

Material Safety Data Sheet Of Feed Grade Zinc Oksite

Section 1: Product And Company Identification

- Product identifiers**

Product name: Feed Grade Zinc Oksite
Product Number: FPV-4
Brand: Pangoo
CAS number: 1314-13-2
EC number: 215-222-5

- Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Feed for animals

- Details of the supplier of the safety data sheet**

Company : Pangoo Biotech Hebei Co., Ltd.
Telephone : 0086-317-8585021
Fax : 0086-317-3171801

- Emergency telephone number**

Emergency Phone : 0086-317-8585021

Section 2: Hazards Identification

Classification of the substance or mixture

Classification

Classification according to Regulation (EC) No 1272/2008 (CLP/GHS)	
Hazard categories	Hazard statement
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

For full text of H-phrases: see section 2.2.

Classification according to Directive 67/548/EEC (DSD)	
Hazard categories	Hazard statement
N	R50/53

For full text of R-phrases: see section 16.

The most important adverse effects.

The most important adverse physicochemical effects: Not available. The most important adverse human health effects: Not available.

The most important adverse environmental effects: Very toxic to aquatic life with long lasting effects.

Label elements

Hazard pictogram:



Signal word: Warning
Hazard statements: H410: Very toxic to aquatic life with long lasting effects
Precautionary statements: P273: Avoid release to the environment
P391: Collect spillage.
P501: Dispose of contents/container carefully in according to local/regional/national regulations

Other hazards

Substance meets the criteria for PBT according to Regulation (EC) No 1907/2006, Annex XIII: No

Substance meets the criteria for vPvB according to Regulation (EC) No 1907/2006, Annex XIII: No

Section 3: Composition/Information On Ingredients

CAS#	Chemical Name:	%	EINECS#
1314-13-2	Zinc oxide (ZnO) Zinc (Zn)	95% 76.3%	215-222-5

Section 4: First-Aid Measures

Description of first aid measures

After skin contact: Remove contaminated clothing. Wash the contaminated clothing before using it again. When in contact with the skin, clean with soap and water.

After eye contact: Immediately take off contact lenses and flush open eyes with large amounts of water for at least 15 minutes. Avoid a strong water stream in order not to harm the cornea. If one eye is contaminated, protect the other one during rinsing. If symptoms do not recede, get medical attention

After ingestion: Do not induce vomiting. If conscious, give large quantities of water to drink. Obtain medical advice.

After inhalation: If respiratory discomfort occurs, remove the exposed person from the hazardous place to fresh air. Remove contaminated clothing. Ensure calmness and warmth (cover the victim with blankets). Control breath and pulse.

Most important symptoms and effects, both acute and delayed

At inhalation: scratchy feeling in the throat, cough.

At ingestion: sweet taste in the mouth, algor, fever, lassitude, nausea, vomiting, abdominal pains. At contact with skin and eye mucous tunic: mild hyperemia

Indication of any immediate medical attention and special treatment needed

In case of symptoms occur it is necessary to get medical attention

Section 5: Fire-fighting Measures

Extinguishing media:

All extinguishing media

Special hazards arising from the substance:

Zinc oxide is fire/explosion safe material, not subject to thermal destruction

Advice for firefighters:

Zinc Oxide fumes may be released in a fire involving zinc oxide. Fire fighters must be fully trained and wear full protective clothing including an approved, self contained breathing apparatus which supplies a positive air pressure within a full face piece mask.

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:

Observe regulations for work processes. Observe regulations for transportation and storage. Hermetically sealed containers. In case of accident evacuate everybody from the hazardous area who does not participate in the elimination of accident. Use breathing apparatus when with independent air supply (isolated) Use personal protective clothing and glasses

Environmental precautions:

Do not discharge into the leaked container
Do not discharge into the drains/surface water/groundwater Do not discharge into the subsoil/soil
Report water contamination to local authorities

Methods and material for containment and cleaning up:

Pick up mechanically. Avoid raising dust.
Send in suitable containers for recovery or disposal. If it is possible reuse the material.

Section 7: Handling And Storage

Precautions for safe handling:

Protective measures:

Comply with the general safety and fire protection regulations. Avoid direct contact with eyes and skin. Provide good ventilation of working area (local exhaust ventilation if necessary). Regular control of dust content in the air of working area.

