish Product</b>	:	No data available.
<b>Aquatic invertebrates Product</b>	:	No data available.
<b>Toxicity to Aquatic Plants Product:</b>	:	No data available.
<b>Persistence and degradability</b>	:	
<b>Biodegradation Product</b>	:	No data available.
<b>BOD/COD ratio Product</b>	:	No data available.
<b>Bioaccumulative potential</b>	:	
<b>Bioconcentration factor (BCF) Product</b>	:	No data available on bioaccumulation.
<b>Partition coefficient n-octanol / water (log Kow) Product</b>	:	No data available.
<b>Mobility in soil</b>	:	No data available.
<b>Other adverse effects</b>	:	No data available.

**13. Disposal consideration**

<b>Disposal instructions</b>	:	Discharge, treatment, or disposal may be subject to national, state, or local laws. Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
<b>Contaminated packaging</b>	:	Since emptied containers retain product residue, follow label warnings even after container is emptied.

**MATERIAL SAFETY DATA SHEET**

Product Name: Zinc metal granulated

CAS No.: 7440-66-6

Version: 0

**14. Transport Information**

	UN No.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
<b>DOT</b>			Not regulated		
<b>IMDG</b>			Not regulated		
<b>IATA</b>			Not regulated		

**15. Regulatory Information**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Safety, health and environmental regulations/legislation specific for the substance or mixture  
No Data Available.

**16. Other Information**

Issue Date :01/08/2014

Version : 0

**Disclaimer: This Material Safety Data Sheet (MSDS) is for guidance and is based upon information and tests believed to be reliable. ADVENT CHEMBIO PRIVATE LIMITED makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages relating thereto. The data is offered solely for your consideration, investigation, and verification. The data should not be confused with local, state, federal or insurance mandates, regulations, or requirements and CONSTITUTE NO WARRANTY. Any use of this data and information must be determined by the technical instructor in accordance with applicable local, state or federal laws and regulations. The conditions or methods of handling, storage, use and disposal of the product(s) described are beyond the control of ADVENT CHEMBIO PRIVATE LIMITED and may be beyond our knowledge. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STORAGE, USE OR DISPOSAL OF THIS PRODUCT(S).**