

ZINC OXIDE

1. IDENTIFICATION

Product Name: Zinc Oxide
INCI Name: Zinc Oxide
CAS#: 1314-13-2
Product Form: Powder
Product Use: Cosmetic use
Distributor: Avena Lab, Farmadria d.o.o.
Address: Heroja Pinkija 44, Vršac
Telephone: +381(0)695565028 or +381(0)695565029
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2. HAZARD(S) IDENTIFICATION

GHS Classification: Not classified
GHS Labeling: Not a dangerous substance according to GHS
GHS Hazard Pictograms: None
GHS Hazard Statements: None
GHS Precautionary Statements: None
Potential Health Hazards: Eyes: Not expected to be irritant
Inhalation: Not expected to be irritant.
Skin: Not expected to be irritant.
Ingestion: Not expected to be irritant.
NFPA Ratings (704):
Health 1
Flammability 0
Reactivity 0
Specific Hazard E Mask, gloves, and goggles are recommended

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS number	Weight %	Molecular Weight
Zinc Oxide	1314-13-2	100%	81.38 g/mol

4. FIRST-AID MEASURES

Eyes:	Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Inhalation:	Remove from exposure, lie down. Move to fresh air. If not breathing, give artificial respiration. Immediate medical attention is required.
Skin:	Wash off immediately with soap and plenty of water while removing all contaminated clothing and shoes. Obtain medical attention. Take off contaminated clothing and shoes immediately.
Ingestion:	Drink plenty of water. If possible, drink milk afterwards. Do Not Induce Vomiting! Never give anything by mouth to an unconscious person. Call a physician immediately.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:	Water spray, fog, CO ₂ , dry chemical, or alcohol resistant foam.
Unsuitable extinguishing media:	Do not use a solid water stream as it may scatter and spread fire.
Specific hazards arising from the chemical:	Fire may produce irritating, corrosive and/or toxic gases.
Special protective equipment and precautions for firefighters:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection. Wear self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode when fighting fires.
Fire fighting instructions:	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage. Ventilate closed spaces before entering them. Keep run-off water out of sewers and water sources. Dike for water control.
Specific methods:	Use water spray to cool unopened containers.
General fire hazards:	Static charges generated by emptying package in or near flammable vapor may cause flash fire.

6. ACCIDENTAL RELEASE MEASURES

**Personal precautions,
protective equipment and
emergency procedures:
(Methods and materials
for containment and
cleaning up)**

Eliminate all sources of ignition. Avoid contact with skin or inhalation of spillage, dust or vapor. Keep unnecessary personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Collect and dispose of spillage as indicated in section 13 of the SDS. Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or recover using pumps. The product is immiscible with water and will spread on the water surface. Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Never return spills in original containers for re-use. This material and its container must be disposed of as hazardous waste. Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Prevent product from entering drains. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Environmental precautions:

Retain and dispose of contaminated wash water. Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so.

7. HANDLING AND STORAGE

Precautions for safe handling:

Do not handle or store near an open flame, heat or other sources of ignition. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wash thoroughly after handling.

**Conditions for safe storage,
including any incompatibilities:**

Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits:

This substance has no PEL, TLV, or other recommended exposure limit.

Biological limit values:

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls:

Use explosion-proof ventilation equipment to stay below exposure limits. Adequate ventilation should be provided so that exposure limits are not exceeded.

Individual protection measures, such as personal protective equipment

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection: Chemical resistant gloves.
 Other: Wear suitable protective clothing.

Respiratory protection: Respiratory protection not required. If ventilation is insufficient, suitable respiratory protection must be provided.

Thermal hazards: Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations: 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 contaminants.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Solid, powder or pellet, granular
Odor:	Odorless
Odor Threshold:	No data available
Color:	White, off-white, cream, grayish, or yellowish
Molecular Weight:	81.38 (ZnO)
pH:	Neutral, 6.8-8 (7.37 nominal)
Boiling Point:	Not applicable; substance decomposes before boiling
Melting Point:	Will not melt. Malleable above 300°C
Relative Density:	5.68 g/cm ³
Partition Coefficient:	Not applicable to inorganic substances
Viscosity:	No data available
Oxidizing Properties:	No data available
Granulometry:	D50 1.05µm, D80 <20µm
Vapor Pressure:	Not applicable (melting point above 300°C)
Vapor Density:	Not applicable
Evaporation Rate:	No data available
Flammability:	Not flammable. Will not burn
Upper/lower Explosive Limit:	Not applicable
Flash Point:	Not applicable to inorganic substances
Specific Gravity:	5.68 g/cm ³
Solubility:	In bases and acids
Auto-Ignition Temperature:	Not auto-flammable
Decomposition Temperature:	Not applicable
Explosive Properties:	No data available
Freezing Point:	Will not freeze

