

1: IDENTIFICATION

Chemical Name	Zinc Oxide, Boric Acid, Urea	Trade Name PLANTIGAIN BOZIC
Synonyms	Zinc Oxide, Boric Acid, Urea	
Uses	Fertilizer	Molecular Formula ZnO + BH ₃ O ₃ + CH ₄ N ₂ O
Manufacturer/ Supplier	Ulink AgriTech Pvt. Ltd. Office Nos. 001 And 002, Ground Floor Wing "A" And Nos. 003 And 004 Ground Floor Wing "B", Nyati Tech Park, Wadgaon Sheri, Pune - 411014, Maharashtra	
Emergency Contact	9503095030	E-mail info@agrostar.in

2: COMPOSITION/INFORMATION OF INGREDIENTS

Mixture

Chemical Name	CAS #	Percent or Content (w/w)
Water	7732-18-5	35% - 40%
Zinc oxide	1314-13-2	27% - 29%
Boric Acid	10043-35-3	11.5% - 13%
Urea	57-13-6	10% - 12%

3: HAZARD IDENTIFICATION

Classification of the Substance: Toxic to Reproduction , Categ. 1B, H360FD.

Label Elements: Hazard pictograms: GHS09, GHS07

Signal word: Danger

Precautionary Statements: P273, P280,P201,P308+P313,P391

Hazard Statements: H412: Harmful to aquatic life with long-lasting effects.

Other Hazards: Environment: Large amounts of the product can be harmful to plants and other species. Therefore releases to the environment should be minimised .

PBT or vPvB: Substance is not PBT or vPvB

4: FIRST AID MEASURES

General: Have the product container, label or safety data sheet while seeking medical attention, a poison control center or physician, or going for treatment.

Inhalation: Move person to fresh air and keep warm and at rest in a position comfortable for breathing. Immediately seek medical attention if symptoms are severe or persist.

Ingestion: The product is not intended for ingestion. Swallowing small quantities (one teaspoon) will cause no harm to healthy adults. If larger amounts are swallowed, give two glasses of water to drink. Seek medical attention immediately and show this container or label.

Skin Contact: Product is Irritant to skin. In case of skin contact, immediately wash skin area with plenty of water and soap. Seek medical attention .

Eye Contact: Rinse immediately with plenty of water for several minutes. After 5 minutes remove contact lenses if present and continue rinsing with plenty of water. Continue to rinse with eyelid wide open for at least 15-20 minutes. Seek medical attention if irritation develops.

Symptoms and Effects, Both Acute and Delayed: Symptoms of accidental over-exposure to high doses of inorganic borate salts have been associated with ingestion or absorption through large areas of severely damaged skin. These may include nausea, vomiting, and diarrhoea, with delayed effects of skin redness and peeling (see Section 11).

Note to Physician: Supportive care only is required for adult ingestion of less than a few grams of the product. For ingestion of larger amounts, maintain fluid and electrolyte balance and maintain adequate kidney function. Gastric lavage is only recommended for heavily exposed, symptomatic patients in whom emesis has not emptied the stomach. Hemodialysis should be reserved for patients with massive acute absorption, especially for patients with compromised renal function. Boron analyses of urine or blood are only useful for verifying exposure and are not useful for evaluating severity of poisoning or as a guide in treatment.

5: FIRE FIGHTING MEASURES

Extinguishing Media: Use extinguishing media that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media: None.

Specific Hazard: None. The substance is not flammable, combustible or explosive

Special Procedures: Do not discharge extinguishing water into the drain or water bodies. If risk of water pollution occurs, notify appropriate authorities. Move containers away from area if it can be done without risk. If possible without risk, remove containers from fire zone, cool with water spray. Approach fire from upwind to avoid hazardous vapours and toxic decomposition products. Dike area to prevent water runoff.

Protection of Fire Fighters: Apply standard procedures. No specific precaution is necessary. Some boron products are used as a flame retardant

6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Ventilate spillage area. For normal industrial exposures personal protective equipment is not required. Gloves and protective goggles, however must be considered one eye protection. complying with current legislation (UNI EN 374, UNI EN 14387, UNI EN 405, UNI EN 166).

Environmental Precaution: The product can cause damage to the plants or vegetation through absorption by the roots. Avoid contamination of water bodies during cleaning and disposal.

Methods for Cleaning-up: Appropriate containment: Prevent spills in water and cover discharges.

Spills into the ground: Aspirate, remove it with the help of a shovel or a broom and place in container for disposal according to local regulations apply.

