ULINK AGRITECH PRIVATE LIMITED

MATERIAL SAFETY DATA SHEET : NUTRIPRO (DI-SODIUM OCTABORATE TETRAHYDRATE - BORON 20%)

1:IDENTIFICATION

Chemical Name	Disodium Octaborate Tetrahydrate		
Synonyms	DiSodium Octaborate Tetrahydrate	**Trade Name**	**NUTRIPRO (DI-SODIUM OCTABORATE TETRAHYDRATE -BORON 20%)**
Uses	Crop Nutrition		
Manufacturer/ Supplier	Ulink AgriTech Pvt. Ltd.	**Molecular Formula**	$Na_2B_8O_{13}.4H_2O$
	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

Chemical Name	CAS #	Percent or Content (w/w)
DiSodium Octaborate Tetrahydrate	2280-03-04	99.50%

3: HAZARD IDENTIFICATION

Emergency Overview: DiSodium Octaborate Tetrahydrate is a white, odorless, powder substance that is not flammable, combustible, or explosive and has low acute oral and dermal toxicity

Potential Ecological Effects: Large amounts of DiSodium Octaborate Tetrahydrate can be harmful to plants and other species. Accidental releases to the environment should be minimized.

Potential Health Effects:

Ingestion: Products containing DiSodium Octaborate Tetrahydrate are not intended for ingestion. DiSodium Octaborate Tetrahydrate has a low acute toxicity. Small amounts (e.g., a teaspoon) swallowed accidentally are not likely to cause effects; swallowing amounts larger than that may cause gastrointestinal symptoms

Skin Contact: Does not cause irritation to intact skin. **Eye Contact:** Non-irritating to the eyes in normal industrial use

Inhalation: Occasional mild irritation effects to the nose and throat may occur from inhalation of DiSodium Octaborate Tetrahydrate dust at levels greater than 10 mg/m^3

Cancer: DiSodium Octaborate Tetrahydrate is not a known carcinogen.

Reproductive/developmental: Animal ingestion studies in several species, at high doses, indicate that borates cause reproductive and developmental effects. A human study of occupational exposure to borate dust showed no adverse effect on reproduction.

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: If symptoms such as nose or throat irritation are observed, 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 and seek medical attention.

Skin Contact: No treatment 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 persists for more than 30 minutes.

Note to physician: No specific Antidote. Treat symptomatically.

5:FIRE FIGHTING MEASURES

Extinguishing Media: Use media suitable to the surrounding fire

Specific Hazard: None, because DiSodium Octaborate Tetrahydrate is not flammable, combustible or explosive. The product is itself a flame retardant.

Protection of Fire Fighters: Wear a self contained breathing apparatus and complete protective clothes.

6:ACCIDENTAL RELEASE MEASURES

Personal Precautions: Ventilate spillage area. Use personal protective equipment to avid contact. Evacuate personnel to safe areas.

Environmental Precaution: Do not allow runoff to enter drains and public waters as DiSodium Octaborate Tetrahydrate is a water-soluble white powder that may, at high concentrations, cause damage to trees or vegetation by root absorption. If

Methods for Cleaning-up:

Land Spill: Vacuum, shovel or sweep up DiSodium Octaborate Tetrahydrate and place in containers for disposal in accordance with applicable local regulations. Avoid contamination of water bodies during cleanup and disposal. Personal protective equipment is not needed to cleanup land spills.

Spillage to Water: Where possible, remove any intact containers from the water. Advise local water authority that none of the affected water should be used for irrigation or for the abstraction of potable water until natural dilution returns the boron value to its normal environmental background level.

7:HANDLING & STORAGE

Handling and Storage: No special handling precautions are required, but dry, indoor storage is recommended. To maintain package integrity and to minimize caking of the product, bags should be handled on a first-in, first-out basis. Good housekeeping procedures should be followed to minimize dust generation and accumulation.

