

Classified as hazardous in accordance with the criteria of EPA New Zealand

Section 1 - Identification

Product Identifier

Product Name	<u>Zinc powder</u>
Molecular Formula	Zn
Molecular Weight	65.36
Recommended Use	Laboratory chemicals.
Uses advised against	No Information available

Product Code	AJA2312, AJA538
Address	Thermo Fisher Scientific New Zealand Ltd 244 Bush Road, Albany, Auckland, New Zealand
Emergency Tel.	CHEMTREC® 09 980 6780 or +64 9 980 6780
Telephone / Fax Numbers	Tel: 09 980 6700 Fax: 09 980 6788
E-mail address	ANZinfo@thermofisher.com

Section 2 - Hazard(s) Identification

Classification under Work Safe New Zealand

Classified as hazardous in accordance with the criteria of EPA New Zealand

HSNO Approval Number HSR002522

GHS Classification

Physical hazards

Substances/mixtures which, in contact with water, emit flammable gases Category 2 Category 1

Health hazards

Environmental hazards

Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

Label Elements



Signal Word

Danger

Hazard Statements

H261 - In contact with water releases flammable gases

H410 - Very toxic to aquatic life with long lasting effects

H260 - In contact with water releases flammable gases which may ignite spontaneously

Precautionary Statements**Prevention**

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P222 - Do not allow contact with air

P223 - Do not allow contact with water

P231 + P232 - Handle and store contents under inert gas. Protect from moisture

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P273 - Avoid release to the environment

Response

P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

P302 + P335 + P334 - IF ON SKIN: Brush off loose particles from skin. Immerse in cool water or wrap in wet bandages

P391 - Collect spillage

Storage

P402 + P404 - Store in a dry place. Store in a closed container

Disposal

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

Other hazards which do not result in classification

This product does not contain any known or suspected endocrine disruptors

Section 3 - Composition and Information on Ingredients

Component	CAS No	Weight %
Zinc powder - zinc dust (pyrophoric)	7440-66-6	100

Section 4 - First Aid Measures

Description of first aid measures**New Zealand Emergency Tel.**CHEMTREC®
09 980 6780 or +64 9 980 6780**Inhalation**

Remove to fresh air.

Eye Contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Ingestion

Clean mouth with water and drink afterwards plenty of water.

Self-Protection of the First Aider

No special precautions required.

First Aid Facilities	Eyewash, safety shower and washroom.
Most important symptoms and effects	No information available.
Notes to Physician	Treat symptomatically.

Section 5 - Fire Fighting Measures

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Extinguishing media which must not be used for safety reasons

No information available.

Specific Hazards Arising from the Chemical

Do not allow run-off from fire-fighting to enter drains or water courses.

Hazardous Combustion Products

None under normal use conditions.

Special protective equipment and precautions for fire fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6 - Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Emergency procedures

Ensure adequate ventilation.

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.

Precautions to prevent secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations

Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

Section 7 - Handling and Storage

Precautions for Safe Handling

Advice on safe handling

Ensure adequate ventilation.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

Conditions for Safe Storage, Including any Incompatibilities

Storage Conditions

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

Incompatible Materials

None known.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

Section 8 - Exposure Controls and Personal Protection

Control parameters**Exposure limits**

The product does not contain any hazardous materials with occupational exposure limits established.

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Appropriate engineering controls**Engineering Measures**

None under normal use conditions.

Individual protection measures, such as personal protective equipment**Eye Protection**

Wear safety glasses with side shields (or goggles) (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)

Hand Protection

Protective gloves

Glove material	Breakthrough time	Glove thickness	AUS/NZ Standard	Glove comments
Natural rubber, Nitrile rubber, Neoprene, PVC.	See manufacturers recommendations	-	AS/NZS 2161	(minimum requirement)

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Skin and body protection

Long sleeved clothing

Respiratory Protection

Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of respiratory protective devices

Recommended Filter type:

Particle filter (or AUS/NZ equivalent)

