



SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: WESTCO™ ZB

Other means of identification

Chemical characterization: Zinc Borate

Synonyms: Boric acid, zinc salts

Recommended use and restrictions on use

Recommended use: Flame retardant

Restrictions on use: No additional information available

Supplier information

Supplier: Western Reserve Chemicals

Supplier Address: 4837 Darrow Road,
Stow, OH 44224 USA

Telephone: 330-650-2244

Fax: 330-650-2255

Website: www.wrchem.com

Emergency phone number: Chemtrec: 1-800-424-9300 US

SECTION 2 – HAZARD(S) IDENTIFICATION

GHS Classification of the substance or mixture in accordance with 29 CFR 1910.1200

Eye Damage, Irritation Category 2A

Acute Aquatic Toxicity Category 1

Chronic aquatic toxicity, Category 1

GHS Label Elements



Hazard Symbol:

Signal word: Warning



Hazard statements:

Causes serious eye irritation.
Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.

Precautionary Statements:

Wash all exposed skin with soap and warm water thoroughly after handling this product.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
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 advice/attention.
Collect spillage.
Dispose of contents/container to an approved waste disposal plant.

SECTION 3 - COMPOSITION / INFORMATION ON INGREDIENTS

Formula: $4(\text{ZnO}) \cdot 6(\text{B}_2\text{O}_3) \cdot 7(\text{H}_2\text{O})$

<u>Components Chemical Identity</u>	<u>CAS Number</u>
Zinc borate	1332-07-6

SECTION 4 – FIRST AID MEASURES

Inhalation: Remove affected person to fresh air and keep comfortable for breathing. If not breathing, provide artificial respiration. If breathing is difficult, get immediate medical attention.

Ingestion: If swallowed, contact a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

Skin contact: Wash off immediately with soap and plenty of water and then to proceed to rinse thoroughly. Remove contaminated clothing and launder before reuse. If skin irritation or rash occurs, get medical advice/attention.

Eye contact: Check for and remove contact lenses if present and easy to do. Flush eyes with plenty of water trying to clean out upper and lower eyelid. Do this for several minutes and seek medical advice/attention.

General Advice: Move the exposed person to fresh air at once. Treat symptomatically.

Most important symptoms/effects, acute and delayed:



Eye contact:	No information available
Inhalation:	No information available
Skin contact:	No information available
Ingestion:	No information available

Notes to physician: Provide symptomatic/supportive care as necessary. Treatment based on sound judgment of physician and individual reactions of patient.

Indication of immediate medical attention and special treatment needed: Specific treatments in any case must be based on the physician's judgment and in response to the patient's reactions.

SECTION 5 – FIRE FIGHTING MEASURES

Suitable extinguishing method: In case of fire, use water spray, dry chemical, carbon dioxide or appropriate foam.

Unsuitable extinguishing method: No information available.

Specific hazards arising from chemical: Fire or high temperatures can create toxic gases, vapors or fumes of zinc born oxides.

Combustion products: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Fire/Explosion Hazard: Non-combustible or no significant fire risk.

Special firefighting equipment and precautions for firefighters: Avoid breathing smoke or fumes. As in any fire, wear a self-contained breathing apparatus (SCBA) operating in positive pressure mode, MSHA/NIOSH approved and full protective clothing. Do not allow runoff to penetrate ground or enter drains or waterways.



SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Wear protective equipment as indicated in Section 8. While cleaning up spills avoid dusting. Avoid contact with skin eyes and clothing. Ensure proper ventilation is available while handling.

Methods and materials for containment and cleaning up:

For small spill, use appropriate tools to place the spilled solid into a waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

For large spill, use a shovel to place the material into a waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Environmental precautions:

Avoid entry into the environment. In the event of a spill or accidental release that cannot be contained, notify the relevant authorities in accordance with all applicable regulations.

General Information: Product is a sparingly soluble white powder that may at high concentrations, cause damage to trees or vegetation by root absorption.

SECTION 7 - HANDLING AND STORAGE

Precautions for safe handling: Good hygienic practices should be observed. See Section 8 for personal protective equipment. Do not breathe dust. In case of insufficient ventilation, wear suitable respiratory equipment if needed. Avoid contact with eyes, skin and clothing. Wash all exposed skin and wash contaminated clothing immediately. Reclose containers of unused product. Do not eat, drink or smoke while working with this material.

Conditions for safe storage, including any incompatibilities: Store tightly sealed containers in a cool, dry, well-ventilated area away from any potential incompatible substances.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limits: OSHA/PEL: 5 mg/m³ 8 hour TWA

Appropriate engineering controls: General, local exhaust ventilation as necessary to control any air contaminants to within their exposure limits during use of this product. Adequate ventilation should be provided to keep dust concentration below acceptable exposure limits. Discharge from the ventilation system should comply with applicable air pollution control regulations. Facilities storing or utilizing this material should be equipped with eye wash station(s) and safety shower(s).

Individual protection measures, such as personal protective equipment:

- Respiratory protection:** Appropriate respiratory protection shall be worn when applied engineering controls are not adequate to protect against inhalation exposure. If dust is generated, wear NIOSH-approved dust respirator or dust mask. If vapors/dust are generated above exposure limits, use NIOSH approved full-face organic cartridge filter respirator, air supplied respirator or SCBA. Respirators should be selected and used in accordance with OSHA, Subpart 1 (29 CFR 1910.134)
- Eye/face protection:** Safety glasses with side shields or goggles.
- Skin/Hand protection:** Wear impervious gloves to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with good laboratory practices. Wash hands with soap and water.
- Body protection:** To protect the body, wear impervious clothing such as coveralls to minimize skin contact. Select protective equipment according to the concentration and amount of the dangerous substance at the specific workplace. Launder contaminated clothing before reuse.

