



WEST BENGAL CHEMICAL INDUSTRIES LIMITED

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Email: [webcil@wbcil.com](mailto:webcil@wbcil.com) Website: [www.wbcil.com](http://www.wbcil.com)

## Section 1 - Chemical Product and Company Identification

**1.1 MSDS Name:** Zinc Bis Glycinate

**1.2 Product Code:** ZBG2529

**1.3 Relevant uses and uses advised against (if any):**

1.3.1 Relevant identified uses

Nutritional (food) aid or supplement.

1.3.2 Uses advised against:

No specific uses advised against are identified.

**1.4 Company Identification:**

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## Section 2 - Hazards Identification

**2.1 Classification of the substance or mixture:**

Classified according to GB-CLP Regulation, UK SI 2019/720 and UK SI 2020/1567.

2.1.1 Hazard classification

Acute Tox. 4,

Skin Irrit. 2,

Eye Dam. 1,

Aquatic Acute 1

**2.2 Signal Word:**

Danger

**2.3 Hazard Statements:**

H302 - Harmful if swallowed.

H315 Causes skin irritation. H318 Causes serious eye damage. H333 May be hazardous if inhaled. H400 Very toxic to aquatic organisms.

H400 - Very toxic to aquatic life.

**2.4 Precautionary Statements:**

**Prevention**

- P264: Wash hands thoroughly after handling.



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## Section 2 - Hazards Identification

- P280: Wear protective gloves, Wear eye/face protection.
- P273: Do not disperse in the environment.

### Response

- P302 + P352: IF ON SKIN: Wash with plenty of water.
- P304 + P312: IF INHALED: Call a doctor if the person feels unwell.
- 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, seek medical advice.
- P391: Collect spillage.

### Disposal

- P501: Dispose of contents/container in accordance with national regulations.

### 2.5 Potential Acute Health Effects:

Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

### 2.6 Potential Chronic Health Effects:

#### 2.6.1 Carcinogenic effects:

Not available.

#### 2.6.2 Mutagenic effects:

Not available.

#### 2.6.3 Teratogenic effects:

Not available.

#### 2.6.4 Developmental toxicity:

Not available. Repeated or prolonged exposure is not known to aggravate medical condition.

### 2.7 Other hazards:

Based on the available data, no PBT or vPvB substances are present in accordance with Regulation (EC) 1907/2006, annex XIII Based on available data, there are no substances that interfere with the Endocrine System in accordance with Regulation (EU) 2017/2100 The use of this chemical agent involves the obligation of "risk assessment" by the employer in accordance with the provisions of Legislative Decree n. 81 April 9, 2008. Workers exposed to this chemical agent should not be subject to health surveillance if the results of the risk assessment show that, depending on the type and amount of hazardous chemical agent and the method and frequency of exposure to the agent, you only an "irrelevant risk" for the health and safety of



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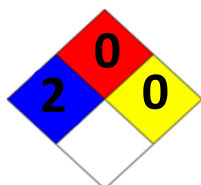
## Section 2 - Hazards Identification

workers and that the measures envisaged in the same legislative decree are sufficient to reduce the risk.  
EbC50-algae (*Pseudokirchneriella subcapitata*) 0.137 mg/l -72h Not determined -3.21 (25 °C)

### 2.8 Pictogram



### 2.9 NFPA SCALE:



NFPA SCALE (0-4)

### 2.17 HMIS RATINGS:

Health	2
Flammability	0
Physical Hazard	0
Personal protection	E

HMIS RATINGS (0-4)

## Section 3 - Composition / Information on Ingredients

3.1 Chemical Name: Zinc Bis Glycinate

3.2 CAS Number: 14281-83-5

3.3 Molecular Formula:  $C_4H_8N_2O_4Zn$

3.4 Molecular Weight: 213.5 g/mol

3.5 Content: 25%- 29% w/w (as Zinc)

3.6: EC number: 238-173-1

3.7 Synonym: Zinc (II) bisglycinate, Bis(glycinato)zinc



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## Section 4 - First Aid Measures

### 4.1 Description of first aid measures:

#### 4.1.1 General Information:

Show this safety data sheet to the attending doctor

#### 4.1.2 Inhalation:

Move exposed person to fresh air. If not breathing, seek immediate medical attention. If breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel and seek medical attention.