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

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

Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties**Physical State**

Solid

Appearance

Grey

Odor	No information available	
Odor Threshold	No data available	
pH	Not applicable	
Melting Point/Range	419 °C / 786.2 °F	
Softening Point	No data available	
Boiling Point/Range	907 °C / 1664.6 °F	
Flammability (liquid)	Not applicable	Solid
Flammability (solid,gas)	No information available	
Explosion Limits	No data available	
Flash Point	Not applicable	Method - No information available
Autoignition Temperature	Not applicable	
Decomposition Temperature	No data available	
Viscosity	Not applicable	Solid
Water Solubility	No information available	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Vapor Pressure	No data available	
Density / Specific Gravity	No data available	
Bulk Density	No data available	
Vapor Density	Not applicable	Solid
Particle characteristics	No data available	
<u>Other information</u>		
Molecular Formula	Zn	
Molecular Weight	65.36	
Substances/mixtures which, in contact with water, emit flammable gases	Emitted gas ignites spontaneously	
Evaporation Rate	Not applicable - Solid	

Section 10 - Stability and Reactivity

Reactivity	Yes
Stability	Stable under normal conditions.
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available
Hazardous Polymerization	No information available.
Hazardous Reactions	No information available.
Conditions to Avoid	Heat, flames and sparks.
Incompatible Materials	None known.

Hazardous Decomposition Products None under normal use conditions.

Section 11 - Toxicological Information

Acute Effects

Information on likely routes of exposure

Product Information

Inhalation Not an expected route of exposure.

Eyes
Skin
Ingestion

Not an expected route of exposure.
 No known effect based on information supplied.
 Not an expected route of exposure.

Numerical measures of toxicity

(a) acute toxicity;

Oral

Based on available data, the classification criteria are not met

Dermal

Based on available data, the classification criteria are not met

Inhalation

Based on available data, the classification criteria are not met

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Zinc powder - zinc dust (pyrophoric)	LD50 > 2000 mg/kg bw (Rat) OECD 401		LC50 > 5.41 g Zn/m ³ air (rat) OECD 403 (highest attainable concentration)

(b) skin corrosion/irritation;

Based on available data, the classification criteria are not met

(c) serious eye damage/irritation;

Based on available data, the classification criteria are not met

(d) respiratory or skin sensitization;

Respiratory

Based on available data, the classification criteria are not met

Skin

Based on available data, the classification criteria are not met

(e) germ cell mutagenicity;

Based on available data, the classification criteria are not met

(f) carcinogenicity;

Based on available data, the classification criteria are not met
 There are no known carcinogenic chemicals in this product

(g) reproductive toxicity;

Based on available data, the classification criteria are not met

(h) STOT-single exposure;

Based on available data, the classification criteria are not met

(i) STOT-repeated exposure;

Based on available data, the classification criteria are not met

Target Organs

None known.

(j) aspiration hazard;

Not applicable
 Solid

Symptoms / effects, both acute and delayed

No information available.

Section 12 - Ecological Information

Ecotoxicity

Aquatic ecotoxicity

The product contains following substances which are hazardous for the environment. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Zinc powder - zinc dust (pyrophoric)	LC50: = 0.41 mg/L, 96h static (Oncorhynchus)	EC50: 0.139 - 0.908 mg/L, 48h Static	EC50: 0.09 - 0.125 mg/L, 72h static	

	mykiss) LC50: = 0.59 mg/L, 96h semi-static (Oncorhynchus mykiss) LC50: 2.16 - 3.05 mg/L, 96h flow-through (Pimephales promelas) LC50: 0.211 - 0.269 mg/L, 96h semi-static (Pimephales promelas) LC50: = 2.66 mg/L, 96h static (Pimephales promelas) LC50: = 30 mg/L, 96h (Cyprinus carpio) LC50: = 0.45 mg/L, 96h semi-static (Cyprinus carpio) LC50: = 7.8 mg/L, 96h static (Cyprinus carpio) LC50: = 0.24 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: = 3.5 mg/L, 96h static (Lepomis macrochirus)	(Daphnia magna)	(Pseudokirchneriella subcapitata) EC50: 0.11 - 0.271 mg/L, 96h static (Pseudokirchneriella subcapitata)	
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Terrestrial ecotoxicity

There is no data for this product

Persistence and Degradability

No information available

Degradability

Not relevant for inorganic substances.

Degradation in sewage treatment plant

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Bioaccumulative Potential

No information available

Mobility

No information available.

Other adverse effects**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

Persistent Organic Pollutant

This product does not contain any known or suspected substance

Ozone Depletion Potential

This product does not contain any known or suspected substance

Section 13 - Disposal Considerations

Waste treatment methods**Waste from Residues/Unused Products**

Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.

Contaminated Packaging

Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

Other Information

Disposal agencies or waste contractors must comply with the New Zealand Hazardous

Substances (Disposal) Regulations . Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Can be landfilled or incinerated, when in compliance with local regulations. Do not let this chemical enter the environment. Do not empty into drains.