10. STABILITY AND REACTIVITY

Reactivity:	Stable under normal dry air conditions.
Chemical Stability:	Product is stable
Possibility of Hazardous Reactions:	None.
Conditions to Avoid:	Keep from getting wet
Hazardous Decomposition Products:	None
Incompatible Materials:	Heated magnesium. Chlorinated rubber above 25°C.
Decomposition:	Product decomposes in acids and bases.
Degradation:	Slow degrade to zinc carbonate (not hazardous)

11. TOXICOLOGICAL INFORMATION

Acute Toxicity:	With LD50 values consistently exceeding 2000 mg/kg bw, slightly soluble compounds such as, zinc oxide (LD50 ranges between 5000-15000 mg/kg bw) show low level of acute oral toxicity, not leading to classification for acute oral toxicity. Zinc oxide is shown to be of low acute inhalation toxicity (i.e., LC50 values of >5.7 mg/L/4hrs), not leading to classification for acute inhalation toxicity.
Skin:	Not irritant
Eyes:	Not irritant
Respiratory:	Not irritant
Ingestion:	Not irritant (ZnO is used as a human vitamin supplement)
Carcinogenicity:	Not a NTP/IARC Carcinogen
Teratogenicity:	No data available
Germ Cell Mutagenicity:	No biologically relevant genotoxic activity.
Embryotoxicity:	No data available
Specific Target Organ Toxicity:	Not available
Reproductive Toxicity:	No evidence of reproductive toxicity
Respiratory/Skin Sensitization:	Not available
Respiratory/Skin Sensitization:	No data available
Corrosivity:	No data available
Sensitization:	No sensitizing effects known
Irritation:	No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Aquatic Vertebrate: Acute EC50: 0.413 mg/L Zn (48h) (Ceriodaphnia dubia)

Aquatic Invertebrate: Acute EC50: 0.136 mg/L Zn (72h) (Selenastrum capricornutum)

62% solubilization capacity at 1mg/L at pH 8:

For pH <7: 0.67 mg Zn/L (based on 48h Ceriodaphnia dubia test cf. above)

For pH >7-8.5: 0.21 mg Zn/L (based on 72h Selenastrum capricornutum test cf. above)

Terrestrial: No data available

Persistence and Degradability: N/A, zinc is an element

Bioaccumulative Potential: N/A, ZnO does not bioaccumulate or biomagnify

Mobility in Soil: N/A

PBT and vPvB Assessment: N/A, zinc oxide is not a PBT or vPvB.

Other Adverse Effects: None

13. DISPOSAL CONSIDERATIONS

Disposal instructions:

Do not discharge into drains, water courses or onto the ground. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container.

Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations:

Dispose in accordance with all applicable regulations.

Hazardous waste code:

Not established.

Waste from residues / unused products:

Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

Transport	Transport	Hazard class	Packing group	UN number
Land	RID/ADR	Not Regulated	Not Regulated	Not Regulated
Maritime	IMDG			
Air	IATA/DGR			

15. REGULATORY INFORMATION

TSCA Inventory Status: Yes, listed, notification not required.

DSCL (EEC): Yes, listed.

NDSL (Canada): No, not listed, notification not required.

EU EINECS/ELINCS/NLP: EINECS: Yes, on inventory.

ELINCS: No, notification/reporting not required.

China IECSC: Yes, listed.

China IECIC (06.30.2014): No data available

Australia AICS: Yes, listed.

ASIA-PAC: Yes, listed.

SWISS: Yes, listed.

Philippines PICCS: Yes, listed.

Japan ENCS: Yes, listed.

Korea KECI: Yes, listed.

New Zealand: Yes, listed.

Taiwan: Yes, listed.

US Regulations: Not transport regulated in the US (USDOT 49CFR172), Canada, or Mexico.

16. OTHER INFORMATION

Disclaimer: Avena Lab, Farmadria d.o.o. cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The above information relates only to this product and not to its use in combination with any other material or any particular process and is designed only as guidance for the safe handling, use, processing, storage, transportation, and disposal and should not be considered as a guarantee or quality specification. It is the sole responsibility of the individual(s) purchasing this product to assess its' safety in the final application. The above information is based on data provided by and collected from recognized sources such as distributors, manufacturers, and technical groups and is considered to be accurate to the best of our knowledge. Appropriate warnings and safe handling procedures should be provided to all handlers and users, taking into account the intended use and the specific conditions and factors relating to such use in accordance with all applicable laws and regulations.