#### 4.1.3 Ingestion:

Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Seek medical attention.

#### 4.1.4 Skin Contact:

Remove contaminated clothing and shoes and immediately flush skin with plenty of water for at least 15 minutes. Wash clothing before reuse. Clean shoes thoroughly before reuse. If irritation persists, seek medical attention.

#### 4.1.5 Eye Contact:

Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Seek immediate medical attention.

### 4.2 Main Symptoms and Effects, Acute and Delayed:

No data available.

### 4.3 Medical Attention and Special Treatments that should be given immediately:

As in all cases of suspected poisoning, follow the ABCDEs of emergency medicine (airway, breathing, circulation, disability, exposure), then the ABCDEs of toxicology (antidotes, basics, change absorption, change distribution, change elimination). For poisons (where specific treatment regime is absent):

#### 4.3.1 Basic treatment:

Establish a patent airway with suction where necessary. Watch for signs of respiratory insufficiency and assist ventilation as necessary. Administer oxygen by non-rebreather mask at 10 to 15 L/min. Monitor and treat, where necessary, for pulmonary oedema. Monitor and treat, where necessary, for shock. Anticipate seizures. DO NOT use emetics. Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.

#### 4.3.2 Advanced treatment:

Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred. Positive-pressure ventilation using a bag-valve mask might be of use. Monitor and treat, where necessary, for arrhythmias. Start an IV D5W TKO. If signs of hypovolemia are present use lactated Ringers solution. Fluid overload might create complications. Drug therapy should be considered for pulmonary oedema. Hypotension with signs of hypovolemia requires the cautious administration of fluids.



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## Section 4 - First Aid Measures

Fluid overload might create complications. Treat seizures with diazepam. Proparacaine hydrochloride should be used to assist eye irrigation. Absorption of zinc compounds occurs in the small intestine. The metal is heavily protein bound. Elimination results primarily from fecal excretion.

The usual measures for decontamination (Ipecac Syrup, lavage, charcoal or cathartics) may be administered, although patients usually have sufficient vomiting not to require them. CaNa<sub>2</sub>EDTA has been used successfully to normalize zinc levels and is the agent of choice.

## Section 5 - Fire-Fighting Measures

### 5.1 Flammability of the Product:

May be combustible at high temperature.

### 5.2 Appropriate extinguishing methods:

Use water spray, alcohol-resistant foam, dry powder or carbon dioxide. Proceed according to surrounding materials.

### 5.3 Inadequate extinguishing methods:

None known

### 5.4 Auto-Ignition Temperature:

Not available.

### 5.5 Flash Points:

Not available.

### 5.6 Flammable Limits:

Slightly flammable to flammable in presence of heat. Non-flammable in presence of shocks.

### 5.7 Products of Combustion:

These products are carbon oxides (CO, CO<sub>2</sub>), nitrogen oxides (NO, NO<sub>2</sub>...). Some metallic oxides.

### 5.8 Fire Hazards in Presence of Various Substances:

Slightly explosive in presence of open flames and sparks. Non-explosive in presence of shocks.

### 5.9 Fire Fighting Media and Instructions:

#### 5.9.1 SMALL FIRE:

Use DRY chemical powder.

#### 5.9.2 LARGE FIRE:

Use water spray, fog or foam. Do not use water jet.

### 5.10 Special Remarks on Fire Hazards:

Fire is possible at elevated temperatures.

### 5.11 Special Remarks on Explosion Hazards:

Fine dust dispersed in air in sufficient concentrations, and in the presences of an ignition source is a potential dust explosion hazard.

### 5.12 Advice for firefighters:



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## Section 5 - Fire-Fighting Measures

Use protection for the breathing apparatus. Safety helmet and full protective suit. The spray water can be used to protect the people involved in the extinction. You may also use self-respirator, especially when working in confined and poorly ventilated area and if you use halogenated extinguishers (Halon 1211 fluobrene, Solkan 123, NAF, etc...). Keep containers cool with water spray.

