

MATERIAL SAFETY DATA SHEET

In Accordance with regulation 2015/830

Product Name: **Nanosun Zinc Oxide P99/30 20KG**

Page: 1 of 7

Issue Date: Septemeber 2019

Version: 4

Company Supplier: Micronisers Australasia Pty Ltd., 6-8 England Street, Dandenong VIC 3175, Australia;
Telephone +613 9768 3277. Replaces Data Sheet of July 2016

Classified as Hazardous

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- 1.1 **Product identifier**
Trade Name: Nanosun ZincOxide P99/30 20 KG
Article No.: n.av.
Preparation No.: n.av.
Registration No.: n.av.
- 1.2 **Relevant identified uses of the substance or mixture and uses advised against**
 Use: UV Absorber
- 1.3 **Details of the supplier of the safety data sheet**
- 1.3.1 **Address of the Company / Supplier:**
 Micronisers Australasia Pty Ltd., 6-8 England Street, Dandenong VIC 3175, Australia
 Telephone: +613-9768-3277, Telefax: +613-9768-3986, E-Mail: info@micronisers.com
- 1.3.2 **Responsible for the data sheet:**
 Micronisers Australasia Pty Ltd., 6-8 England Street, Dandenong VIC 3175, Australia
 Telephone: +613-9768-3277, Telefax: +613-9768-3986, E-Mail: info@micronisers.com
- 1.4 **Emergency telephone number**
 Emergency - Telephone of Company / Undertaking Poisons Information Centre Australia
 Telephone: +61 413 590 151 (AEST 8:00 – 20:30) Telephone: 13 11 26
 Overseas users: call Local Poisons information Centre

SECTION 2: Hazards identification

Classification of the substance or mixture

* Aquatic Acute 1 H400 / Aquatic Chronic 1 H410

*

2.2 Label elements

Classification according to 1272/2008/EC: Yes.
 Applicable Exemptions: Yes.
 Signal word(s): Warning
 Component(s):

Hazard pictogram(s):



H - Phrases:

H 410: Very toxic to aquatic life with long lasting effects.

P - Phrases:

P 102: Keep out of reach of children.
 P 262: Do not get in eyes, on skin, or on clothing.
 P 301 + P 101: IF SWALLOWED: If medical advice is needed, have product container or label at hand.
 P 501: Dispose of contents/container to special waste collection point.
 P 273: Avoid release to the environment.

Additional Markings:

The above mentioned labelling is valid for distribution to industrial user/ private consumer.

2.3 Other hazards

Observe the usual precautionary measures for handling chemicals.
 May cause temporary eye irritation.
 Product contains nanoparticles.

During spraying respirable aerosol containing nanoparticles may be formed.

* This mixture contains no substances which are assessed to be PBT or vPvB.

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SECTION 3: Composition/information on ingredients

3.1 Substances

Components listed in TSCA

Ingredients:

CAS - No.	EEC - No.	Material	m% - range	H - phrases
1314-13-2	215-222-5	Nano-Zinc oxide particle size < 100 nm REACH_01-2119463881-32-xxxx	>99%	Aquatic Acute I; H400 Aquatic Chronic 1; H410

Text of H- phrases: see section 16

3.2 Mixtures

Chemical Characterization: N/A

Dangerous Ingredients: N/A

SECTION 4: First aid measures

4.1 Description of first aid measures

4.1.1 Inhalation:

After inhalation of product / fumes of fire leave contaminated area and provide for fresh air. In the event of symptoms occurring, seek medical treatment.

4.1.2 Skin Contact:

Wash away with water.
In the event of symptoms occurring, seek medical treatment.

4.1.3 Eye Contact:

Flush eyes out immediately with large amounts of water with eye lids lifted. In the event of symptoms occurring, seek medical treatment.

4.1.4 Ingestion:

Do not cause vomiting. Rinse mouth out and drink plenty of water afterwards. Consult physician.

4.2 Most important symptoms and effects, both acute and delayed

None known.

4.3 Indication of any immediate medical attention and special treatment needed

Symptomatic treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

5.1.1 Suitable Extinguishing Media:

Use dry chemical, CO₂, water spray or "alcohol" foam.

5.1.2 Extinguishing Media to Avoid:

None.