Advice on protection against fire and explosion

Keep away from sources of ignition - refrain from smoking. Dust can form an explosive mixture with air. Take precautionary measures against static charges.

Advice on general occupational hygiene:

Do not eat and drink in the working place; wash hands (or even the whole body) after the work. Keep the personal protective clothing clean.

Conditions for safe storage, including any incompatibilities:

Use only containers that are approved specifically for the substance/product. Zinc oxide has no flammability, explosive or self-inflammability properties.

Advice on storage compatibility:

Do not store together with foodstuffs.
Do not store together with animal feedstocks. Do not store together with Acids and Bases
Keep container tightly closed and dry in a cool, well-ventilated place.

Specific end use(s): Not available.

Section 8: Exposure Controls/Personal Protection

Control parameters. Occupational exposure limits:

OELs for ZnO – group: “slightly soluble / insoluble Zn compounds”

(e.g.: **ZnO** - Zn(OH)₂ - Zn₃(PO₄)₂ - ZnCO₃ - Zn metal – ZnS)

Country/ organisation	8 hour-TWA mg/m ³	15 min-STEL mg/m ³	References
USA	5 (fumes)	10 (fumes)	
	10 (dust)	(ceiling)	

USA	5 (fumes)		OSHA (1989) (legal limit values)
	15 (dust; total)		
	5 (dust; respirable)		
The Netherlands	5 (fumes)		SZW (1997)
Germany	5 (fumes)		DFG (1997)
	6 (dust)		
UK	5 (fumes)		HSE (1998)
	10 (dust)		
Sweden	5 (fumes)		National Board of Occupational Safety and Health, Sweden (1993)
Denmark	4 (fumes)		Arbejdstilsynet (1992)
	10 (dust)		
Poland	5 (fumes)	10 (fumes)	Regulation of the Minister of Labour and Social Policy (29 November 2002)

The DNELs for inhalation derived under REACH are: (Inhalable fraction – Workers)

DNEL_{inhal} soluble Zn (worker) = 1 mg Zn/m³;

DNEL_{inhal} insoluble Zn (worker) = 5 mg Zn/m³;

Exposure controls:

Appropriate engineering controls:

Local exhaust ventilation system (high efficiency 90-95%)

Cyclones/filters (for minimizing dust emissions): efficiency: 70-90% (cyclones), 50-80% (dust filters), 85- 95% (double stage, cassette filters)

Process enclosure, especially in potentially dusty units

Dust control: dust and Zn in dust needs to be measured in the workplace air (static or individual) according to national regulations.

Special care for the general establishment and maintenance of a clean working environment by e.g.:

Cleaning of process equipment and workshop

Storage of packaged Zn finished product in dedicated zones

Individual protection measures, such as personal protective equipment:

Wearing of gloves and protective clothing is compulsory (efficiency >=90%).

With normal handling, no respiratory personal protection (breathing apparatus) is necessary. If risk for exceedance of OEL/DNEL, use e.g.:

-dust filter-half mask P1 (efficiency 75%)

-dust filter-half mask P2 (efficiency 90%)

-dust filter-half mask P3 (efficiency 95%)

-dust filter-full mask P1 (efficiency 75%)

-dust filter-full mask P2 (efficiency 90 %)

-dust filter-full mask P3 (efficiency 97.5%)

Eyes: safety glasses are optional

Information-training of the workers and their staff and line managers focused on careful hygiene behaviour.

Section 9: Physical and Chemical Properties

Appearance: solid powder or granules

Odour: odourless

Colour white

pH: Not applicable

Molecular weight 81.39 g/mol

Melting point: 1975°C

Boiling point / range: Not relevant; the sample decomposes before boiling

Flash point Not applicable

Evaporation rate (n-butyl acetate = 1): Not available

Flammability: Non-flammable

Upper/lower flammability or explosive limits Not available **Vapour pressure:** Not applicable

Vapour density: Not available

Relative density (at 20 °C): 5.68 g/cm³.

Water solubility: 2.9 mg/l at 20°C (PH > 6.07 < 6.55) Log partition coefficient (n-octanol/water): Not applicable

Auto-ignition temperature The substance is not auto-flammable

Viscosity: Not applicable

Explosive properties Zinc oxide has no flammability, explosive or self- inflammability properties.