## Section 6 - Accidental Release Measures

### 6.1 Personal precautions, protective equipment, and emergency procedures:

#### 6.1.1 Instructions for non-emergency personnel:

Avoid inhaling dust. Avoid contact with the substance. Ensure adequate ventilation. Evacuate the hazardous area, follow emergency procedures, and seek advice from experts.

### 6.2 Environmental precautions:

Do not allow the product to enter the sewer system.

### 6.3 Methods and materials for containment and cleaning:

Cover drains. Collection and suction of spills. Observe possible material restrictions (refer to instructions in sections 7 or 10). Collect dry and proceed with waste disposal. Rinse thoroughly. Avoid dust formation.

#### 6.3.1 Spill control and recovery:

Wear appropriate personal protective equipment as specified in Section 8. Clean up spills in a manner that does not disperse dust into the air. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container

#### 6.3.2 Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to legal requirements.

#### 6.3.3 Large Spill:

Do not inhale dust, vapors, mist, or gas. Avoid dust formation. Contain spilled material. Cover with an inert, non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite). Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate as per law.

#### 6.3.4 Disposal:

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

### 6.4 Reference to other sections:

Refer to paragraphs 8 and 13 for more information



## Section 7 - Handling and Storage

### 7.1 Handling:

Avoid contact with eyes. Avoid breathing dust. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use.



### 7.2 Storage:

Store in accordance with local regulations. Store in original container, protected from direct sunlight. Keep container tightly closed and sealed until ready for use.

#### 7.2.1 Suitable container:

Polyethylene or polypropylene container. Check all containers are clearly labelled and free from leaks.

#### 7.2.2 Storage incompatibility:

Avoid reaction with oxidizing agents

#### 7.2.3 Hazard categories in accordance with Regulation (EC) No 2012/18/EU (Seveso III)

E1: Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1

7.2.4 Qualifying quantity (tons) of dangerous substances as referred to in Article 3(10) for the application of E1 Lower- / Upper-tier requirements: 100 / 200

## Section 8 - Exposure Controls / Personal Protection

### 8.1 Control parameters

Ingredient	DNELs Exposure Pattern Worker	PNECs Compartment
Not available	Not Available	Not Available

• Values for General Population: Not Available

### Occupational Exposure Limits (OEL)

#### INGREDIENT DATA

Source	Ingredient	Material Name	TWA	STEL	Peak	Notes
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## Section 8 - Exposure Controls / Personal Protection

Zinc Glycinate	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
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Not Applicable

Ingredient	Original IDLH	Revised IDLH
Zinc Glycinate	Not Available	Not Available

### Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
Zinc Glycinate	E	≥ 0.01 mg/m <sup>3</sup>

**Notes:** Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on chemical potency and adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.

### 8.2 Exposure controls:

8.2.1 Appropriate engineering controls: Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

**The basic types of engineering controls are:** Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.

Employers may need to use multiple types of controls to prevent employee overexposure.

- Local exhaust ventilation is required where solids are handled as powders or crystals; even when particulates are relatively large, a certain proportion will be powered by mutual friction.
- Exhaust ventilation should be designed to prevent accumulation and recirculation of particulates in the workplace.
- If in spite of local exhaust an adverse concentration of the substance in air could occur, respiratory protection should be considered. Such protection might consist of:
  - (a): particle dust respirators, if necessary, combined with an absorption cartridge;
  - (b): filter respirators with absorption cartridge or canister of the right type;
  - (c): fresh-air hoods or masks
- Build-up of electrostatic charge on the dust particle, may be prevented by bonding and grounding.





## Section 8 - Exposure Controls / Personal Protection

- Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to efficiently remove the contaminant.

Type of Contaminant	Air Speed
Direct spray, spray painting in shallow booths, drum filling, conveyor loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1–2.5 m/s (200–500 ft/min)
Grinding, abrasive blasting, tumbling, high-speed wheel-generated dusts (released at high initial velocity into zone of very high rapid air motion)	2.5–10 m/s (500–2000 ft/min)

Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favorable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only	2: Contaminants of high toxicity
3: Intermittent, low production	3: High production, heavy use
4: Large hood or large air mass in motion	4: Small hood – local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 4-10 m/s (800-2000 ft/min) for extraction of crusher dusts generated 2 metres distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

### 8.3 Individual protection measures, such as personal protective equipment:



8.3.1 Eye and face protection: Safety glasses with side shields.



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## Section 8 - Exposure Controls / Personal Protection

Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent]

Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

### 8.3.2 Skin and Hands/feet protection

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended. Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.
- Contaminated gloves should be replaced.

