



<b>BOROCHÉMIE</b>	<b>BOROCHÉMIE (M) SDN. BHD.</b> 200201013240 (580903-H)	Document No:	QR-LB-003
	Document Title:	Date Issued:	01-Jan-23
	<b>SAFETY DATA SHEET</b> <b>ACTIBOR 20</b>	Revision:	000

<b>ACTIBOR20</b>	<b>Safety Data Sheet</b>
<b>SECTION I - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION</b>	
<b>Product name:</b> ACTIBOR20 <b>Product use:</b> Micronutrient in agriculture  <b>Chemical formula:</b> Na <sub>2</sub> B <sub>8</sub> O <sub>13</sub> · 4H <sub>2</sub> O <b>Chemical name/synonyms:</b> Disodium octaborate tetrahydrate <b>Chemical Family:</b> Inorganic borates <b>CAS Registry Number:</b> 12280-03-4	<b>MANUFACTURER:</b> <b>BOROCHÉMIE(M) SDN BHD</b> Unit No.12 No.3 Jalan Tun Teja 2, Industrial Park, 42000 Pelabuhan Klang Selangor, Darul Ehsan. Tel No: +603 3179 0799 Fax No: +603 3179 0643 Email: marketing@borochemie.com  <b>HEALTH EMERGENCIES:</b> Website: www.borochemie.com
<b>SECTION II - COMPOSITION / INFORMATION ON INGREDIENTS</b>	
This product contains greater than 98% Disodium Octaborate Tetrahydrate, Na <sub>2</sub> B <sub>8</sub> O <sub>13</sub> · 4H <sub>2</sub> O	
<b>SECTION III - HAZARD IDENTIFICATION</b>	
<b>CLASSIFICATION OF THE SUBSTANCE:</b> Reproductive toxicant, Category 2 H 361 d: Suspected of damaging the unborn child  <b>Acute Oral 5</b> H303: May be harmful if swallowed.  <b>GHS Label element, including precautionary statements</b>  <div style="display: flex; align-items: center;">  <div style="margin-left: 10px;">             H361d: Suspected of damaging the unborn Child              H303: May be harmful if swallowed           </div> </div> <p>Warning</p> <p><b>P201:</b> Obtain special instruction before use.</p> <p><b>P202:</b> Do not handle until all safety precautions have been read</p> <p><b>P280:</b> Wear protective glove/protective clothing/eye protection/face protection</p> <p><b>P308 + P313:</b> if exposed or concerned: get medical advice/attention</p> <p><b>P312:</b> call a POISON CENTER/doctor/physician if you feel unwell</p> <p><b>P405:</b> Store locked up</p>	<b>INGESTION:</b> Products containing Actibor20 are <u>not</u> intended for ingestion. Actibor20 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. <b>CANCER:</b> Actibor20 is not a known carcinogen. <b>SIGNS AND SYMPTOMS OF EXPOSURE:</b> Symptoms of accidental over-exposure to Actibor20 might include nausea, vomiting, and diarrhea, with delayed effects of skin redness and peeling.  <b>EMERGENCY OVERVIEW:</b> Actibor20 is a white, odorless, powdered substance that is not flammable, combustible, or explosive and has low acute oral and dermal toxicity. <b>POTENTIAL ECOLOGICAL EFFECTS:</b> Large amounts of Actibor20 can be harmful to plants and other species. Therefore, releases to the environment should be minimized. <b>POTENTIAL HEALTH EFFECTS:</b> Routes of exposure: Inhalation is the most significant route of exposure in occupational and other settings. Dermal exposure is not usually a concern because Actibor20 is poorly absorbed through intact skin. <b>INHALATION:</b> Occasional mild irritation effects to nose and throat may occur from inhalation of Actibor20 dust at levels greater than 10 mg/m <sup>3</sup> . <b>EYE CONTACT:</b> Actibor20 is non-irritating to eyes in normal use. <b>SKIN CONTACT:</b> Actibor20 does not cause irritation.
<b>SECTION IV - FIRST AID MEASURES</b>	
<b>Inhalation:</b> If symptoms such as nose or throat are observed remove person to fresh air. <b>Eye Contact:</b> Use eye wash fountain or fresh water to cleanse eye. If irritation persists for more than 30 minutes, seek medical attention.	<b>Skin Contact:</b> No Treatment necessary because non-irritating. <b>Ingestion:</b> 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.
<b>SECTION V - FIRE FIGHTING MEASURES</b>	
<b>General hazard:</b> None, because Actibor20 is not flammable, combustible or explosive. The product is itself a flame retardant.	<b>Extinguishing media:</b> Any fire extinguishing media may be used on nearby fires. <b>Flammability:</b> Non flammable
<b>SECTION VI - ACCIDENTAL RELEASE MEASURES</b>	
<b>General:</b> Actibor20 is a water-soluble white powder that may, at high concentrations cause damage to trees or vegetation by root absorption. <b>Land spill:</b> Vacuum, Shovel or sweep up Actibor20 and place in containers for disposal in accordance with applicable local regulations. Avoid contamination of water bodies during cleanup and disposal.	<b>Spillage into water:</b> 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. Actibor20 is a non-hazardous waste when spilled or disposed of, as defined in the Resource Conservation and Recovery Act (RCRA) regulations (40 CFR 261).

