

MATERIAL SAFETY DATA SHEET

Product Name: Zinc oxide

CAS No.: 1314-13-2

Version: 0

1. Identification

Product Code : 90270, 90593
Company Name : Advent Chembio Private Limited
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2. Composition/Information on Ingredients

Ingredient	CAS No	Percent
ZINC OXIDE	1314-13-2	99- 100%

3. Hazards Identification**Hazard classification****Health hazards**

Specific target organ toxicity - single exposure : Category 3

Environmental hazards

Acute hazards to the aquatic environment : Category 1

Chronic hazards to the aquatic environment : Category 1

Labels elements**Hazard symbol**

Signal word : Warning

Hazard statement : May cause respiratory irritation.
Very toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention : Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Avoid release to the environment.

MATERIAL SAFETY DATA SHEET**Product Name:** Zinc oxide**CAS No.:** 1314-13-2**Version:** 0

- Response** : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. Collect spillage.
- Storage** : Store in a well-ventilated place. Keep container tightly closed. Store locked up.
- Disposal** : 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.
- Other hazards which do not result in GHS classification** : None.

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.
- Ingestion** : Rinse mouth thoroughly. Drink a few glasses of water or milk. Call a POISON CENTER or doctor/physician if you feel unwell.
- Inhalation** : Move to fresh air. Get medical attention if symptoms persist.
- Skin contact** : Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. Wash contaminated clothing before reuse.
- Eye contact** : Flush thoroughly with water. If irritation occurs, get medical assistance.
- Most important symptoms/effects, acute and delayed** : May cause irritation to skin, eyes, and respiratory tract.
- Indication of immediate medical attention and special treatment needed** : Treat symptomatically. Symptoms may be delayed.

MATERIAL SAFETY DATA SHEET

Product Name: Zinc oxide

CAS No.: 1314-13-2

Version: 0

5. Fire fighting measures

- General fire hazards** : No unusual fire or explosion hazards noted .
- Suitable (and unsuitable) extinguishing media**
- Suitable extinguishing media** : Use fire-extinguishing media appropriate for surrounding materials.
- Unsuitable extinguishing media** : None known.
- Specific hazards arising from the chemical** : This product is not flammable.
- Special protective equipment and precautions for firefighters**
- Special fire fighting procedures** : Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out..
- 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. Use personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Methods and material for containment and cleaning up** : Avoid dust formation. 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.

7. Handling and Storage

- Precautions for safe handling** : Use personal protective equipment as required. Avoid contact with eyes, skin, and clothing. Avoid dust formation. Avoid inhalation of dust. Use only with adequate ventilation. Wash thoroughly after handling.
- Conditions for safe storage, including any incompatibilities** : Keep containers tightly closed. Store in a well-ventilated place. Store in a dry place. Store away from incompatible materials.

MATERIAL SAFETY DATA SHEET

Product Name: Zinc oxide

CAS No.: 1314-13-2

Version: 0

8. Exposure Controls Personal Protection

Control parameters

Occupational exposure limits

Chemical identity	Type	Exposure Limit values	Source
ZINC OXIDE	TWA	2 mg/m ³	US. ACGIH Threshold Limit Values (2011)
	STEL	10 mg/m ³	US. ACGIH Threshold Limit Values (2011)
	REL	5 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	REL	5 mg/m ³	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
	Ceil_Time	15 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	STEL	10 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	PEL	5 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	PEL	15 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	PEL	5 mg/m ³	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
	TWA	10 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	STEL	10 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	5 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
	TWA	5 mg/m ³	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)

Appropriate engineering controls : No data available.

Individual protection measures, such as personal protective equipment

General information : 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

MATERIAL SAFETY DATA SHEET**Product Name:** Zinc oxide**CAS No.:** 1314-13-2**Version:** 0

	levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. Use explosion-proof ventilation equipment.
Eye/face protection	: Use tight fitting goggles if dust is generated.
Hand protection	: Wear protective gloves.
Other	: Wear suitable protective clothing.
Respiratory protection	: In case of inadequate ventilation use suitable respirator.
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 to remove contaminants. Discard contaminated footwear that cannot be cleaned. Provide eyewash station and safety shower.