As defined in ASTM F-739-96 in any application, gloves are rated as:

- Excellent when breakthrough time > 480 min
- Good when breakthrough time > 20 min
- Fair when breakthrough time < 20 min



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## Section 8 - Exposure Controls / Personal Protection

- Poor when glove material degrades

For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.

It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.

Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers technical data should always be considered to ensure selection of the most appropriate glove for the task.

**Note:** Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:

- Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed.

However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.

- Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended. Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.

- polychloroprene.
- nitrile rubber.
- butyl rubber.
- fluorocautchouc.
- polyvinyl chloride.

Gloves should be examined for wear and/ or degradation constantly.

Other protection

- Overalls.
- P.V.C apron.
- Barrier cream.
- Skin cleansing cream.
- Eye wash unit.

**8.3.3 Respiratory protection:** Type -P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
Up to 10 × ES	P1	-	PAPR-P1



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## Section 8 - Exposure Controls / Personal Protection

Up to 50 × ES	Air-line*	P2	PAPR-P2
Up to 100 × ES	-	P3	-
100+ × ES	-	Air-line**	PAPR-P3

\* - Negative pressure demand

\*\* - Continuous flow

**A (All classes)** = Organic vapors,

**B AUS or B1** = Acid gasses,

**B2** = Acid gas or hydrogen cyanide (HCN),

**B3** = Acid gas or hydrogen cyanide (HCN),

**E** = Sulfur dioxide (SO<sub>2</sub>),

**G** = Agricultural chemicals,

**K** = Ammonia (NH<sub>3</sub>),

**Hg** = Mercury,

**NO** = Oxides of nitrogen,

**MB** = Methyl bromide,

**AX** = Low boiling point organic compounds (below 65°C)

- Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.

- The decision to use respiratory protection should be based on professional judgment that considers toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).

- Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.

- Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.

- Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)

- Use approved positive flow mask if significant quantities of dust become airborne.

- Try to avoid creating dust conditions.

Class P2 particulate filters are used for protection against mechanically and thermally generated particulates or both.

**P2 is a respiratory filter rating under various international standards, Filters at least 94% of airborne particles**

**Suitable for:**

- Relatively small particles generated by mechanical processes eg. grinding, cutting, sanding, drilling, sawing.



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## Section 9 - Physical and Chemical Properties

<b>Appearance</b>	:	Free flowing powder, hygroscopic in nature.
<b>Color</b>	:	White to off white
<b>Odor</b>	:	None.
<b>Odor threshold</b>	:	Not available.
<b>pH</b>	:	5.0-7.5
<b>Relative density</b>	:	Not available.
<b>Melting point/freezing point</b>	:	Not available.
<b>Initial boiling point and boiling range</b>	:	Not available.
<b>Flash point</b>	:	Not available.
<b>Auto-ignition temperature</b>	:	Not available.
<b>Decomposition temperature</b>	:	248° C
<b>Upper/lower flammability or explosive limits</b>	:	Not available.
<b>Vapor pressure</b>	:	Not available.
<b>Vapor density</b>	:	Not available.
<b>Evaporation rate</b>	:	Not available.
<b>Flammability (solid, gas)</b>	:	Not available.
<b>Partition coefficient</b>	:	-3.21 (25°)
<b>Density and/or relative density</b>	:	≥0.65 g/ml
<b>Solubility in water</b>	:	Min. 97%
<b>Viscosity</b>	:	Not available.
<b>Molecular Formula</b>	:	C <sub>4</sub> H <sub>8</sub> N <sub>2</sub> O <sub>4</sub> Zn
<b>Molecular Weight</b>	:	213.5

## Section 10 - Stability and Reactivity

### 10.1 Reactivity:

No data available

### 10.2 Stability:

The product is stable.

### 10.3 Instability Temperature:

Not available.

### 10.4 Conditions to avoid:

Avoid moisture, heat, and sources of ignition. Do not smoke. Take precautions against electrostatic discharge. Check for dust.