Section 14 - Transport Information

Component	Hazchem Code
Zinc powder - zinc dust (pyrophoric) 7440-66-6 (100)	4W

NZS 5433:2020

UN-No	UN1436
Proper Shipping Name	ZINC POWDER
Technical Shipping Name	Zinc dust
Hazard Class	4.3
Subsidiary Hazard Class	4.3 4.2
Packing Group	II

IATA

UN-No	UN1436
Proper Shipping Name	ZINC DUST
Technical Shipping Name	Zinc dust
Hazard Class	4.3
Subsidiary Hazard Class	4.2
Packing Group	II

IMDG/IMO

UN-No	UN1436
Proper Shipping Name	ZINC POWDER
Technical Shipping Name	Zinc dust
Hazard Class	4.3
Subsidiary Hazard Class	4.2
Packing Group	II

Environmental hazards	Dangerous for the environment Product is a marine pollutant according to the criteria set by IMDG/IMO
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Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable, packaged goods
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Special Precautions	No special precautions required. Please refer to the applicable dangerous goods regulations for additional information.
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Additional information	None known
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Section 15 - Regulatory Information

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

HSNO Approval Number	HSR002522
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National Regulations

Any applicable tolerable exposure limits and environmental exposure limits according to the EPA Controls for Hazardous Substances are listed below

Component	Tolerable Exposure Limit (TEL) Air	Tolerable Exposure Limit (TEL) Water	Tolerable Exposure Limit (TEL) Surface	Environmental Exposure Limits (EEL)
Zinc powder - zinc dust				8 µg/L (Freshwater)

(pyrophoric)				15 µg/L (Marine)
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Certified handlers, tracking and controlled substance license requirements

Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most explosives, vertebrates toxic agents, and certain fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information. Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information.

Prohibition or notification/licensing requirements

Shown below are details of specific prohibition/notifications or licensing requirements when they apply.

International Regulations

Ozone Depletion Potential This product does not contain any known or suspected substance

Persistent Organic Pollutant This product does not contain any known or suspected substance

Rotterdam Convention (PIC) Not applicable

Authorisation/Restrictions according to EU REACH Not applicable

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Zinc powder - zinc dust (pyrophoric)	-	Use restricted. See entry 75. (see link for restriction details)	-

International Inventories

New Zealand (NZIoC), Australia (AICS), Europe (EINECS/ELINCS/NLP), Korea (KECL), China (IECSC), Taiwan (TCSI), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

Component	CAS No	NZIoC	AICS	EINECS	ELINCS	NLP	KECL	IECSC	TCSI
Zinc powder - zinc dust (pyrophoric)	7440-66-6	X	X	231-175-3	-	-	KE-35518	X	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	PICCS	ISHL	ENCS
Zinc powder - zinc dust (pyrophoric)	7440-66-6	X	ACTIVE	X	-	X	-	X

Legend: X - Listed '-' - Not Listed

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

Section 16 - Other Information

This safety data sheet complies with the requirements of the EPA Hazardous Substances (Hazard Classification) Notice 2020 and WorkSafe New Zealand Regulations

Legend

NZIoC - New Zealand Inventory of Chemicals

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

IECSC - Chinese Inventory of Existing Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

ENCS - Japanese Existing and New Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

CAS - Chemical Abstracts Service

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

NZS 5433:2020 - Transport of Dangerous Goods on Land

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

WEL - Workplace Exposure Limit

DNEL - Derived No Effect Level

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

VOC - (Volatile Organic Compound)

ACGIH - American Conference of Governmental Industrial Hygienists

PNEC - Predicted No Effect Concentration

OECD - Organisation for Economic Co-operation and Development

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

ADG - Australian Code for the Transport of Dangerous Goods by Road and Rail

LC50 - Lethal Concentration 50%

ATE - Acute Toxicity Estimate

RPE - Respiratory Protective Equipment

NOEC - No Observed Effect Concentration

BCF - Bioconcentration factor

PBT - Persistent, Bioaccumulative, Toxic

Key literature references and sources for data

HSNO classifications provided in the New Zealand Chemical Classification Information Database (CCID).

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

EPA Guide to classifying hazardous substances in New Zealand

EPA - Assigning a product to an existing HSNO approval guide

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Chemical incident response training.

Revision Date

12-Mar-2025

Revision Summary

Update to GHS format

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet