

SAFETY DATA SHEET

ACCORDING TO REGULATION (EC) 1907/2006

Product name: Zinc Oxide, Nano

Creation date: 23.03.2026, Revision: 23.03.2026, Version: 1.0

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

Product name

Zinc Oxide, Nano

Product code

[AL00393]

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses

Raw material for cosmetic products.

Uses advised against

No information.

1.3 Details of the supplier of the safety data sheet

Supplier

Farmadria DOO
Heroja Pinkija 44
26300 Vršac, Serbia
+381695565029
info@avenalab.com

1.4 Emergency Telephone Number

Emergency

112

Supplier

+381695565029

SECTION 2: HAZARDS IDENTIFICATION

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2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Aquatic Acute 1; H400 Very toxic to aquatic life.

Aquatic Chronic 1; H410 Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)



Signal word: WARNING

Hazard statements:

H410 Very toxic to aquatic life with long lasting effects.

Supplemental hazard information (EU):

Not applicable.

Precautionary statements:

P102 Keep out of reach of children.

P273 Avoid release to the environment.

P501 Dispose of contents/container in accordance with national regulation.

2.3 Other hazards

PBT/vPvB

No information.

Endocrine disrupting properties

The product does not contain substances with the potential for endocrine disorders.

Additional information

No information.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

For mixtures see 3.2.

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3.2 Mixtures

| Name | CAS EC Index REACH | % | Classification according to Regulation (EC) No 1272/2008 (CLP) | Specific Concentration Limits | Notes for substances |
|------------|--|-----|---|-------------------------------------|-------------------------|
| zinc oxide | 1314-13-2 215-222-5 030-013-00-7 | ≥97 | Aquatic Acute 1; H400; M = 1 Aquatic Chronic 1; H410; M = 1 | / | / |

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General notes

Never give anything by mouth to an unconscious person. Place patient in recovery position and ensure airway patency. When in doubt or if feeling unwell seek medical assistance. Show the safety data sheet and label to the physician.

Following inhalation

Remove patient to fresh air - move out of dangerous area. Obtain professional medical help!

Following skin contact

Take off all contaminated clothing. Areas of the body that have come into contact with the product must be rinsed with water. If symptoms develop and persist, seek medical attention.

Following eye contact

Immediately flush eyes with running water, keeping eyelids apart. If irritation persists, seek professional medical attention.

Following ingestion

Do not induce vomiting! Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. Consult a physician! Show the physician the safety data sheet or label.

4.2 Most important symptoms and effects, both acute and delayed

Following inhalation

No information.

Following skin contact

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Contact with skin may cause irritation (redness, itching).

Following eye contact

Contact with eyes can cause irritation (redness, tearing, pain).

Following ingestion

May cause nausea/vomiting and diarrhea. May cause abdominal discomfort.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Carbon dioxide. Dry chemical powder. Water spray. Alcohol resistant foam.

Unsuitable extinguishing media

Full water jet.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

In case of a fire toxic gases can be generated; do not inhale gases/smoke.

5.3 Advice for firefighters

Protective actions

In case of fire or heating do not breathe fumes/vapours. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

Firefighters should wear appropriate protective clothing for firefighters (including helmets, protective boots and gloves) (BS EN 469) and self-contained breathing apparatus (SCBA) with a full face-piece (BS EN 137).

Additional information

Contaminated firefighting water and fire residues must be disposed of in accordance with the local regulations.

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SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Protective equipment

No information.

Precautionary measures

Ensure adequate ventilation.

Emergency procedures

No action shall be taken involving any personal risk or without suitable training. Prevent access to unprotected personnel. Evacuate the danger zone. Avoid breathing dust. Avoid contact with skin, eyes and clothing.

For emergency responders

Use personal protective equipment.

6.2 Environmental precautions

Do not allow product to reach water/drains/sewage systems or permeable soil. In case of release into the environment, inform the relevant authorities.

6.3 Methods and material for containment and cleaning up

For containment

No information.

For cleaning up

Prevent release into the sewer, water, basements or confined areas. Clean contaminated area with plenty of water.

Other information

No information.

6.4 Reference to other sections

See also sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

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7.1 Precautions for safe handling

Protective measures

Measures to prevent fire

Ensure adequate ventilation.

Measures to prevent aerosol and dust generation

Prevent dust formation.

Measures to protect the environment

Avoid release to the environment.