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#### 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 Actibor20 dust below permissible exposure levels.

#### SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** White, Odorless, Powder  
**Bulk density:** 0.410 to 0.570 gr/cm<sup>3</sup>  
**Vapor pressure:** Negligible @ 20°C  
**Molecular weight:** 412.52  
**Solubility in water:** 9.74% @ 20°C; 24.36 % @ 30°C  
29,14 @ 40° C, 35.36% @ 50°C

**Melting point:** 815°C  
**pH @ 20°C:** 8.28 (3.0% solution)  
7.75 (10.0% solution)  
**Flash Point:** Non flammable  
**Explosion Hazard:** Non explosive

#### SECTION X - STABILITY AND REACTIVITY

**General:** Actibor20 is a stable product.  
**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 2,550 mg/kg of body weight.

**Skin/dermal:** Low acute dermal toxicity; LD50 in rabbits is greater than 2,000 mg/kg of body weight. Actibor20 is poorly absorbed through intact skin.

##### Other:

##### Human Data

Human epidemiological studies show no increase in pulmonary disease in occupational populations with chronic exposures to boric acid dust and sodium borate dust. Recent epidemiological studies under the conditions of normal occupational exposure to borate dust indicated no effect on fertility.

**Inhalation:** Low acute inhalation toxicity; LC50 in rats is greater than 2.0 mg/L (or g/m<sup>3</sup>).

**Skin irritation:** Non-irritant.

**Eye irritation:** Draize test in rabbits produced mild eye irritation effects. Years of occupational exposure to Actibor20 indicates no adverse effects on human eye. Therefore, Actibor20 is not considered to be a human eye irritant in normal industrial use.

**Sensitization:** Actibor20 is not a skin sensitizer

#### SECTION XII - ECOLOGICAL INFORMATION

##### Ecotoxicity data

**General:** Boron (B) is the element in disodium octaborate tetrahydrate (Actibor20) 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.

##### 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

##### Fish toxicity:

##### Seawater

Dab, *Limanda limanda*  
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. Actibor20 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:** Actibor20 is soluble in water and is leachable through normal soil.

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#### SECTION XIII - DISPOSAL CONSIDERATIONS

**Disposal guidance:** Small quantities of Actibor20 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

ACTIBOR20 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 20) 1220-03-4 , 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.

<b>U.S. EPA TSCS Inventory</b>	12008-41-2
<b>Canadian DSL</b>	12008-41-2
<b>EINECS</b>	234-541-0
<b>South Korea</b>	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 dischargecovered 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 categorie disodium octaborate tetrahydrate as a carcinogen.

**OSHA Carcinogen:** Disodium octaborate tetrahydrate is not listed

**Clean Air Act (Montreal Protocol) :** ACTIBOR 20 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) Chap.42, Boron; ECETOC Tech.Report No.63 (1995)

##### For further information contact

**BOROCHEMIE (M) SDN. BHD.**

**Health Emergencies**

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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.