



Safety Data Sheet

Section 1 IDENTIFICATION

GHS Product identifier: Zinc Borate.

Product Code: ZB23

Other means of identification: /

Recommended use of the chemical and restrictions on use:

This material is mainly used as flame retardant, sometimes used as wood preservative.

Supplier's details: Shandong Chenxu New Material Co., Ltd.

South of Innovation Street East Extension, Hi -Tech Zone, Yucheng, Dezhou City, Shandong, China

Emergency phone number: +86-531-87978111

Section 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture:

Serious eye damage/eye irritation Category 2

Reproductive toxicity Category 2

Hazardous to the aquatic environment, short-term (Acute) Category 1

Hazardous to the aquatic environment, long-term (Chronic) Category 2

GHS Label elements, including precautionary statements:



Signal word: Warning

Hazard statement(s): Suspected of damaging fertility or the unborn child. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Precautionary statement(s):

Prevention:

Obtain, read and follow all safety instructions before use. Wash ... thoroughly after handling. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical help. IF exposed or concerned, get medical advice. Collect spillage.

Storage:

Store locked up.

Disposal:



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Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards which do not result in classification: None.

Section 3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Concentration%
Zinc Borate	12767-90-7	100%

Section 4 FIRST AID MEASURES

Description of necessary first aid measures

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

In case of skin contact: Wash off with soap and plenty of water. Consult a physician.

In case of eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If ingestion: Rinse mouth with water. Consult a physician.

Most important symptoms/effects, acute and delayed: /

Indication of immediate medical attention and special treatment needed, if necessary: /

Section 5 FIREFIGHTING MEASURES

Special hazards arising from the chemical: This substance is non-combustible.

Special protective actions for fire-fighters: Firefighters must wear air breathing apparatus, fire-fighting suits and protective gloves to extinguish in the upwind direction. Whenever possible, remove the container from the fire to open space and use spray water to cool unopened containers.

Section 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: It is recommended that emergency personnel wear protective masks and fire protective overalls. Do not touch the spill directly.

Environmental precautions: Isolate contaminated areas and restrict access.

Methods and materials for containment and cleaning up: Small amount of leakage: Avoid dusting, use a clean shovel to collect in a dry, clean, covered container and transfer to a safe place. Do not allow products to enter restricted areas such as sewers. A large amount of leakage: Cover with plastic sheeting and canvas. Use a non-sparking tool to collect the waste or transport it to a waste disposal site for disposal.

Section 7 HANDLING AND STORAGE

Precautions for safe handling: There should be sufficient local exhaust in workplace. Operators should be trained and strictly follow the operating procedures. Operators are advised to wear protective masks, normal protective clothing and rubber gloves. Operators should load and unload lightly during handling to prevent damage to the package. There should be leakage treatment equipment in workplace. There may be harmful residues in empty containers.



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Conditions for safe storage, including any incompatibilities: Store in a cool, dry, well-ventilated warehouse. Keep away from fire and heat. Protect from direct sunlight. The package should be sealed and not exposed to moisture. It should be stored separately from oxidants, alkalis, flammable materials, etc., and should not be mixed. The storage area should be provided with suitable materials to contain spills.

Special sensitivity: Moisture (Caking)

Section 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters: /

Appropriate engineering controls: Close strictly and provide sufficient local exhaust.

Individual protection measures

Eye/face protection: Wear a protective mask.

Skin protection: Wear normal protective clothing.

Respiratory protection: Air respirators should be worn during emergency rescue or evacuation.

Thermal hazards: /

Section 9 PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid powder.
Color	White
Odor	Weak Odor
Melting point/freezing point	/
Boiling point or initial boiling point and boiling range	/
Flammability	Non-flammable (used as a flame retardant)
Lower and upper explosion limit/flammability limit	/
Flash point	Not applicable: inorganic substance
Auto-ignition temperature	/
Decomposition temperature	/
Kinematic viscosity	/
Solubility	Insoluble in water.
Partition coefficient: n-octanol/water (log value)	/
Density and/or relative density	/
Particle characteristics	/
Formula	$2\text{ZnO} \cdot 3\text{B}_2\text{O}_3$

Section 10 STABILITY AND REACTIVITY

Reactivity: None known.