Water spill: If possible, remove the water intact containers

7: HANDLING & STORAGE

Handling: Avoid spillage. Do not eat, drink, or smoke in working areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering areas where meals are consumed. Does not require special precautions handling; however , to preserve the integrity of the packaging manipulate the bags based on the principle "first-in, first-out"

Storage: Store in dry, cool and well-ventilated area away from strong reducing agents. Keep preferably at a temperature between 20°C and 25°C. Keep in original container and tightly closed when not in use. Keep out of reach of children. Do not contaminate water, food or feed by storage or disposal. Use normal safety procedure and good personal hygiene.

8: EXPOSURE CONTROL/PERSONAL PROTECTION

Engineering Measures: Use local exhaust ventilation to keep airborne concentrations of dust below permissible exposure limits. Handle in accordance with good industrial hygiene and safety practice.

General Protection: Avoid contact with eyes and skin. After use and before eating, drinking and smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves and contaminated clothing.

Personal Protection: Follow all precautions and instructions on the label. In all other cases the following recommendations would apply.

Respiratory Protection: If it is needed Wear protective masks (UN14387)

Skin Protection: Wear suitable protective working clothing including long sleeved shirt, long pants, gloves, shoes and socks to avoid skin contact. Any clothing or other absorbent material which has been drenched or heavily contaminated must be discarded.

Hand Protection: Chemical-resistant gloves made of any waterproof material such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyvinyl chloride (PVC) or Viton.

Eye Protection: Wear safety glasses with side shields or goggles for eyes protection should be used. Safety showers and eyewash should be easily available.

9: PHYSICAL/CHEMICAL PROPERTIES

Appearance: White or Beige liquid

Colour: White or beige

pH: 8.5

Odour : Odourless or slight smell of Ammonia

Solubility in Water: Not applicable

Physical State: Solid

Freezing Point: Liquid stable till 0°C.

Density [g/cc]: 1.3

10: STABILITY & REACTIVITY

Stability: Stable under normal circumstances. **Material to Avoid:** Strong reducing agents.

Hazardous Decomp. Products: None known

Conditions to Avoid: Boric acid is a weak acid can corrode the metals. Reaction with strong reducing agents such as metal hydrides and alkali metals, generates hydrogen gas which may cause a danger of explosion.

Hazardous Reactions: Reaction with strong reducing agents such as metal hydrides and alkali metals, generates hydrogen gas which may cause a danger of explosion

11: TOXICOLOGICAL INFORMATION

Acute Toxicity:

Rat oral LD50 [mg/kg] : 3,450 (male); 4080 (female)

Rat inhalation LC50 [mg/l] : > 2.4

Skin irritation (rabbit): Non-Irritant

Dermal (rabbit) LD50 [mg/kg]: >2000

Skin Sensitization (Guinea Pig): Non-sensitizer

Eye irritation (rabbit): Non-Irritant

Germ Cell Mutagenicity: Not mutagenic

Carcinogenicity: No evidence of carcinogenicity

Reproductive Toxicity: NOAEL in rats for developmental effects on the foetus including foetal weight loss and minor skeletal variations is 55 mg boric acid/kg bw or 9.6 mg B/kg

12: ECOLOGICAL INFORMATION

Boron is an essential micronutrient for healthy growth of plants, however, it can be harmful to boron sensitive plants in higher quantities. Care should be taken to minimize the amount of borate product released to the environment.

Daphnia magna 48 hr LC50: 76 mg B/L

Dab, Limanda limanda 96 hr LC50: 74 mg B/L

Persistence and Degradability: Boron is naturally occurring and ubiquitous in the environment. Zinc and boron will undergo hydrolysis in water to form boric acid and zinc hydroxide will biomagnify through the food-chain.

Bioaccumulative Potential: No bioaccumulation.

Mobility in Soil: Nutrient for species vegetables. The product is soluble in water and is leachable through normal soil with water.

13: DISPOSAL CONSIDERATION

Dispose in accordance with applicable local regulations. Not disperse in city drain or water course. Small quantities of boric acid can usually be disposed of at landfill sites. This product is classified as toxic to reproduction (Repr. 1B) and special disposal treatment is required. Dispose in accordance with applicable local regulations. Not disperse in city drain or water course.

14: TRANSPORT INFORMATION

UN No.: 3082

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (Zinc Oxide)

Land Transport (ADR/RID): Class- 9, Packaging group-III, Environmental Hazards-Yes

Sea Transport (IMO/IMDG): Class- 9, Packaging group-III, Marine Pollutant-Yes

Air Transport (IATA/ICAO): Class- 9, Packaging group-III, Environmental Hazards-Yes

15: REGULATORY INFORMATION

Hazard Symbols: GHS09, GHS07

Hazard Statement: H411, H360FD

16: OTHER INFORMATION

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