Other measures

No information.

Advice on general occupational hygiene

Use good personal hygiene practices – wash hands at breaks and when done working with material. Do not eat, drink or smoke while working. Avoid contact with skin, eyes and clothes. Remove contaminated clothes and wash them before reuse. Wear suitable protective equipment; see Section 8.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Keep in a cool, dry and well ventilated place. Keep away from food, drink and animal feeding stuffs.

Packaging materials

Store only in original container.

Requirements for storage rooms and vessels

Close opened containers after use. Put the containers upright to prevent from leaking. Do not store in unlabelled containers.

Storage temperature

No information.

Storage class

No information.

Further information on storage conditions

No information.

7.3 Specific end use(s)

Recommendations

No information.

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Industrial sector specific solutions

No information.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure limit values

No information.

Information on monitoring procedures

BS EN 14042:2003 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. BS EN 689:2018 Workplace exposure. Measurement of exposure by inhalation to chemical agents. Strategy for testing compliance with occupational exposure limit values. BS EN 482:2021 Workplace exposure. Procedures for the determination of the concentration of chemical agents. Basic performance requirements.

DNEL/DMEL values

For product

No information.

For components

No information.

PNEC values

For product

No information.

For components

No information.

8.2 Exposure controls

Appropriate engineering control

Substance/mixture related measures to prevent exposure during identified uses

Use good personal hygiene practices – wash hands at breaks and when done working with material. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothes. Do not eat, drink or smoke while working. Do not breathe dust.

Structural measures to prevent exposure

No information.

Organisational measures to prevent exposure

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Remove all contaminated clothes immediately and wash them before reuse.

Technical measures to prevent exposure

Provide good ventilation and local exhaust in areas with increased concentration. Keep away from food, drink and animal feeding stuffs.

Personal protective equipment

Eye and face protection

Tight fitting protective goggles (EN 166).

Hand protection

Protective gloves (EN ISO 374). Observe the manufacturer's instructions regarding the use, storage, maintenance and replacement of gloves. In case of damage or at the first signs of wear and tear, change the gloves immediately. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. The penetration time is determined by the protective glove manufacturer and must be observed.

Appropriate materials

No information.

Skin protection

Cotton protective clothing and shoes that cover the entire foot (BS EN ISO 20345:2022). At high risk of skin exposure chemical suits (BS EN 13034:2005+A1:2009) and boots may be required (BS EN ISO 20345:2022+A1:2024).

Respiratory protection

In case of insufficient ventilation wear suitable respiratory protection. Mask with dust filter (P2) or FFP2 (EN 149:2001+A1:2009).

Thermal hazards

No information.

Environmental exposure controls

Substance/mixture related measures to prevent exposure

No information.

Instruction measures to prevent exposure

No information.

Organisational measures to prevent exposure

No information.

Technical measures to prevent exposure

Do not allow product to reach drains, sewage systems or ground water.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Important health, safety and environmental information

| | |
|--|-----------------|
| Physical state | solid |
| Shape | powder |
| Colour | white |
| Odour | No information. |
| Odour threshold | No information. |
| Melting/freezing point or softening point | No information. |
| Boiling point or initial boiling point and boiling range | No information. |
| Flammability | No information. |
| Lower and upper explosion limit | No information. |
| Flash point | No information. |
| Auto-ignition temperature | No information. |
| Decomposition temperature | No information. |
| pH | No information. |
| Viscosity | No information. |
| Solubility | No information. |
| Partition coefficient n-octanol/water (log value) | No information. |
| Vapour pressure | No information. |
| Density / weight | No information. |
| Relative vapour/gas density | No information. |
| Particle characteristics | No information. |

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9.2 Other information

Information with regard to physical hazard classes

No information.

Other safety characteristics

No information.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

No information.

10.2 Chemical stability

Product is stable under normal conditions of use, recommended handling and storage conditions.

10.3 Possibility of hazardous reactions

No information.

10.4 Conditions to avoid

No information.

10.5 Incompatible materials

Moisture.

10.6 Hazardous decomposition products

Under normal use conditions no hazardous decomposition products are expected. In case of fire/explosion vapours/gases that pose a health hazard are released.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

(a) Acute toxicity

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No information.

Additional information

The product is not classified as acutely toxic.

(b) Skin corrosion/irritation

No information.

Additional information

The product is not classified as irritating to skin.

