

SECTION 1: Identification

1.1. Product identifier

Trade name : ZINC DUST
 EC-No. : 231-175-3
 EC Index-No. : 030-001-00-1
 CAS-No. : 7440-66-6
 UN-No. (ADR) : 1436
 Product code : 126030xxx
 Formula : Zn

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

Recommended uses and restrictions : For laboratory use only

1.3. Supplier's details

Labchem (Pty)Ltd
 6 Wakefield Road
 Founders Hill
 1609 Johannesburg - South Africa
 T +27 11 452 1116 - F +27 86 588 0293
techlab@labchem.co.za - www.labchem.co.za

1.4. Emergency telephone number

Emergency number : +27 11 452 1116

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

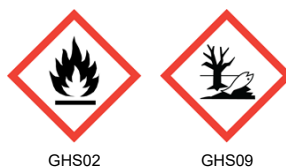
Classification according to the United Nations GHS

Pyrophoric solids Category 1 H250
 Substances and Mixtures which, in contact with water, emit flammable gases, Category 1 H260
 Hazardous to the aquatic environment — Acute Hazard, Category 1 H400
 Hazardous to the aquatic environment — Chronic Hazard, Category 1 H410
 Full text of H statements : see section 16

2.2. Label elements

Labelling according to the United Nations GHS

Hazard pictograms (GHS-ZA) :



GHS02

GHS09

Signal word (GHS-ZA) : Danger

Hazard statements (GHS-ZA) : H250 - Catches fire spontaneously if exposed to air.
 H260 - In contact with water releases flammable gases which may ignite spontaneously.
 H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements (GHS-ZA) : 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.
 P233 - Keep container tightly closed.
 P273 - Avoid release to the environment.
 P280 - Wear protective gloves/protective clothing/eye protection/face protection.
 P302+P335+P334 - IF ON SKIN: Brush off loose particles from skin. Immerse in cool water or wrap in wet bandages.
 P370+P378 - In case of fire: Use media other than water to extinguish.
 P391 - Collect spillage.
 P402+P404 - Store in a dry place. Store in a closed container.
 P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

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According to SANS 10234:2019 and SANS 11014:2010

2.3. Other hazards

Adverse physicochemical, human health and environmental effects : Catches fire spontaneously if exposed to air, In contact with water releases flammable gases which may ignite spontaneously, Very toxic to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance identification codes: See section 1.1

Name	Product identifier	%	Classification according to the United Nations GHS
zinc, powder or dust, pyrophoric (Main constituent)	(CAS-No.) 7440-66-6	≥ 98	Pyr. Sol. 1, H250 Water-react. 1, H260 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact : Rinse with water. Soap may be used. In case of burns: Wash immediately with lots of water (15 minutes)/shower. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital. Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages. Wash skin with plenty of water.

First-aid measures after eye contact : Rinse with water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists. In case of burns: Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Take victim to an ophthalmologist. Rinse eyes with water as a precaution.

First-aid measures after ingestion : Rinse mouth with water. Call Poison Information Centre (www.big.be/antigif.html). Immediately consult a doctor/medical service. Ingestion of large quantities: immediately to hospital. Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation : ON HEATING: Metal fume fever. Feeling of weakness. Headache. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Nausea.

Symptoms/effects after skin contact : No effects known.

Symptoms/effects after eye contact : Slight irritation.

Symptoms/effects after ingestion : No effects known.

Chronic symptoms : No effects known.

Potential adverse human health effects and symptoms : Practically non-toxic if swallowed (LD50 oral, rat > 2000 mg/kg). Not irritant to skin. Practically non-toxic by inhalation (LC50 inh, rat > 5 mg/l/4h). Slightly irritant to eyes.

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 : Quick-acting ABC powder extinguisher. Class A foam extinguisher. Water (quick-acting extinguisher, reel). Water. Class A foam. Dry powder. Foam.

Unsuitable extinguishing media : Quick-acting BC powder extinguisher. Quick-acting CO2 extinguisher.

5.2. Special hazards arising from the substance or mixture

Fire hazard : DIRECT FIRE HAZARD: Catches fire spontaneously if exposed to air. In contact with water releases flammable gases which may ignite spontaneously. INDIRECT FIRE HAZARD: May build up electrostatic charges: risk of ignition. May be ignited by sparks. Reactions involving a fire hazard: see "Reactivity Hazard".

Explosion hazard : DIRECT EXPLOSION HAZARD: Risk of dust explosion. INDIRECT EXPLOSION HAZARD: Dust cloud can be ignited by a spark. Reactions with explosion hazards: see "Reactivity Hazard".

Hazardous decomposition products in case of fire : On burning: release of harmful/irritant gases/vapours (zinc oxide).

5.3. Advice for firefighters

Firefighting instructions : When cooling/extinguishing: no water in the substance.