9. Physical and Chemical Properties

Appearance	: White or yellowish white Solid Powder .
Odor	: Odorless
pH	: 6.9 - 7.4
Melting point/freezing point	: 1,975 °C
Initial boiling point and boiling range	: No data available.
Flash Point	: Not applicable
Vapor pressure	: No data available.
Vapor density	: No data available.
	: 5.61 (20 °C)
Relative density	
Solubility in water	: 0.004 g/l (18 °C) .
Solubility (other)	: No data available.
Formula	: OZn
Molecular Weight	: 81.39 g/mol

10. Stability and Reactivity

Reactivity	: No dangerous reaction known under conditions of normal use .
Chemical stability	: Material is stable under normal conditions.
Possibility of hazardous reactions	: Hazardous polymerization does not occur.
Conditions to avoid	: Excessive heat.
Incompatible materials	: Strong oxidizing agents. Chlorinated compounds. Magnesium.
Hazardous decomposition products	: Zinc oxide.

MATERIAL SAFETY DATA SHEET

Product Name: Zinc oxide

CAS No.: 1314-13-2

Version: 0

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

- Ingestion** : May cause irritation of the gastrointestinal tract.
Inhalation : May cause irritation to the respiratory system.
Skin contact : Causes skin irritation.
Eye contact : Causes serious eye irritation.

Information on toxicological effects**Acute toxicity (list all possible routes of exposure)**

- Oral Product** : LD 50 (Rat): > 5 g/kg
Dermal Product : No data available.
Inhalation Product : LC 50 (Mouse, 4 h): > 5.7 mg/l
Repeated dose toxicity Product : No data available.
Skin corrosion/irritation Product : Causes skin irritation.
Serious eye damage/eye irritation Product : Causes serious eye irritation.
Respiratory or skin sensitization Product : Not a skin sensitizer.
Carcinogenicity Product : This substance has no evidence of carcinogenic properties.
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans DIOXANE : No carcinogenic components identified.
US. National Toxicology Program (NTP) Report on Carcinogens DIOXANE : No carcinogenic components identified.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) : No carcinogenic components identified.
Germ cell mutagenicity In vitro Product : No mutagenic components identified.
In vivo Product : No mutagenic components identified.
Reproductive toxicity Product : No components toxic to reproduction.
Specific target organ toxicity - single exposure Product : Respiratory tract irritation.
Specific target organ toxicity - repeated exposure Product : None known.
Aspiration hazard Product : Not classified
Other effects : None known .

MATERIAL SAFETY DATA SHEET

Product Name: Zinc oxide

CAS No.: 1314-13-2

Version: 0

12. Ecological Information**Ecotoxicity****Acute hazards to the aquatic environment :**

Fish Product : No data available .
Specified substance(s): ZINC OXIDE : LC 50 (Striped bass (*Morone saxatilis*), 48 h): 0.25 - 2.46 mg/l Mortality
LC 50 (Fathead minnow (*Pimephales promelas*), 96 h): 2,246 mg/l Mortality .

Aquatic invertebrates Product : No data available.
Specified substance(s): ZINC OXIDE : LC 50 (Water flea (*Daphnia magna*), 48 h): 0.098 mg/l Mortality

Chronic hazards to the aquatic environment :

Fish Product : No data available.
Aquatic invertebrates Product : No data available.
Toxicity to Aquatic Plants Product: : No data available.
Persistence and degradability
Biodegradation Product : The product is not readily biodegradable .
BOD/COD ratio Product : No data available.
Bioaccumulative potential
Bioconcentration factor (BCF) Product : No data available on bioaccumulation.
Partition coefficient n-octanol / water (log Kow) Product : No data available.
Mobility in soil : No data available.
Other adverse effects : Very toxic to aquatic life with long lasting effects.

13. Disposal consideration

Disposal instructions : Discharge, treatment, or disposal may be subject to national, state, or local laws.

Contaminated packaging : Since emptied containers retain product residue, follow label warnings even after container is emptied.

MATERIAL SAFETY DATA SHEET

Product Name: Zinc oxide

CAS No.: 1314-13-2

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14. Transport Information

	UN No.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
DOT	UN 3077	ZINC OXIDE	9	III	No
IMDG	UN 3077	ZINC OXIDE	9	III	No
IATA	UN 3077	ZINC OXIDE	9	III	No

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

NFPA Hazard ID



Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

Issue Date :01/08/2014

Version : 0

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