	BOROCHEMIE (M) SDN. BHD. 200201013240 (580903-H)	Document No:	QR-LB-003
	Document Title: SAFETY DATA SHEET ACTIBOR 11	Date Issued:	01-Jan-23
		Revision:	000

ACTIBOR 11	Safety Data Sheet
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SECTION I - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name:	ACTIBOR 11	MANUFACTURER:	BOROCHEMIE(M) SDN BHD
Product use:	Agricultural Micronutrient		Unit No.12 No.3 Jalan Tun Teja 2, Industrial Park, 42000 Pelabuhan Klang Selangor, Darul Ehsan.
Chemical formula:	Na ₂ B ₄ O ₇ ·10H ₂ O		Tel No: +603 3179 0799
Chemical name/synonyms:	Sodium tetraborate decahydrate, disodium tetraborate decahydrate, borax decahydrate		Fax No: +603 3179 0643
Chemical Family:	Inorganic borates	HEALTH EMERGENCIES:	Email: marketing@borochemie.com
CAS Registry Number:	1303-96-4		Website: www.borochemie.com

SECTION II - COMPOSITION / INFORMATION ON INGREDIENTS

This product contains greater than 99.9% borax decahydrate, Na₂B₄O₇·10H₂O

SECTION III - HAZARD IDENTIFICATION

Classification of the substance according to GHS

Reproductive Toxicant, Category 2

H 361d : Suspected of damaging the unborn child

Eye irritant 2A

H319: Causes serious eye irritation.

Acute Oral 5

H303: May be harmful if swallowed.

GHS Label element, including precautionary statements



Warning

H361d: Suspected of damaging the unborn Child
H303: May be harmful if swallowed



Warning

H319: Causes serious eye irritation.

P201: Obtain special instruction before use.

P202: Do not handle until all safety precautions have been read and understood.

P264: Wash eyes thoroughly after handling.

P280: Wear protective glove/protective clothing/eye protection/face protection

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313: If eye irritation persists: Get medical advice/attention.

P308 + P313: if exposed or concerned: get medical advice/attention

P312: call a POISON CENTER/doctor/physician if you feel unwell

P405: Store locked up

EMERGENCY OVERVIEW: Actibor11 is a white, odorless, powdered substance that is not flammable, combustible, or explosive and has low acute oral and dermal toxicity.

POTENTIAL ECOLOGICAL EFFECTS: Large amounts of Actibor11 can be harmful to plants and other species. Therefore, releases to the environment should be minimized.

POTENTIAL HEALTH EFFECTS: Routes of exposure: Inhalation is the most significant route of exposure in occupational and other settings. Dermal exposure is not usually a concern because Actibor11 is poorly absorbed through intact skin.

INHALATION: Occasional mild irritation effects to nose and throat may occur from inhalation of Actibor11 dust at levels greater than 10 mg/m³.


EYE CONTACT: Actibor11 is non-irritating to eyes in normal use.

SKIN CONTACT: Actibor11 does not cause irritation.

INGESTION: Products containing Actibor11 are not intended for ingestion. Actibor11 has a low acute toxicity. Small amounts (e.g., a teaspoonful) swallowed accidentally are not likely to cause effects; swallowing amounts larger than that may cause gastrointestinal symptoms.

CANCER: Actibor11 is not a known carcinogen.

SIGNS AND SYMPTOMS OF EXPOSURE: Symptoms of accidental over-exposure to Actibor11 have been associated with ingestion or absorption through large area of damage skin. These may include nausea, vomiting and diarrhea, with delayed effects of skin redness and peeling.

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SECTION IV - FIRST AID MEASURES

Inhalation: If symptoms such as nose or throat are observed remove person to fresh air.

Eye Contact: Use eye wash fountain or fresh water to cleanse eye. If irritation persists for more than 30 minutes, seek medical attention.

Skin Contact: No Treatment necessary because non-irritating.

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.

SECTION V - FIRE FIGHTING MEASURES

General hazard: None, because Actibor11 is not flammable, combustible or explosive. The product is itself a flame retardant.

Extinguishing media: Any fire extinguishing media may be used on nearby fires.

Flammability: Non flammable

SECTION VI - ACCIDENTAL RELEASE MEASURES

General: Actibor11 is a water-soluble white powder that may, at high concentrations cause damage to trees or vegetation by root absorption.

Land spell: Vacuum, Shovel or sweep up Actibor11 and place in containers for disposal in accordance with applicable local regulations. Avoid contamination of water bodies during cleanup and disposal.

Spillage into 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.

SECTION VII - HANDLING AND STORAGE

General: 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.

Storage temperature: Ambient

Storage pressure: Atmospheric

Special sensitivity: Moisture (caking)

SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: Use local exhaust ventilation to keep airborne concentrations of Actibor11 dust below permissible exposure levels.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White, Odorless, Crystalline solid
Specific gravity: 1.71
Vapor pressure: Negligible @ 20°C
Molecular weight: 381.83
Solubility in water: 4.70% @ 20°C; 65.64 % @ 100°C

Melting point: 62°C (heated in closed placed)
pH @ 20°C: 9.3 (0.1% solution)
9.2 (1.0% solution)
Flash Point: Non flammable
Explosion Hazard: Non explosive

SECTION X - STABILITY AND REACTIVITY

General: Actibor11 is a stable product, but when heated, it loses water, eventually forming anhydrous borax (Na₂B₄O₇)

Hazardous decomposition: None.