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According to SANS 10234:2019 and SANS 11014:2010

Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

6.1.1. For non-emergency personnel

Protective equipment : Gloves. Protective clothing. Dust cloud production: compressed air/oxygen apparatus.
Emergency procedures : Ventilate spillage area. Keep upwind. Mark the danger area. Prevent dust cloud formation. Consider evacuation. Close doors and windows of adjacent premises. Stop engines and no smoking. No naked flames or sparks. Spark- and explosionproof appliances and lighting equipment. Avoid contact with air. Avoid ingress of water in the containers. Wash contaminated clothes. No open flames, no sparks, and no smoking.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment : Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Dam up the solid spill. Provide equipment/receptacles with earthing. Do not use compressed air for pumping over spills. Hazardous reaction: measure explosive gas-air mixture. Collect spillage.
Methods for cleaning up : Mechanically recover the product. Stop dust cloud by covering with sand/earth. Scoop solid spill into closing containers. Do not use compressed air for pumping over spills. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.
Other information : Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid raising dust. Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Measure the concentration in the air regularly. Work under local exhaust/ventilation. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Keep the substance free from contamination. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Do not use compressed air for pumping over. Avoid contact of substance with water. Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Handle under inert gas. Protect from moisture. Do not allow contact with water.
Hygiene measures : Observe normal hygiene standards. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Protect from moisture. Store in a dry place. Store in a closed container. Store in a well-ventilated place. Keep cool.
Storage area : Store in a dry area. Keep container in a well-ventilated place. Fireproof storeroom. Provide the tank with earthing. Keep only in the original container. May be stored under inert gas. Meet the legal requirements.
Heat and ignition sources : KEEP SUBSTANCE AWAY FROM: heat sources. ignition sources.
Information on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. (strong) bases. halogens. organic materials.
Special rules on packaging : SPECIAL REQUIREMENTS: hermetical. watertight. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials : SUITABLE MATERIAL: synthetic material. glass.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

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According to SANS 10234:2019 and SANS 11014:2010

8.3. Individual protection measures, such as personal protective equipment (PPE)

Materials for protective clothing	: GIVE GOOD RESISTANCE: butyl rubber. neoprene. PVC. GIVE POOR RESISTANCE: chlorinated polyethylene
Hand protection	: Gloves
Eye protection	: Safety glasses
Skin and body protection	: Dustproof clothing. Fireproof clothing
Respiratory protection	: Dust production: dust mask with filter type P2

Personal protective equipment symbol(s):



8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Powder.
Molecular mass	: 65.37 g/mol
Colour	: Light grey.
Odour	: Odourless.
Odour threshold	: No data available
pH	: No data available
pH solution	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: 411 – 420 °C (1013 hPa, EU Method A.1: Melting/freezing point)
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Flammability (solid, gas)	: In contact with water releases flammable gases which may ignite spontaneously.
Vapour pressure	: Not applicable
Vapour pressure at 50 °C	: No data available
Relative vapour density at 20 °C	: Not applicable
Relative density	: 6.9 (22 °C, EU Method A.3: Relative Density)
Relative density of saturated gas/air mixture	: No data available
Density	: 7140 kg/m ³
Relative gas density	: No data available
Solubility	: Insoluble in water. Substance sinks in water. Soluble in acetic acid. Soluble in acids. Soluble in bases. Water: 0.1 mg/l (OECD 105: Water Solubility)
Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: > 500 mPa·s (417 °C)
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: Not applicable
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available

9.2. Other information

Minimum ignition energy	: 960 mJ
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According to SANS 10234:2019 and SANS 11014:2010

VOC content : Not applicable (inorganic)
Other properties : May generate electrostatic charges.

SECTION 10: Stability and reactivity

10.1. Reactivity

Violent exothermic reaction with many compounds e.g.: with (strong) oxidizers, with (some) halogens, with (some) acids/bases and with organic material: (increased) risk of fire/explosion. Reacts exothermically with (some) acids/bases: release of highly flammable gases/vapours. Reacts exothermically with (some) metals. In contact with water releases flammable gases which may ignite spontaneously.

10.2. Chemical stability

Unstable on exposure to moisture. Unstable on exposure to air.

10.3. Possibility of hazardous reactions

In contact with water releases flammable gases which may ignite spontaneously.

10.4. Conditions to avoid

Do not allow contact with air. Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition. Water, humidity.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Reacts with water (moisture): release of highly flammable gases/vapours (hydrogen).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

ZINC DUST (7440-66-6)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LC50 inhalation rat (mg/l)	> 5.41 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (dust), 14 day(s))

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified

Potential adverse human health effects and symptoms : Practically non-toxic if swallowed (LD50 oral, rat > 2000 mg/kg). Not irritant to skin. Practically non-toxic by inhalation (LC50 inh, rat > 5 mg/l/4h). Slightly irritant to eyes.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Dangerous for the environment. Very toxic to aquatic life with long lasting effects.
Ecology - air : Not included in the list of substances which may contribute to the greenhouse effect (IPCC). Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water : Very toxic to crustacea. Toxic to crustacea with long lasting effects. Very toxic to fishes. Harmful to fish, with long lasting effects. Inhibition of activated sludge. Nitrification of activated sludge is inhibited. Very toxic to algae. Very toxic to algae, with long lasting effects. May cause eutrophication at very low concentration.
Hazardous to the aquatic environment, short-term (acute) : Very toxic to aquatic life.
Hazardous to the aquatic environment, long-term (chronic) : Very toxic to aquatic life with long lasting effects.