5.2 Special hazards arising from the substance or mixture

In the case of fire, the following product(s) may form: inorganic dust

5.3 Advice for firefighters

5.3.1 Special Protective Equipment:

Wear positive pressure self-contained breathing apparatus. Wear full protective clothing.

5.3.2 Additional Information:

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

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- 6.1 **Personal precautions, protective equipment and emergency procedures**
See chapter 8.2.2
Keep clear of dust
- 6.2 **Environmental precautions**
Do not allow to enter drainage / surface-water / ground-water.
Inform responsible authorities in the case of accidental release.
Prevent spread over a wide area (e.g. by containment or oil barriers).
- 6.3 **Methods and material for containment and cleaning up**
Use mechanical handling equipment. Avoid dust formation. Dispose of in accordance with the regulations.
- 6.4 **Reference to other sections**
None.

SECTION 7: Handling and storage

- 7.1 **Precautions for safe handling**
- 7.1.1 **Precautions for safe handling:**
Avoid contact with eyes and skin. Do not inhale dust.
Remove contaminated, saturated clothing immediately. Do not eat, drink or smoke during work. Wash hands before breaks and after work.
Product contains nanoparticles.
- 7.1.2 **Precautions in Case of Fire and Explosion:**
Normal measures for preventive fire protection.
Of the contained nano-particles there is no higher combustibility to be expected
- 7.2 **Conditions for safe storage, including any incompatibilities**
- 7.2.1 **Storage Instructions:**
Keep container tightly closed in a dry and well-ventilated place. Avoid subsoil penetration. Avoid dust formation. Store in original container.
- 7.2.2 **Store away from:**
Store away from oxidizing agents.
- 7.2.3 **Further Information on Storage Conditions:**
None.
- 7.3 **Specific end use(s)**
n.av.

SECTION 8: Exposure controls/personal protection

- 8.1 **Control parameters**
- | Material | Limit Value |
|---------------------------------------|--|
| Nano-Zinc oxide particle size < 100nm | MAK-Wert (SUVA) 1 mg / m ³ (Respirable fraction)
The value for free ZnO nanoparticles is 0.1 mg / m ³ . |
- 8.2 **Exposure controls**
- 8.2.1 **Appropriate engineering controls**
Provide appropriate exhaust ventilation and dust collection at machinery.
- 8.2.2 **Individual protection measures**
- 8.2.2a **Respiratory Protection:** Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (dust) . Recommended filter type: P2
- 8.2.2b **Hand Protection:** In case of prolonged skin contact use protective gloves.
Protective gloves complying with EN 374 butyl-rubber break through time > 8h. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
- 8.2.2c **Eye Protection:** Goggles
- 8.2.2d **Skin Protection:** No.
- 8.2.2e **Further Information:** Observe wearing time limits:
- 8.2.3 **Environmental exposure controls:**
Do not contaminate water. Do not let product enter drains.

SECTION 9: Physical and chemical properties

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9.1 Information on basic physical and chemical properties	
9.1.1	Form: powder Colour: white Odour: odourless
	Odour threshold: n.av.
9.1.2	pH-value, undiluted: n. ap., pH-value, 1% aqueous solution: n.av.
9.1.3	Boiling point / Boiling - range (°C): n.av., Melting point / Melting range (°C): 1975
9.1.4	Flash point (°C): n.ap.
9.1.5	Flammability (EEC A10/A13): No.
9.1.6	Ignition temperature (°C): n.av.
9.1.7	Autoflammability (EEC A16): None.
9.1.8	Oxidising properties: No.
9.1.9	Explosion hazard: No.
9.1.10	Explosion limits (Vol.%) lower: n.av., upper: n.av.
9.1.11	Vapour pressure: / Vapour density (Air = 1): n.ap.
9.1.12	Density (g/ml): n.av.
9.1.13	Solubility (in Water): 0.0016 g/L (20°C)
9.1.14	Partition coefficient, n-Octanol / Water: n.ap.
9.1.15	Viscosity: n.av.
9.1.16	Solvent content (m %): Not relevant
9.1.17	Thermal decomposition (°C): n.av.
9.1.18	Evaporation rate: n.ap.
9.2	Other information
	Nano-ZnO: Particle size < 100 nm
	Redox activity: n.av.
	Photocatalytic Activity: n.av.

