

SAFETY DATA SHEET

Version: v1

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

1.1 Product identifiers

Product name : Zinc oxide
Product Number : Z431819
Brand : aladdin
CAS-No. : 1314-13-2

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

Identified uses : Laboratory chemicals, Manufacture of substances.

1.3 Company

Company : ALADDIN SCIENTIFIC CORPORATION
Address : 14078 Meridian Parkway,
Riverside, CA. 92518
Telephone : +1 (833) 552-7181
Fax : no data available

1.4 Emergency telephone number

CHEMTREC®, Inside the USA : 1-800-424-9300
CHEMTREC®, Outside the USA :

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Based on available data, the criteria are not met

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Warning

Hazard statement(s)

H410

Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

P201

Obtain special instructions before use.

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P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands [and ...] thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P391	Collect spillage.
P308+P311	IF exposed or concerned: Call a POISON CENTER/doctor/...
P405	Store locked up.
P501	Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Very toxic to aquatic life with long lasting effects

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	: no data available
Formula	: ZnO
Molecular weight	: 81.39
CAS No.	: 1314-13-2
EC-NO.	: 215-222-5

Component	Classification	Concentration
Zinc oxide	no data available	high-purity, Reagent grade, ≥99.9% metals basis, powder, < 5µm

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

In case of skin contact

Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

In case of eye contact

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Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required. Keep eye wide open while rinsing.

If swallowed

Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

no data available

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

Water, Foam, Carbon dioxide (CO₂), Dry powder

Unsuitable extinguishing media

no data available

5.2 Special hazards arising from the substance or mixture

Zinc/Zinc oxide Not flammable. Surrounding fire sources may cause the release of hazardous vapors

5.3 Advice for firefighters

wear self-contained breathing and full protective gear.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation. Use personal protective equipment as required.

6.2 Environmental precautions

Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed Up containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

Phone: +1 (833) 552-7181 Email: QualityAssurance@aladdinsci.com Website: <https://www.aladdinsci.com/>

7.1 Precautions for safe handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid dust formation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation.

7.2 Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place.

7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU)2016/425 and the standard EN 374 derived from it.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN(EU).

Control of environmental exposure

If safety requires, prevent further leakage or spillage. Do not let the product enter the sewer.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

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a) Appearance	form: Powder Solid color: White
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	no data available
e) Melting point/freezing point	1975°C
f) Initial boiling point and boiling range	no data available
g) Flash point	no data available
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	no data available
l) Vapour density	no data available
m) Relative density	no data available
n) Water solubility	no data available
o) Partition coefficient: n-octanol/water	no data available
p) Auto-ignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties N	no data available
t) Oxidizing properties N	no data available

9.2 Other safety information

no data available

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

Avoid dust formation.

10.5 Incompatible materials

Strong acids

10.6 Hazardous decomposition products

no data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - Male and Female ->2000 mg/kg

(OECD Testing Guideline 423)

LC50 inhalation - rats - male and female -4 hours ->1.79 mg/l - dust/smoke

(US-EPA)

LD50 transdermal - rat - male and female ->2000 mg/kg

(OECD Testing Guideline 402)

Skin corrosion/irritation

Skin - Reconstructing the Human Epidermal (RhE) Result: No skin irritation -1 hour (OECD Testing Guidelines 431)

Serious eye damage/eye irritation

Eyes - Cow Horn Membrane Result: No eye irritation -4 hours (OECD Testing Guideline 437)

Respiratory or skin sensitisation

Maximum Response Test - Guinea Pig Result: Negative (OECD Testing Guideline 406)

Germ cell mutagenicity

Test type: Ames test Testing system: Escherichia coli/Salmonella typhimurium Metabolic activation: with or without metabolic activation effect method: OECD Testing Guidelines 471 Result: Negative Test type: In vitro mammalian cell gene mutation assay Testing System: Mouse Lymphoma Cells Metabolic activation: with or without metabolic activation effect method: OECD Testing Guidelines 476 Result: Positive results were obtained in some in vitro experiments. Test type: In vitro chromosomal aberration test Testing System: Chinese Hamster Lung Cells Metabolic activation: with or without metabolic activation effect method: OECD Testing Guideline 473 Result: Negative Test type: In vitro chromosomal aberration test Testing System: Human Lymphocytes Metabolic activation: No metabolic activation Result: Positive remarks: (ECHA) Test type: Micronucleus test Testing System: Human Epithelioid Cells Metabolic activation: No metabolic activation method: OECD Testing Guidelines 487 Result: Negative Test type: In vivo micronucleus test Species: Mouse Cell type: Red blood cells (erythrocytes) Route of infection: Intraperitoneal method: OECD Testing Guidelines 474 Result: Negative

Carcinogenicity

no data available

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Additional Information

Repeated toxicity - rats - male and female - oral -13 weeks - level of no observed harmful effects -31.52 mg/kg

Remarks: (Compared with similar products)

Repeated toxicity - rat - male - inhalation - March

Repeated toxicity - rat - male and female - transdermal -28 days - lowest level of observed harmful effects -75 mg/kg

Registration of Toxic Effects of Chemical Substances: ZH4810000

Zinc oxide dust or smoke can irritate the respiratory tract. Long term skin contact leading to severe dermatitis is called an oxide rash. Exposure to high levels of dust or smoke

Mist can cause a metallic taste, significant thirst, coughing, fatigue, weakness, muscle pain, and nausea, followed by fever and cold war. Serious over connection

Touching can cause bronchitis or pneumonia, and the skin may turn blue., Long term or frequent exposure can lead to reversible liver enzyme abnormalities., Diarrhea

To our knowledge, the chemical, physical, and toxic properties of this substance have not been fully studied.

The following data applies to general zinc compounds: they can only be absorbed in trace amounts in the digestive tract It has a converging effect on mucous membranes Inhalation in large quantities can cause metal to smoke and heat up

Operate in accordance with good industrial hygiene and safety regulations.

SECTION 12: Ecological information

12.1 Toxicity

Semi static toxicity test on fish LC50- Danio rerio (zebrafish) -2.525 mg/l -96 h

remarks: (ECHA)

Static toxicity test on water fleas and other aquatic invertebrates EC50- Daphnia magna -1 mg/l -48 h

(OECD Testing Guidelines 202)

Static toxicity test on algae NOEC - Pseudokirchneriella subcapitata -0.024 mg/l-72 h

(OECD Testing Guidelines 201)

Static toxicity test for bacteria EC50- Activated sludge ->1000 mg/l -3 h

(OECD Testing Guideline 209)

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

no data available

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SECTION 13:

13.1 Disposal considerations

Product

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

UN number: UN3077	Packing group: III	Class: 9
Proper shipping name: Solid substances harmful to the environment, not otherwise specified (zinc oxide)	Reportable Quantity(RQ): no data available	Poison Inhalation Hazard: no data available
Environmental Hazards: yes		

IMDG

UN number: UN3077	Packing group: III	EMS-No: no data available
Proper shipping name: Solid substances harmful to the environment, not otherwise specified (zinc oxide)		

IATA

UN number: UN3077	Packing group: III	Class: 9
Proper shipping name: Solid substances harmful to the environment, not otherwise specified (zinc oxide)		

SECTION 15: Regulatory information

Please note that waste disposal should also meet local regulations. If applicable, the chemical meets the requirements of the Regulations on the Safety Management of Hazardous Chemicals (adopted by the State Council on December 4, 2013).

SECTION 16: Other information

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