ZINC DUST (7440-66-6)	
LC50 fish 1	439 µg/l (96 h, Cottus sp., Flow-through system, Fresh water, Experimental value)
EC50 Daphnia 1	416 µg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Ceriodaphnia dubia, Static system, Fresh water, Experimental value, Locomotor effect)

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According to SANS 10234:2019 and SANS 11014:2010

ZINC DUST (7440-66-6)	
BCF fish 1	28.3 – 96.05 (14 day(s), Danio rerio, Flow-through system, Fresh water, Read-across)

12.2. Persistence and degradability

ZINC DUST (7440-66-6)	
Persistence and degradability	Biodegradability in soil: not applicable. Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

ZINC DUST (7440-66-6)	
BCF fish 1	28.3 – 96.05 (14 day(s), Danio rerio, Flow-through system, Fresh water, Read-across)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

ZINC DUST (7440-66-6)	
Mobility in soil	No additional information available
Ecology - soil	Adsorbs into the soil.

12.5. Other adverse effects

Ozone	: Not classified
Other adverse effects	: No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Do not discharge into drains or the environment. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle/reuse.
Additional information	: Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
14.1. UN number		
1436	1436	1436
14.2. Proper Shipping Name		
ZINC DUST	ZINC DUST	Zinc dust
14.3. Transport hazard class(es)		
4.3 (4.2)	4.3 (4.2)	4.3 (4.2)
		 Not applicable
14.4. Packing group		
II	II	II
14.5. Environmental hazards		
Dangerous for the environment : Yes	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available		

14.6. Special precautions for user

- SANS

Transport regulations (UN)	: Subject to the provisions
Limited quantities (SANS)	: 0
Limited quantities (SANS)	: 0

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Packagings, large packagings and IBCs : P410, IBC07
Packing instructions (SANS)

Packagings, large packagings and IBCs Special : B2
packing instructions (SANS)

Portable tank and bulk containers instructions : T3
(SANS)

Portable tank and bulk container special : TP33
provisions (SANS)

- IMDG

Transport regulations (IMDG) : Subject to the provisions

Limited quantities (IMDG) : 0

Excepted quantities (IMDG) : E2

Packing instructions (IMDG) : P410

Special packing provisions (IMDG) : PP31, PP40

IBC packing instructions (IMDG) : IBC07

IBC special provisions (IMDG) : B21

Tank instructions (IMDG) : T3

Tank special provisions (IMDG) : TP33

EmS-No. (Fire) : F-G - FIRE SCHEDULE Golf - WATER-REACTIVE SUBSTANCES

EmS-No. (Spillage) : S-O - SPILLAGE SCHEDULE Oscar - SUBSTANCES DANGEROUS WHEN WET (NON-COLLECTABLE ARTICLES)

Stowage category (IMDG) : A

Properties and observations (IMDG) : In contact with water, alkalis or acids, evolves hydrogen, a flammable gas. Zinc dust is easily ignited, causing explosion. May explode when in contact with oxidizing substances.

- IATA

Transport regulations (IATA) : Forbidden

PCA Excepted quantities (IATA) : E2

PCA Limited quantities (IATA) : Forbidden

PCA limited quantity max net quantity (IATA) : Forbidden

PCA packing instructions (IATA) : 483

PCA max net quantity (IATA) : 15kg

CAO packing instructions (IATA) : 490

CAO max net quantity (IATA) : 50kg

Special provisions (IATA) : A3, A803

ERG code (IATA) : 4SW

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health, and environmental national regulations specific for the product

Regulatory reference : SANS 10234:2008; SANS 11014:2010; SANS 10228:2012; SANS 10229:2010; SANS 10232(1,2,4), SANS 10231:2018; Occupational Health and Safety Act 85 of 1993; National Road Traffic Act 93 of 1996.

SECTION 16: Other information

Issue date : 02/07/2020

Revision date : 02/07/2025

Full text of H-statements:

H250	Catches fire spontaneously if exposed to air.
H260	In contact with water releases flammable gases which may ignite spontaneously.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

SDS South Africa

The data provided in this Safety Data Sheet (SDS) is correct to the best of our knowledge. The data relates to the specific product as named and is intended as a guide to the safe handling of the product in all its facets. The data may no longer be valid if the product is used in any process or in combination with other products. This SDS is not a quality specification nor any form of guarantee.