8:EXPOSURE CONTROL/PERSONAL PROTECTION

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

General Protection: Avoid contact with eyes and skin. While handling the product wear waterproof pants, coat, hat, rubber boots or shoes. 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: Where airborne concentrations are expected to exceed exposure limits, NIOSH/MSHA certified respirators should be used.

Skin Protection: Wear suitable working/protective clothing 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: Eye goggles and gloves are not required for normal industrial exposures, but may be warranted if environment is excessively dusty. Safety showers and eyewash should be easily available.

Others: Wash clothing before reusing.

9:PHYSICAL/CHEMICAL PROPERTIES

Appearance: White crystalline powder

Physical State: Liquid

Odour : Odourless

Colour: White

pH: 7.2 - 8.3

Solubility in Water: 9.7% at 20°C; 34.3% at 50°C

Melting Point/ Freezing point [°C]: 815

Bulk Density [g/cc]: 0.8 (gms/cc) Heavy

Vapor Pressure: Negligible at 20 ˚C

10:STABILITY & REACTIVITY

Stability: Stable under normal circumstances.

Hazardous Decomp. Products: None

Incompatibilities Material & Condition to avoid: Reaction with strong reducing agents, such as metal hydrides of alkali metals, will generate hydrogen gas, which could create an explosive hazard.

11: TOXICOLOGICAL INFORMATION

Acute Toxicity:

Ingestion: Low acute oral toxicity.

Skin irritation: Non-irritant.

Skin/dermal: Low acute dermal toxicity. DiSodium Octaborate Tetrahydrate is poorly absorbed through intact skin.

Inhalation: Low acute inhalation toxicity.

Sensitization: DiSodium Octaborate Tetrahydrate is not a skin sensitizer.

Eye irritation: Years of occupational exposure to DiSodium Octaborate Tetrahydrate indicates no adverse effects on human eye. Therefore, DiSodium Octaborate Tetrahydrate is not considered to be a human eye irritant in normal industrial use.

12: ECOLOGICAL INFORMATION

Ecotoxicity:

General: Boron (B) is the element in DiSodium Octaborate Tetrahydrate which is used by convention to report borate product ecological effects. It occurs naturally in seawater at an average concentration of 5 mg B/L and generally occurs in freshwater at concentrations up to 1 mg B/L. In dilute aqueous solutions the predominant boron species present is undissociated boric acid. To convert DiSodium Octaborate Tetrahydrate into the equivalent boron (B) content, multiply by 0.2096.

Phytotoxicity: Boron is an essential micronutrient for healthy growth of plants; however, it can be harmful to boron sensitive plants in high quantities. Care should be taken to minimize the amount of DiSodium Octaborate Tetrahydrate released to the environment.

Environmental Effect:

Persistence/Degradation: Boron is naturally occurring and ubiquitous in the environment. DiSodium Octaborate Tetrahydrate decomposes in the environment to natural borate.

Octanol/ Water Partition Coefficient: No value. In aqueous solution DiSodium Octaborate Tetrahydrate is converted substantially into undissociated boric acid.

Soil Mobility: DiSodium Octaborate Tetrahydrate is soluble in water and is leachable through normal soil.

13: DISPOSAL CONSIDERATION

Small quantities of DiSodium Octaborate Tetrahydrate can usually be disposed of at landfill sites. No special disposal treatment is required, but local authorities should be consulted about any specific local requirements. Tonnage quantities of product should, if possible, be used for an appropriate application

14: TRANSPORT INFORMATION

Hazard Classification: Non-Hazardous

International Transportation: DiSodium Octaborate Tetrahydrate has no UN Number, and is not regulated under international rail, road, water or air transport regulations

15: REGULATORY INFORMATION

OSHA/Cal OSHA: This MSDS document meets the requirements of both OSHA and Cal OSHA.

OSHA Carcinogen: DiSodium Octaborate Tetrahydrate is not listed.

NFPA Ratings: Health: 0 Flammability: 0 Reactivity: 0

16: OTHER INFORMATION

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