SECTION 10: Stability and reactivity

10.1	Reactivity None.
10.2	Chemical stability Stable under recommended storage conditions. Nanoparticles (zinc oxide) are stable.
10.3	Possibility of hazardous reactions No dangerous reaction known under conditions of normal use.
10.4	Conditions to avoid No conditions to be specially mentioned.
10.5	Incompatible materials Reactions with strong oxidizing agents.
10.6	Hazardous decomposition products No decomposition if stored and applied as directed. To avoid thermal decomposition, do not overheat.

SECTION 11: Toxicological information

11.1	Information on toxicological effects
	Acute Health Effects:
Inhalation:	Nano-ZnO Alveolar dust fraction: Prolonged or repeated exposure may cause injuries to liver, kidneys, lungs, nerves.
Ingestion:	ZnO: High dose (1 - 5 g / kg): May cause damage to organs.
Skin Contact:	Dangerous amounts can't be absorbed through the skin.
Skin corrosion / irritation:	Mildly irritating - not to be labelled.
Serious eye damage / irritation:	Mildly irritation – not to be labelled.
Respiratory or Skin sensitization:	n.av
Germ cell Mutagenicity:	Ames-Test: negative
Carcinogenicity:	n.av.
Reproductive toxicity:	n.av.
STOT – single exposure:	n.av.
STOT – repeated exposure:	n.av.
Aspiration hazard:	n.av.

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11.2 Practical Experience

11.2.1 **Observations relevant for classification:** None.

11.2.2 **Further Observations:** None.

11.3 General Remarks

Classification of the preparation has been done by calculation in accordance with EEC directives.

SECTION 12: Ecological information

12.1 Toxicity

Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Zinc oxide: LC₅₀ (96 h) rainbow trout < 0,1 mg /L

Nano-ZnO: Toxicity to bacteria (*Vibrio fischeri*) : 0,18 mg / l

Toxicity to daphnia. 1,9 mg / l

but: solution of Zn²⁺ was identified as crucial.

12.2 Persistence and degradability

inorganic product, cannot be eliminated from water by biological purification process

12.3 Bioaccumulative potential

Assimilation of ZnO in *Daphnia magna*. Bioaccumulation is likely.

12.4 Mobility in soil

Immobilization EC₅₀ / 4 h / daphnia = 0,622 mg / l

12.5 Results of PBT and vPvB assessment

* This mixture contains no substances which are assessed to be PBT or vPvB.

12.6 Other adverse effects

12.6.1 COD-Value, mg/g: n.av.

12.6.2 BOD₅-Value, mg/g: n.av.

12.6.3 AOX-Remarks: Not relevant

12.6.4 Significant Components: Zinc oxide

12.6.5 Other adverse effects: None.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

13.1.1 Recommendation: D 10

Waste - Code - No.:

The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

In addition comply with the regional authorities.

13.2 Contaminated Packaging

13.2.1 Recommendation: Wash with suitable cleaner. Otherwise as described under Residues.

13.2.2 Safe Handling: As described under Residues.

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SECTION 14: Transport information

	ADR	IMDG	IATA
14.1	UN number 3077	3077	3077
14.2	UN proper shipping name UN 3077 Environmentally hazardous substance, solid, n.o.s. (Zinc oxide) *	Environmentally hazardous substance, solid, n.o.s. (Zinc oxide) MARINE POLLUTANT	Environmentally hazardous substance, solid, n.o.s. (Zinc oxide)
14.3	Transport hazard class(es)  9	 9	 9
14.4	Packing group III	III	III
14.5	Environmental hazards	Yes.	
14.6	Special precautions for user Transport-category: 3 Classification Code: M7 Hazard - No.: 90 LQ: 5 L	F-A, S-F	Packing Instructions (Passenger) 964 Packing Instructions (Cargo) 964
14.7	Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: n.av.		

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SECTION 15: Regulatory information

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

No data available.

15.2 **Chemical safety assessment:**

A chemical safety assessment has not been carried out.

SECTION 16: Other information

Text of H phrases mentioned in Section 3

H 400: Very toxic to aquatic life.

H 410: Very toxic to aquatic life with long lasting effects.

This datasheet has been compiled in accordance with Regulation 2015/830.

The statements in this Material Safety Data Sheet were made to the best of our knowledge and are as accurate as possible. They are given for information only. They do not constitute a contractual guarantee of a product's properties. They must neither be altered nor transferred to other products.

Prepared by: Micronisers Australasia Pty Ltd., 6-8 England Street, Dandenong VIC 3175, Australia

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