### 10.5 Conditions of Instability:

Excess heat, excess dust generation, incompatible materials



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## Section 10 - Stability and Reactivity

### 10.6 Incompatibility with various substances:

Reactive with acids.

### 10.7 Hazardous decomposition products:

May generate carbon, zinc, nitrogen and sulfur oxides by thermal decomposition

### 10.8 Corrosivity:

Not available.

## Section 11 - Toxicological Information

### 11.1 RTECS Reference:

No data available

### 11.2 Target Organs:

No data available

### 11.3 Toxicity Data:

LD50, oral - Rat >300 - ≤2.000 mg/kg

### 11.4 Acute toxicity: Harmful product:

do not ingest.

#### 11.4.1 skin corrosion/irritation:

If brought into contact with the skin, the product causes significant inflammation with erythema, scabs, or edema.

#### 11.4.2 Serious eye damage/irritation:

If brought into contact with eyes, the product causes serious damages to eyes, such as an opaque cornea or injury to iris.

#### 11.4.3 Respiratory or skin sensitization:

Based on available data, the classification criteria are not met

### 11.5 Carcinogenicity:

No data available

### 11.6 Mutagenicity in germ cells:

No data available.

### 11.7 Special Remarks on reactivity:

Incompatible with strong mineral acids, and strong organic acids.

### 11.8 Special Remarks on Corrosivity:

Not available.

### 11.9 Polymerization:

Will not occur

### 11.10 Reproductive toxicity:



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## Section 11 - Toxicological Information

No data available

### 11.11 Specific target organ toxicity (STOT) - single exposure:

No data available

### 11.12 Specific target organ toxicity (STOT) - repeated exposure:

Inhalation - May cause damage to organs through prolonged or repeated exposure: No data available

### 11.13 Aspiration hazard:

Based on available data, the classification criteria are not met.

### 11.14 Information on other hazards:

Endocrine disrupting properties

No evidence of endocrine disrupting properties was found in the current literature.

## Section 12 - Ecological Information

### 12.1 Toxicity:

Very toxic to aquatic organisms.

EbC50-algae (*Pseudokirchneriella subcapitata*) 0.137 mg/l -72 h

### 12.2 BOD5 and COD:

No data available

### 12.3 Results of PBT and vPvB assessment:

This substance/mixture does not contain components that are considered to be bioaccumulative and persistent toxic (PBT) or very bioaccumulative and very persistent (vPvBM) at levels of 0.1% or higher.

### 12.4 Products of Biodegradation:

Possibly hazardous short-term degradation products are not likely. However, long term degradation products may arise

### 12.5 Bioaccumulative potential:

-3.21 (25 °C)

### 12.6 Mobility in soil:

Not determined

### 12.7 Toxicity of the Products of Biodegradation:

The product itself and its products of degradation are not toxic.

### 12.8 Special Remarks on the Products of Biodegradation:

No data available

## Section 13 - Disposal Considerations



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Do not reuse empty containers. Dispose of them in accordance with the regulations in force. Any remaining product should be disposed of according to applicable regulations by addressing to authorized companies. Recover if possible. Operate according to local or national regulations. Refer to local government authority for disposal recommendation.

## Section 14 - Transport Information

### 14.1 UN Number:

3077

### 14.2 UN proper shipping designation:

Environmentally hazardous substance, solid, N.O.S.

### 14.3 Transport hazard class(es):

The product does not represent any hazard during transport by land, sea or air.

### 14.4 Packaging group:

III. Corrugated cardboard box.

### 14.5 Environmental hazard:

Environmentally hazardous. Avoid release of the product to the environment.

### 14.6 Special precautions for users:

Information not available. Transport in bulk according to Annex II of the MARPOL Convention and the IBC Code. N.A.



### 14.7 DOT Classification:

Not a DOT controlled material.

### 14.8 Identification:

Not applicable.

### 14.9 Special Provision for Transport:

Not applicable.