(c) Serious eye damage/irritation

No information.

(d) Respiratory or skin sensitisation

No information.

Additional information

The product is not classified as sensitising.

(e) (Germ cell) mutagenicity

No information.

(f) Carcinogenicity

No information.

(g) Reproductive toxicity

No information.

Summary of evaluation of the CMR properties

The product is not classified as carcinogenic, mutagenic or toxic for reproduction.

(h) STOT-single exposure

No information.

Additional information

STOT SE (single exposure): Not classified.

(i) STOT-repeated exposure

No information.

Additional information



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STOT RE (repeated exposure): Not classified.

(j) Aspiration hazard

No information.

Symptoms related to the physical, chemical and toxicological characteristics

No information.

Interactive effects

No information.

11.2 Information on other hazards

Endocrine disrupting properties

The product does not contain substances with the potential for endocrine disorders.

Other information

No information.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Acute (short-term) toxicity

For components

| Name | Type | Value | Exposure time | Species | Organism | Method | Remark |
|------------|------------------|-----------|---------------|-----------|--|--------|--------|
| zinc oxide | LC ₅₀ | 1.1 mg/L | 96 h | fish | <i>Oncorhynchus mykiss</i> | / | / |
| zinc oxide | EC ₅₀ | 1.7 mg/L | 48 h | crustacea | <i>Daphnia magna</i> | / | / |
| zinc oxide | EC ₅₀ | 0.14 mg/L | 72 h | algae | <i>Pseudokirchneriella subcapitata</i> | / | / |

Chronic (long-term) toxicity

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For components

| Name | Type | Value | Exposure time | Species | Organism | Method | Remark |
|------------|------|------------|---------------|---------|----------|--------|--------|
| zinc oxide | NOEC | 0.53 mg/L | / | fish | / | / | / |
| zinc oxide | NOEC | 0.024 mg/L | / | algae | / | / | / |

12.2 Persistence and degradability

Abiotic degradation, physical- and photo-chemical elimination

No information.

Biodegradation

For components

| Name | Type | Rate | Time | Evaluation | Method | Remark |
|------------|---------------------|----------------|------|------------|--------|--------|
| zinc oxide | solubility in water | 0.1 - 100 mg/L | / | / | / | / |

12.3 Bioaccumulative potential

Partition coefficient n-octanol/water (log value)

No information.

Bioconcentration factor (BCF)

For components

| Name | Species | Organism | Value | Duration | Evaluation | Method | Remark |
|------------|---------|----------|-------|----------|------------|--------|--------|
| zinc oxide | BCF | / | > 175 | / | / | / | / |

12.4 Mobility in soil

Known or predicted distribution to environmental compartments

No information.

Surface tension

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No information.

Adsorption/Desorption

No information.

12.5 Results of PBT and vPvB assessment

No evaluation.

12.6 Endocrine disrupting properties

The product does not contain substances with the potential for endocrine disorders.

12.7 Other adverse effects

No information.

12.8 Additional information

For product

Very toxic to aquatic organisms. Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product / Packaging disposal

Waste chemical

Do not allow product to reach drains/sewage systems. Disposal must be made according to official regulations: deliver it to authorised collector/remover/transformer of hazardous waste.

Waste codes / waste designations according to LoW

No information.

Packaging

Deliver completely emptied containers to approved waste disposal authorities. Uncleaned containers are classified as hazardous waste - they should be handled in the same manner as the contents.

Waste codes / waste designations according to LoW

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Waste treatment-relevant information

No information.

Sewage disposal-relevant information

No information.

Other disposal recommendations

No information.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number or ID number

| ADR/RID | IMDG | IATA | ADN |
|---|---|---|---|
| Not dangerous according to transport regulations. | Not dangerous according to transport regulations. | Not dangerous according to transport regulations. | Not dangerous according to transport regulations. |

14.2 UN proper shipping name

| ADR/RID | IMDG | IATA | ADN |
|--------------------------|--------------------------|--------------------------|--------------------------|
| Not given/not applicable | Not given/not applicable | Not given/not applicable | Not given/not applicable |

14.3 Transport hazard class(es)

| ADR/RID | IMDG | IATA | ADN |
|--------------------------|--------------------------|--------------------------|--------------------------|
| Not given/not applicable | Not given/not applicable | Not given/not applicable | Not given/not applicable |