SECTION 9 - PHYSICAL & CHEMICAL PROPERTIES

Appearance:	Colorless to White Solid Powder
Odor:	Odorless
Odor Threshold:	Not applicable
pH:	6.8-7.5 (Aqueous Solution)
Boiling Point/Range:	Not applicable
Melting Point:	>300°C
Freezing Point:	Not applicable
Flash Point (°C):	Not applicable
Flammable/Explosion Limits:	Not applicable
Relative Density/Specific Gravity:	2.7
Vapor Pressure:	Not applicable
Vapor Density:	Not applicable
Solubility:	<=0.025 g/l
Evaporation Rate:	Not applicable
Partition Coefficient: (n-octanol/water)	Not applicable
Auto-ignition Temperature:	Not applicable
Decomposition Temperature:	Not applicable
Viscosity:	Not applicable

SECTION 10 - STABILITY & REACTIVITY

Reactivity: Stable under normal conditions.

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: Under normal conditions of storage and use, hazardous reactions are not anticipated.

Conditions to avoid/Incompatible materials: Reaction with strong reducing agents such as metal hydrides or alkali metals will generate hydrogen gas which could create an explosive hazard. Avoid contact with strong acids and strong alkalis.

Hazardous decomposition products: Oxides of zinc boron.

SECTION 11 - TOXICOLOGICAL INFORMATION

Acute Toxicity

Product	Oral: LD50 (Rat): >5,000 mg/kg Dermal: LD50 (Rabbit): >5,000 mg/kg
Boric Acid (Component)	Inhalation: LC50 (Rat): >2.0 mg/l

Irritation/Corrosion:

Skin: No data available
Eyes: May cause eye irritation.
Respiratory: No data available

Sensitization:

Skin: No data available
Respiratory: No data available

Mutagenicity: No data available

Carcinogenicity: No data available

Reproductive toxicity: No data available

Teratogenicity: No data available

Specific target organ toxicity-single exposure: No data available

Specific target organ toxicity-repeated exposure: No data available

Aspiration hazard: Not applicable

Information on likely routes of exposure: No information available.

Potential acute health effects:

Eye contact: May cause eye irritation.
Inhalation: No information available.
Skin contact: No information available.
Ingestion: No information available.

Symptoms related to the physical, chemical and toxicological characteristics:

Inhalation: No specific data.
Skin Contact: No specific data.
Eye Contact: No specific data.
Ingestion: No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Short term exposure:

Potential immediate effects: Not available.
Potential delayed effects: Not available.

Long term exposure:

Potential immediate effects: Not available.
Potential delayed effects: Not available.

Potential chronic health effects: Not available.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity:

Toxicity to fish (Product)	LC50: 2.61 mg/l Exposure time: 96 h Species: Pimephales promelas (fathead minnow)
Toxicity to daphnia and other Aquatic invertebrates (Product)	EC50: 0.068 mg/l Species: Daphnia magna (Water flea)



Toxicity to algae
Boric Acid, zinc salt (Component)

EC50: 0.12 mg/l
Exposure time: 72 h
Species:Algae

Persistence and degradability: No data available.

Bioaccumulative potential: No data available.

Bioconcentration factor: No data available.

Mobility in soil: No data available

SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal instructions: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Empty containers should be handled in a manner not to cause dusting during collection, transportation and disposal. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues and must be treated as waste. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14 - TRANSPORTATION INFORMATION

	DOT (Highway)	DOT (Highway)
Package Size	< 1,000 lbs	>= 1,000 lbs
UN Number	Not Regulated	UN3077
Proper Shipping Name	N/A	Environmentally Hazardous Substance, Solid, NOS (Zinc Borate)
Transportation Hazard Class(es)	N/A	9
Packing Group (PG)	N/A	III
Marine Pollutant	NA	NA
Reportable Quantity (RQ)	1,000 lbs	1,000 lbs
Additional Information	N/A	N/A



	IATA (Air)	IMDG (Ocean)
Package Size	Any	Any
UN Number	UN3077	UN3077
Proper Shipping Name	Environmentally Hazardous Substance, Solid, NOS (Zinc Borate)	Environmentally Hazardous Substance, Solid, NOS (Zinc Borate)
Transportation Hazard Class(es)	9	9
Packing Group (PG)	III	III
Marine Pollutant	Yes	Yes
Reportable Quantity (RQ)	1,000	1,000 lbs
Additional Information	Cargo Pkg Inst: 956 Mat Net Qty. 400 kg	N/A

SECTION 15 - REGULATORY INFORMATION

U.S.:

TSCA Inventory Status: Chemical components are listed as Active or Exempt.

The listing is under the Inventory number of the anhydrous form of this inorganic salt.

U.S. EPA TSCA Inventory 1332-07-6

Title III SARA Status:

SARA Section 311 & 312-Hazardous Categories

Acute Health Hazard

SARA Section 313-Toxic Chemicals

Zinc borate appears on the Emergency Planning and Community Right to Know Act (EPCRA) or Superfund Amendments and Reauthorization Act (SARA), Section 313, Toxic Chemicals Release Inventory list under Zinc Compounds, 42 USC 11023, 40 CFR 372.65.

California Proposition 65:

This product does not contain any chemicals known to the State of California to cause cancer, birth defects or any other reproductive harm.

SECTION 16 - OTHER INFORMATION



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