## Section 15 - Regulatory Information

### Federal and State Regulations:

**California prop. 65:** This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: **No products were found.**

**California prop. 65:** This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: **No products were found.**

**SARA 313 toxic chemical notification and release reporting:** Zinc compounds.

**Other Regulations:** Not available.





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## Section 15 - Regulatory Information

### Other Classifications:

**WHMIS (Canada):** Not controlled under WHMIS (Canada).

**DSCL (EEC):** This product is not classified according to the EU regulations. Not applicable.

**HMIS (U.S.A.):**

**Health Hazard:** 1

**Fire Hazard:** 1

**Reactivity:** 0

**Personal Protection:** E

**National Fire Protection Association (U.S.A.):**

**Health:** 1

**Flammability:** 1

**Reactivity:** 0

**Specific hazard:**

**Protective Equipment:**

Gloves. Lab coat. Dust respirator. Safety glasses.

**Additional Regulatory Information:** Not Applicable

This safety data sheet is in compliance with the following EU legislation and its adaptations - **as far as applicable** - : Directives 98/24/EC, - 92/85/EEC, - 94/33/EC, - 2008/98/EC, - 2010/75/EU; Commission Regulation (EU) 2020/878; Regulation (EC) No 1272/2008 as updated through ATPs.

### Information according to 2012/18/EU (Seveso III):

<b>Seveso Category</b>	E1
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### 15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

National Inventory Status

National Inventory	Status
Australia – AIC / Australia Non-Industrial Use	Yes
Canada – DSL	No (zinc glycinate)
Canada – NDSL	-
China – IECSC	Yes
Europe – EINECS / ELINCS / NLP	Yes
Japan – ENCS	Yes
Korea – KECI	No (zinc glycinate)
New Zealand – NZIoC	Yes



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Philippines – PICCS	No (zinc glycinate)
USA – TSCA	Yes
Taiwan – TCSI	Yes
Mexico – INSQ	No (zinc glycinate)
Vietnam – NCI	Yes
Russia – FBEPH	No (zinc glycinate)

Legend:

- Yes = All CAS declared ingredients are on the inventory.
- No = One or more of the CAS-listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

## Section 16 - Other Information

**Disclaimer:** This material safety data sheet is provided as an information resource only. WEST BENGAL CHEMICAL INDUSTRIES LIMITED believes the information contained herein is accurate and compiled from reliable sources. It is the responsibility of the user to verify its validity. The buyer assumes all responsibility of using and handling the product in accordance with federal, state, and local regulations.

**LEGEND: -**

**ADR:** European agreement for the transport of dangerous goods by road

**CAS NUMBER:** Number of the Chemical Abstract Service

**EC50:** Concentration that gives effect to 50% of the population subject to testing

**CE NUMBER:** Identification number in ESIS (European archive of existing substances)

**CLP:** EC Regulation 1272/2008

**DNEL:** Derived level without effect

**EmS:** Emergency Schedule

**GHS:** Global harmonized system for the classification and labeling of chemical products

**IATA DGR:** Regulation for the transport of dangerous goods of the International Air Transport Association

**IC50:** Immobilization concentration of 50% of the population subjected to tests

**IMDG:** International maritime code for the transport of dangerous goods

**IMO:** International Maritime Organization

**INDEX NUMBER:** Identification number in the Annex VI of the CLP

**LC50:** Lethal concentration 50%



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## Section 16 - Other Information

**LD50:** 50% lethal dose

**OEL:** Occupational exposure level

**PBT:** Persistent, bioaccumulating and toxic according to REACH

**PEC:** Predictable environmental concentration

**PEL:** Predictable level of exposure

**PNEC:** Predictable no-effect concentration

**REACH:** EC Regulation 1907/2006

**RID:** Regulation for the international transport of dangerous goods by train

**TLV:** Threshold Limit Value

**TLV CEILING:** Concentration that must not be exceeded during any time of occupational exposure.

**TWA STEL:** Short-term exposure limit

**TWA:** Average weighted exposure limit

**VOC:** Volatile organic compound

**vPvB:** Very persistent and very bio-accumulative according to REACH

**WGK:** Class of aquatic hazard (Germany).

### GENERAL BIBLIOGRAPHY:

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2. Regulation (EC) 1272/2008 of the European Parliament (CLP)
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4. Regulation (EU) 2020/878 of the European Parliament
5. Regulation (EU) 286/2011 of the European Parliament (II Atp. CLP)
6. Regulation (EU) 618/2012 of the European Parliament (III Atp. CLP)
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