



Safety Data Sheet

Date of Issue: 17.07.2020

Date of Expiry: 17.07.2025

1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name: ECP Limited
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Product	Zinc Oxide			Code	55301, 4358-01
CAS#	HSNO#	UN #	DG Class/es	Packing group #	
1314-13-2	HSR003104	3077	9	III	

Recommended use: Laboratory Investigations

2: Hazards identification

2.1 GHS Classification

Skin irritation (Category B), H316
Eye irritation (Category A), H320
Aquatic toxicity (Acute or Chronic) (Category A), H400

2.2 GHS Label elements, including precautionary statements

Hazard Pictogram



Signal word

Warning

Hazard statement(s)

H316 Causes mild skin irritation.
H320 Causes eye irritation.
H400 Very toxic to aquatic life.

Precautionary statement(s)

Prevention

P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.

Response

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313 If skin irritation occurs: Get medical advice/attention.
P337 + P313 If eye irritation persists: Get medical advice/attention.

P391 Collect spillage.

Disposal

P501 Dispose of contents/container to an approved waste disposal plant.

3: Composition/information on ingredients

Substance/mixture : substance
3.1 Substances
Formula : OZn
Molecular weight : 81.39 g/mol
CAS-No. : 1314-13-2
EC-No. : 215-222-5
Index-No. : 030-013-00-7

Hazardous components

Component	Classification	Concentration
Zinc oxide	6.3 B; 6.4 A; 9.1 A; H316, H320, H400 M-Factor - Aquatic Acute: 1	<= 100%

4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Zinc/zinc oxides

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Avoid breathing dust.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7: Handling and storage

7.1 Precautions for safe handling

Provide appropriate exhaust ventilation at places where dust is formed.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits Table

Component	CAS No.	Value	Control parameters	Basis
Zinc oxide	1314-13-2	WES-TWA	10 mg/m ³	New Zealand. Workplace Exposure Standards for Atmospheric Contaminants
		WES-STEL	10 mg/m ³	New Zealand. Workplace Exposure Standards for Atmospheric Contaminants

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.

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.

Body Protection

Complete suit protecting against chemicals. 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 full-face particle respirator type or 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.

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance

Form: powder

Colour: white

b) Relative density 5.610 g/cm³

10: Stability and reactivity

10.1 Chemical stability

Stable under recommended storage conditions.

10.2 Incompatible materials

Strong oxidizing agents

10.3 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions:
Zinc/zinc oxides.

11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male and female - > 2,000 mg/kg

LC50 Inhalation - Rat - male and female - 4 h - > 1.79 mg/l

LD50 Dermal - Rat - male and female - > 2,000 mg/kg

Skin corrosion/irritation

Skin - reconstructed human epidermis (RhE)

Result: No skin irritation - 1 h

Serious eye damage/eye irritation

Eyes - Bovine cornea

Result: No eye irritation - 4 h

Respiratory or skin sensitisation

Maximisation Test - Guinea pig

Result: negative

Germ cell mutagenicity

Ames test

Escherichia coli/Salmonella typhimurium

Result: negative

In vitro mammalian cell gene mutation test

mouse lymphoma cells

Result: Positive results were obtained in some in vitro tests.

Chromosome aberration test in vitro

Chinese hamster lung cells

Result: negative

Chromosome aberration test in vitro

Human lymphocytes

Result: positive

(ECHA)

Micronucleus test

Human epithelioid cells

Result: negative

OECD Test Guideline 474

Mouse - male - Red blood cells (erythrocytes)

Result: negative

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 13 Weeks - No observed adverse effect level - 31.52 mg/kg

(in analogy to similar products)

Repeated dose toxicity - Rat - male - Inhalation - 3 Months

Repeated dose toxicity - Rat - male and female - Dermal - 28 d - Lowest observed adverse effect level - 75 mg/kg

RTECS: ZH4810000

Zinc oxide dust or fume can irritate the respiratory tract. Prolonged skin contact can produce a severe dermatitis called oxide pox. Exposure to high levels of dust or fume can cause metallic taste, marked thirst, coughing, fatigue, weakness, muscular pain, and nausea followed by fever and chills. Severe overexposure may result in bronchitis or pneumonia with a bluish tint to the skin. Prolonged or repeated exposure can cause reversible liver enzyme abnormalities, diarrhoea.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

The following applies to zinc compounds in general: only slightly absorbable via the gastrointestinal tract. Adstringent effect on mucous membranes. Metal-fume fever after inhalation of large quantities.

Handle in accordance with good industrial hygiene and safety practice.

12: Ecological information

12.1 Toxicity

Toxicity to fish semi-static test

LC50 - Danio rerio (zebra fish) - 2.525 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates

static test EC50 - Daphnia magna (Water flea) - 1 mg/l - 48 h

Toxicity to algae static test

NOEC - Pseudokirchneriella subcapitata (microalgae) -

0.024 mg/l - 72 h

Toxicity to bacteria static test

EC50 - activated sludge - > 1,000 mg/l - 3 h

12.2 Other adverse effects

Very toxic to aquatic life with long lasting effects.

13: Disposal considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

14: Transport Information Table

		ADR/RID – European packaging certification	IMDG International Maritime Dangerous Goods Code	IATA – DGR International Air Travel Association – Dangerous Goods Regulations
14.1	UN Number	3077	3077	3077
14.2	UN Proper Shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.	Environmentally hazardous substance, solid, n.o.s.
14.3	Transport Hazard Class	9	9	9
14.4	Packaging group	III	III	III
14.5	Environmental Hazards	Yes	Yes	Yes
14.6	Special precautions for user	None		

15: Regulatory information

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

National regulatory information

HSNO Approval Code: HSR003104

HSNO Group Standard Approval: HSR002596 - Laboratory Chemicals and Reagent Kits
Group Standard 2006
Tracking Required: not required
Approved Handler Cert.: not required

16: Disclaimer

The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to determine the suitability of the product for their particular purposes. In no event shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential, or exemplary damages howsoever arising, even if the company has been advised of the possibility of such damages.

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