# ULINK AGRITECH PRIVATE LIMITED
## MATERIAL SAFETY DATA SHEET : NPK 0:25:26+B PERFORM

## 1:IDENTIFICATION

| | |
|---|---|
| **Chemical Name** | Potassium Octaborate Tetrahydrate, Potassium dihydrogen orthophosphate |
| **Synonyms** | Potassium Octaborate Tetrahydrate, Potassium dihydrogen orthophosphate **Trade Name NPK 0:25:26+B PERFORM** |
| **Uses** | Fertilizer **Molecular Formula** - |
| **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) |
|---|---|---|
| Potassium Octaborate Tetrahydrate | 12008-39-8 | 45% <= C <= 55% |
| Potassium Dihydrogen Orthophosphate | 7778-77-0 | 45% <= C <= 55% |

## 3: HAZARD IDENTIFICATION

**Classification of the Substance:** Toxic to Reproduction: Suspected of damaging the unborn child. (Category 2, H361D)

**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**: 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:** In case of contact with product, wash skin area with plenty of water and soap. No treatment is necessary because non-irritating

**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 known **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. streams. 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

**Environmental Precaution:** The product is a white powder that is soluble in water can cause damage to the plants or vegetation through absorption by the roots. Avoid contamination of water bodies during cleaning and disposal. Local water authorities advise not to use the contaminated water for irrigation or drinking water extraction until the natural dilution will have no reported boron values to normal environmental reference levels.

**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:** If user operations generate dust, fumes or mists, use ventilation to keep exposure to airborne contaminants below the exposure limit. Do not smoke, drink, or eat during handling. Wash hands and other exposed areas with soap and water before and after handling the product. Good personal hygiene procedures must be practiced.

**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:** Always use NIOSH/MSHA approved respiratory protection equipment .

**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 crystalline powder **Colour:** White **pH:** 6.5 (1% ) , 6.3 (5%) **Odour** : Odourless **Bulk Density [g/cc]:** 1.11

**Solubility in Water at 20°C:** 222 g/L (potassium dihydrogen orthophosphate )
: 48 g/l H2O (potassium octoborate ) **Physical State:** Solid **Melting Point [°C]:** > 500

## 10:STABILITY & REACTIVITY

**Stability:** Stable under normal circumstances. **Material to Avoid:** Strong reducing agents. **Hazardous Decomp. Products:** None known

**Conditions to Avoid:** High air humidity. Sunlight exposure.Temperatures under - 5°C and over 40°C .

**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

According to currently available data, this product has not yet produced health damages. Anyway, it must be handled carefully according to good industrial practices. This substance may have slight health effects on sensitive people, by inhalation and/or contact with eyes and/or ingestion

**Means of Exposure:** Ingestion, inhalation and trough not intact skin. **Corrosiveness/ Irritant Properties:** Slightly irritant to eyes and first respiratory system

**Acute Toxicity:** Ingestion: Low acute oral toxicity; The ingestion can provoke disturbs to the health, that they comprise abdominal pains with sting,nausea and vomit ; LD50 (rat) >> 2000 mg/Kg

Inhalation: Low acute inhalation toxicity; inhalation of vapors causes irritation of upper and lower respiratory tract with coughing and difficulty in breathing; at higher concentrations can also cause pulmonary edema.LC50 in rats is greater than 2 g/m3.

Eye irritation: Mild eye irritant in rabbits. Fifty years of occupational exposure to Potassium Tetraborate indicate no adverse effects on human eye.

Skin irritation: Low acute dermal toxicity; LD50 in rabbits is greater than 2000 mg/kg of body weight. Potassium Tetraborate is poorly absorbed through intact skin.

**Chronic Toxicity**: No evidence found **Carcinogenicity:** No evidence found **Sensitising Properties:** Potassium Tetraborate is not a skin sensitiser

## 12: ECOLOGICAL INFORMATION

**Phytotoxicity:** Boron occurs naturally in sea water at an average concentration of 5 mg B/l and fresh water at 1 mg B/l or less. 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.

*Based on Sodium Tetraborate Anhydrous*

**Freshwater - Acute Toxicity: EC/LC50** Algae: 10 mg B/L (Chlorella pyrenoidosa) to 28 mg B/L (Selenastrum capricornutum
Fish: 80 mg B/L (Pimephales promelas) to 627 mg B/L (Oncorhynchus tshawytscha)
Invertebrate and protozoan: 113 mg B/L (Ceriodaphnia dubia) to 1376 mg B/L (Chironomus decorus)

**Chronic Toxicity: NOEC/EC10** Algae: 10 mgB/L(Chlorella pyrenoidosa) to 50 mg B/L (Anacystis nidulans)
Fish: 2.9mgB/L (Micropterus salmoides) to 17 mg B/L (Carassius auratus)
Invertebrate and protozoan: 5.7mgB/L (Daphnia magna) to 32 mg B/L (Chironomus riparius)

**Persistence and Degradability:** Biodegradation is not an applicable endpoint since the product is an inorganic substance.

**Bioaccumulative Potential:** This product will undergo hydrolysis in water to form undissociated boric acid. Boric acid will not biomagnify through the food chain. Octanol/Water partition coefficient: Log Pow = -0.7570 @ 25°C.

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

## 13: DISPOSAL CONSIDERATION

Dispose in accordance with applicable local regulations .Not disperse in drain or water course.Small quantities of Potassium tetraborate can usually be disposed of at landfill sites. No special disposal treatment is required. Tonnage quantities of product are not recommended to be sent to landfills

## 14: TRANSPORT INFORMATION

This product is not regulated for transport.

## 15: REGULATORY INFORMATION

**Hazard Symbols:** GHS08 **Hazard Statement:** H361d: Suspected of damaging the unborn child

## 16: OTHER INFORMATION

DISCLAIMER OF LIABILITY The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.

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