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14.4 Packing group

| ADR/RID | IMDG | IATA | ADN |
|--------------------------|--------------------------|--------------------------|--------------------------|
| Not given/not applicable | Not given/not applicable | Not given/not applicable | Not given/not applicable |

14.5 Environmental hazards

| ADR/RID | IMDG | IATA | ADN |
|---------|------|------|-----|
| NO | NO | NO | NO |

14.6 Special precautions for user

| ADR/RID | IMDG | IATA | ADN |
|--|--|------|--|
| Limited quantities: Not given/not applicable | Limited quantities: Not given/not applicable | | Limited quantities: Not given/not applicable |

14.7 Maritime transport in bulk according to IMO instruments

| ADR/RID | IMDG | IATA | ADN |
|---------|--------------------------|------|-----|
| / | Not given/not applicable | / | / |

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

- Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (including last amendment Commission Regulation (EU) 2020/878)
- Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
- EH40/2005 Workplace exposure limits (Fourth Edition 2020)

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Information according 2004/42/EC about limitation of emissions of volatile organic compounds (VOC-guideline)

not applicable

Ingredients according to Regulation (EC) No 648/2004 on detergents

No information.

Special instructions

Observe the regulations on employment and protection against dangerous substances for young people, pregnant women and nursing mothers.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: OTHER INFORMATION

Indication of changes

No information.

Key literature references and sources for data

No information.

Abbreviations and acronyms

ATE - Acute Toxicity Estimate
ADR - Agreement concerning the International Carriage of Dangerous Goods by Road
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
CEN - European Committee for Standardisation
C&L - Classification and Labelling
CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
CAS# - Chemical Abstracts Service number
CMR - Carcinogen, Mutagen, or Reproductive Toxicant
CSA - Chemical Safety Assessment
CSR - Chemical Safety Report
DMEL - Derived Minimal Effect Level
DNEL - Derived No Effect Level
DPD - Dangerous Preparations Directive 1999/45/EC
DSD - Dangerous Substances Directive 67/548/EEC
DU - Downstream User
EC - European Community
ECHA - European Chemicals Agency
EC-Number - EINECS and ELINCS Number (see also EINECS and ELINCS)
EEA - European Economic Area (EU + Iceland, Liechtenstein and Norway)

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EEC - European Economic Community
EINECS - European Inventory of Existing Commercial Substances
ELINCS - European List of notified Chemical Substances
EN - European Standard
EQS - Environmental Quality Standard
EU - European Union
Euphrac - European Phrase Catalogue
EWC - European Waste Catalogue (replaced by LoW – see below)
GES - Generic Exposure Scenario
GHS - Globally Harmonized System
IATA - International Air Transport Association
ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air
IMDG - International Maritime Dangerous Goods
IMSBC - International Maritime Solid Bulk Cargoes
IT - Information Technology
IUCLID - International Uniform Chemical Information Database
IUPAC - International Union for Pure Applied Chemistry
JRC - Joint Research Centre
Kow - octanol-water partition coefficient
LC50 - Lethal Concentration to 50 % of a test population
LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)
LE - Legal Entity
LoW - List of Wastes (see <http://ec.europa.eu/environment/waste/framework/list.htm>)
LR - Lead Registrant
M/I - Manufacturer / Importer
MS - Member States
MSDS - Material Safety Data Sheet
OC - Operational Conditions
OECD - Organization for Economic Co-operation and Development
OEL - Occupational Exposure Limit
OJ - Official Journal
OR - Only Representative
OSHA - European Agency for Safety and Health at work
PBT - Persistent, Bioaccumulative and Toxic substance
PEC - Predicted Effect Concentration
PNEC(s) - Predicted No Effect Concentration(s)
PPE - Personal Protection Equipment
(Q)SAR - Qualitative Structure Activity Relationship
REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals (Regulation (EC) No 1907/2006)
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
RIP - REACH Implementation Project
RMM - Risk Management Measure
SCBA - Self-Contained Breathing Apparatus
SDS - Safety data sheet
SIEF - Substance Information Exchange Forum
SME - Small and Medium sized Enterprises
STOT - Specific Target Organ Toxicity
(STOT) RE - Repeated Exposure
(STOT) SE - Single Exposure

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SVHC - Substances of Very High Concern

UN - United Nations

vPvB - Very Persistent and Very Bioaccumulative

List of relevant H phrases

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