Chemical stability: This substance is stable in normal temperature.

Possibility of hazardous reactions: /

Conditions to avoid: Spark, static electricity and high temperature.

Incompatible materials: Oxidizers and flammable materials.

Hazardous decomposition products: None

Section 11 TOXICOLOGICAL INFORMATION



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Information on the likely routes of exposure: Inhaled, swallowed, skin, eyes.

Inhalation is the most significant route of exposure in occupational and other settings. Dermal exposure is not usually a concern because product is poorly absorbed through intact skin. Product is not intended for ingestion.

Symptoms related to the physical, chemical and toxicological characteristics:

Not expected to be irritating to the eyes, nose, throat or skin in normal industrial use. Occasional mild irritation effects to the nose and throat may occur from inhalation of dust at levels greater than 10 mg/m³

Acute health effects:

Inhalation can cause cough, throat irritation.

Ingestion can cause symptoms such as nausea, vomiting and abdominal pain.

Eyes contact can cause redness and irritation.

Skin contact can cause redness and irritation.

Chronic health effects: Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems.

Numerical measures of toxicity (such as acute toxicity estimates):

LD50(oral, rat): >5000 mg/kg

LD50(dermal, rabbit): >2000 mg/kg

Section 12 ECOLOGICAL INFORMATION

Ecotoxicity:

Endpoint	Test Duration (hr)	Species	Value
EC50	48	Crustacea	1mg/l
LC50	96	Fish	1.793mg/l
EC50	72	Algae or other aquatic plants	40.2mg/l
NOEC(ECx)	768	Fish	0.009mg/l
EC50	96	Algae or other aquatic plants	15.4mg/l

Persistence and degradability:

Biodegradation is not an applicable endpoint since the product is an inorganic substance.

Mobility in soil:

Zinc borate will hydrolyze under environmental conditions to boric acid and zinc hydroxide. Adsorption of boric acid to soils or sediments is minimal. Adsorption of zinc ions is described by partition coefficients and may vary with site-specific conditions.

Other adverse effects: None.

Section 13 DISPOSAL CONSIDERATIONS

Disposal methods:

Burial in a land-fill specifically licensed to accept chemical. Reuse of broken container is forbidden.

Section 14 TRANSPORT INFORMATION



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Transport Classification for Road (ADR/DOT/TDG) / Rail (RID); Inland waterways (ADN); Sea (IMDG); Air (IATA)

UN Number: 3077

UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.

Transport hazard class(es): 9

Packing group, if applicable: III

Environmental hazards: Marine pollutant

Section 15 REGULATORY INFORMATION

Regulations: This safety data sheet is in compliance with the following national standards: GB/T 16483-2008, GB 13690-2009, GB 18218-2018, GB 15258-2009, GB 6944-2012, GB 190-2009, GB/T 191-2008, GB 12268-2012, GB/T 15098-2008, GBZ 2.1-2019, GBZ 2.2-2007 as well as the following national regulations: Dangerous Goods Transport Administrative Regulation, Dangerous Chemicals Safety Administrative Regulation.

Section 16 OTHER INFORMATION

References	UN Recommendations on the Transport of Dangerous Goods Model Regulations UN Globally Harmonized System of Classification and Labelling of Chemicals
Form Date	15-January-2026

Note 1: When products contain two or more hazardous substances, Safety Data Sheets should be prepared based on the risk of the mixture.

Note 2: Manufacturer / supplier should ensure the correctness of the information contained in the safety data sheets, and updated in a timely manner.

Note 3: As a result of product features without the existence of certain information or no data available (such as boiling point does not exist for the solid) in the table with "/" logo.