Oxidising properties: No oxidising properties

Granulometry The D50 of ZnO is 1.05 µm, the D80 is <20 µm.

Other information: Not available.

Section 10: Stability and Reactivity

Reactivity

Reacts with chloric acids by creation of zinc chloride; reacts with sulphuric acids by creation of zinc sulphite; reacts with magnesium by creation of heat; zinc oxide in form of dust reacts shortly with chlorined rubber at 215°C.

Chemical stability

Stable in recommended storage conditions.

Possibility of hazardous reactions

No data available

Conditions to avoid

Avoid contact with incompatible materials

Incompatible materials

Strong oxidizing agents, acids

Hazardous decomposition products

ZnO-fume can be generated during thermal processing.

Section 11: Toxicological Information

Information on toxicological effects	
Acute toxicity	
By oral route	5,000 mg/kg bw < LD ₅₀ < 15,000mg/kg bw No classification for acute oral toxicity
By inhalation	LC50 values of > 5.7 mg/L/4hrs No classification for acute inhalation toxicity
By dermal	LD50 > 2000 mg/kg bw No classification for acute dermal toxicity
Irritation/corrosion	
Skin	Not irritant
Eye	Not irritant
Respiratory tract	Not irritant

Sensitisation	No sensitizing effects known
Germ cell mutagenicity	No biologically relevant genotoxic activity
Carcinogenicity	No experimental or epidemiological evidence exists to justify classification of zinc compounds for carcinogenic activity
Reproductive toxicity	No experimental or epidemiological evidence exists to justify classification of zinc compounds for reproductive or developmental toxicity
Specific target organ toxicity (single exposure)	No experimental or epidemiological sufficient evidence for specific target organ toxicity (single exposure)
Specific target organ toxicity (repeated exposure)	No experimental or epidemiological sufficient evidence for specific target organ toxicity (repeated exposure)
Aspiration hazard	Not available

Section 12: Ecological Information

Toxicity

Ecotoxicity:

The hazard of zinc and zinc compounds is determined by the Zn⁺⁺ ion and the capacity of the zinc ion to be released from the substances.

Aquatic toxicity: EC50——		
PH	EC50 value for Zn ⁺⁺	Test
<7	0.67 mg Zn/l	48 hr Ceriodaphnia dubia test
>7	0.21 mg Zn/l	72 hr Selenastrum capricornutum test
PNECs		
Environmental compartment	PNEC value for Zn ⁺⁺	
Freshwater	20.6 µg/L	
Saltwater	6.1 µg/L	
Freshwater sediment	235.6 mg/kg sediment dry weight	
Saltwater sediment	113 mg/kg sediment dry weight	
Soil	106.8 mg/kg soil dry weight	
STP	52 µg/L	

Terrestrial toxicity

Long term toxicity to invertebrates: Not available

Effects on soil microorganism: Not available

Long-term toxicity to plant: Not available Long-term or reproductive toxicity to birds: Not available

Persistence and degradability

Biotic	Ready biodegradability: Simulation testing:	Not considered to be readily biodegradable Not available

Abiotic	Hydrolysis as a function of pH: Identification of degradation products: Photolysis: Atmospheric oxidation:	Will not undergo hydrolysis Not available Will not undergo photolysis Will not undergo atmospheric oxidation
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Bioaccumulative potential

Not expected to bioaccumulate due to the low log Kow < 3.

Mobility in soil

Adsorption / desorption: Not expected to adsorb to soil or sediment due to the low log Kow < 3

Results of PBT and vPvB assessment

Does not meet criteria.

Other adverse effects

Not available

Section 13: Disposal Considerations

Waste treatment methods

Product:

Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

Packaging:

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse. Packaging that cannot be cleaned should be disposed of in agreement with the regional waste disposal company.

Section 14: Transport Information

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

Section 15: Regulatory Information

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

All necessary information on the substance is provided in this safety data sheet.

Chemical safety assessment

Chemical Safety Assessment has been performed for ZnO.

Section 16: Other Information

- "IMO" : not dangerous for sea transport

Disclaimer

Additional references can be taken from the label or the product description. The information given here is correct to the best of our knowledge at the time of writing this sheet. No responsibility can be taken for improper use or handling of the product.