Incompatible materials and conditions to avoid: Reaction with strong reducing agents, such as metal hydrides or alkali metals, will generate hydrogen gas, which could create an explosive hazard.

SECTION XI - TOXICOLOGICAL INFORMATION

Acute toxicity

Ingestion: Low acute oral toxicity; LD50 in rats is 4,500 to 5000 mg/kg of body weight.

Skin/dermal: Low acute dermal toxicity; LD50 in rabbits is greater than 10,000 mg/kg of body weight. Actibor11 is poorly absorbed through intact skin


Other:

Inhalation: Low acute inhalation toxicity; LC50 in rats is greater than 2.0 mg/L (or g/m³).

Skin irritation: Non-irritant.

Eye irritation: Draize test in rabbits produced mild eye irritation effects. Fifty Years of occupational exposure to Actibor11 indicates no adverse effects on human eye. Therefore, Actibor11 is not considered to be a human eye irritant in normal industrial use.

Sensitization: Actibor11 is not a skin sensitizer

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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 tetraborate decahydrate into the equivalent boron (B) content, multiply by 0.1134.

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 Borax release to the environment

Algal toxicity:

Green algae, *Scenedesmus subspicatus*

96-hr EC10 = 24 mg B/L†

Invertebrate toxicity:

Daphnids, *Daphnia magna* Straus

24-hr EC50 = 242 mg B/L†

Test substance: † sodium tetraborate

96-hr LC50 = 74 mg B/L†

Freshwater:

Rainbow trout, *S. gairdneri* (embryo-larval stage)

24-day LC50 = 88 mg B/L†

32-day LC50 = 54 mg B/L†

Goldfish, *Carassius auratus* (embryo-larval stage)

7-day LC50 = 65 mg B/L†

3-day LC50 = 71 mg B/L†

Environmental fate data

Persistence/degradation: Boron is naturally occurring and ubiquitous in the environment. Actibor11 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: Actibor11 is soluble in water and is leachable through normal soil.

SECTION XIII - DISPOSAL CONSIDERATIONS

Disposal guidance: Small quantities of Actibor11 can usually be disposed of at landfill sites. No special disposal 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.

SECTION XIV - TRANSPORT INFORMATION

ACTIBOR11 has no UN number and is not regulated under international rail, road, water or air transport regulations.

SECTION XV- REGULATORY INFORMATION

OSHA/Cal OSHA: This MSDS document meets the requirements of both OSHA (29 CFR 1910.1200) and Cal OSHA(Title 8 CCR 5194 (g)) hazard communication and standards.

Chemical Inventory Listing: Disodium Octaborate tetrahydrate (ACTIBOR 11), appears on several chemical inventory lists (including the EPA RSCA inventory, Canadian DSI, European EINECS, Japanese MITI, Australian and Korean lists) under the CAS no. representing the anhydrous form of this inorganic salt.

U.S. EPA TSCS Inventory	12008-41-2
Canadian DSL	12008-41-2
EINECS	234-541-0
South Korea	9312-3213

Safe Drinking Water Act (SDWA): Disodium octaborate tetrahydrate is not regulated under the SDWA, 42 USC 300g-l, 40 CFR 141 et seq.

Clean Water Act(CWA) (Federal Water Pollution Control Act): 33 USC 1251 et seq.

a) Disodium octaborate tetrahydrate is not itself a discharge covered by any water quality criteria of Section 304 of the CWA, 33 USC 1314

b) It is not on the Section 307 List of Priority Pollutants, 33 USC 1317, 40 CFR 129

c) It is not on the Section 311 List of Hazardous

Canadian Drinking Water Guideline: An "Interim Maximum Acceptable Concentration" (IMAC) for boron is currently set at 5mgB/L

IARC: The International Agency for Research on Cancer (IARC) (a unit of the World Health Organization) does not list or categorize disodium octaborate tetrahydrate as a carcinogen.

OSHA Carcinogen: Disodium octaborate tetrahydrate is not listed

Clean Air Act (Montreal Protocol) : ACTIBOR 11 was not manufactured with and does not contain any Class I and Class II ozone depleting substances.

SECTION XVI- OTHER INFORMATION

For general information on toxicology of inorganic borates, see Patty's Industrial Hygiene and Toxicology, 4th Ed. Vol.II.(1994)

For further information contact

BOROCHEMIE (M) SDN. BHD.

Health Emergencies

+603 3179 0799

This MSDS summarises BRCM's best knowledge of the health and safety hazard information of the selected substance and how to safely handle the selected substance in the workplace however BRCM expressly disclaims that the MSDS is a representation or guarantee of the chemical specifications for the substance. Each user should read the MSDS and consider the information in the context of how the selected substance will be handled and used in the workplace including its use in conjunction with other substances.