
	<b>BOROCHEMIE (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 56</b>	Revision:	000

ACTIBOR 56	Safety Data Sheet
<b>SECTION I - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION</b>	
<b>Product name:</b> ACTIBOR 56 <b>Product use:</b> Agricultural Micronutrient Ceramics, Detergent, Cosmetic Borosilicate glass, Textiles fibreglass  <b>Chemical formula:</b> H <sub>3</sub> BO <sub>3</sub> <b>Chemical name/synonyms:</b> Boric acid, Orthoboric acid, Boracic acid <b>Chemical Family:</b> Inorganic borates <b>CAS Registry Number:</b> 10043-35-3	<b>MANUFACTURER:</b> <b>BOROCHEMIE(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 Website:</b> www.borochemie.com
<b>SECTION II - COMPOSITION / INFORMATION ON INGREDIENTS</b>	
The product contains greater than 99.9 percent (%) boric acid (H <sub>3</sub> BO <sub>3</sub> ).	
<b>SECTION III - HAZARD IDENTIFICATION</b>	
<p><b>CLASSIFICATION OF THE SUBSTANCE: Reproductive toxicant, Category 2</b>  H361d: Suspected of damaging the unborn child</p> <p><b>Acute Oral 5</b>  H303: May be harmful if swallowed.</p> <p><b>GHS Label element, including precautionary statements</b></p> <div style="display: flex; align-items: center;">  <div> H361d: Suspected of damaging the unborn Child  H303: May be harmful if swallowed </div> </div> <p><b>Warning</b>  <b>P201:</b> Obtain special instruction before use.  <b>P202:</b> Do not handle until all safety precautions have been read  <b>P280:</b> Wear protective glove/protective clothing/eye protection/face protection  <b>P308 + P313:</b> if exposed or concerned: get medical advice/attention  <b>P312:</b> call a POISON CENTER/doctor/physician if you feel unwell  <b>P405:</b> Store locked up  <b>EMERGENCY OVERVIEW:</b> Actibor17 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 Actibor17 can be harmful to plants and other species. Therefore, releases to the environment should be minimized.</p> <p><b>INGESTION:</b> Products containing Actibor17 are not intended for ingestion. Actibor17 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> Actibor17 is not a known carcinogen.  <b>SIGNS AND SYMPTOMS OF EXPOSURE:</b>  Symptoms of accidental over-exposure to Actibor17 have been associated with ingestion or absorption through large areas of damaged skin. These may include nausea, vomiting and diarrhea, with delayed effects of skin redness and peeling.</p> <p><b>POTENTIAL HEALTH EFFECTS:</b> Inhalation is the most significant route of exposure in occupational and other settings. Dermal exposure is not usually a concern because Actibor17 is poorly absorbed through intact skin.  <b>INHALATION:</b> Occasional mild irritation effects to nose and throat may occur from inhalation of Actibor17 dust at levels greater than 5 mg/m<sup>3</sup>.  <b>EYE CONTACT:</b> Actibor17 is non-irritating to eyes in normal use.  <b>SKIN CONTACT:</b> Actibor17 does not cause irritation.</p>	
<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 Actibor17 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> Nonflammable
<b>SECTION VI - ACCIDENTAL RELEASE MEASURES</b>	
<b>General:</b> Actibor17 is a water-soluble white powder that may, at high concentrations cause damage to trees or vegetation by root absorption. <b>Land spell:</b> Vacuum, Shovel or sweep up Actibor17 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.

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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 Actibor17 dust below permissible exposure levels.

#### SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** White, Odorless, Crystalline Solid  
**Specific gravity:** 1.43  
**Vapor pressure:** Negligible @ 20°C  
**Molecular weight:** 61.83  
**Solubility in water:** 4.7% @ 20°C; 27.5% @ 100°C

**Melting point:** 170.9°C (heated in closed space)  
**pH @ 20°C:** 6.1 (0.1% solution)  
5.1 (1.0% solution)  
3.7 (4.7 % solution)  
**Flash Point:** Non flammable  
**Explosion Hazard:** Non explosive

#### SECTION X - STABILITY AND REACTIVITY

**General:** Actibor17 is a stable product, but when heated it loses water, first forming metaboric acid (HBO<sub>2</sub>), and on further heating it is converted into boric oxide (B<sub>2</sub>O<sub>3</sub>).

**Hazardous decomposition:** None.

**Incompatible materials and conditions to avoid:** Actibor17 reacts as a weak acid which may cause corrosion of base metals. 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 3,500 to 4,100 mg/kg of body weight.

**Skin/dermal:** Low acute dermal toxicity; LD50 in rabbits is greater than 2,000 mg/kg of body weight. Actibor17 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. Fifty years of occupational exposure to Actibor17 indicates no adverse effects on human eye. Therefore, Actibor17 is not considered to be a human eye irritant in normal industrial use.

**Sensitization:** Actibor17 is not a skin sensitizer.

#### SECTION XII - ECOLOGICAL INFORMATION

##### Ecotoxicity data

**General:** Boron (B) is the element in boric acid (Actibor17) which is used by convention to report borate product ecological effects. It occurs naturally in sea-water at an average concentration of 5 mg B/L and generally occurs in fresh water at concentrations up to 1 mg B/L. In dilute aqueous solutions the predominant boron species present is undissociated boric acid. To convert boric acid into equivalent boron (B) content, multiply by 0.1748.

**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 Actibor17 released to the environment.

##### Algal toxicity:

Green algae, *Scenedesmus subspicatus*

96-hr EC10 = 24 mg B/L†

##### Invertebrate toxicity:

Daphnids, *Daphnia magna* straus

48-hr LC50 = 133 mg B/L†

21-day NOEC-LOEC = 6-13 mg B/L†

Test substance: † sodium tetraborate ‡ boric acid

##### Fish toxicity:

##### Sea-water:

Dab, *Limanda limanda*

96-hr LC50 = 74 mg B/L†

##### Fresh water:

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

24-day LC50 = 150 mg B/L†

32-day LC50 = 100 mg B/L†

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

7-day LC50 = 46 mg B/L†

3-day LC50 = 178 mg B/L†

##### Environmental fate data

**Persistence/degradation:** Boron is naturally occurring and ubiquitous in the environment. Actibor17 decomposes in the environment to natural borate.

**Octanol/water partition coefficient:** Log Pow: -0.7570 at 25°C.

**Soil mobility:** Actibor17 is soluble in water and is leachable through normal soil.

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#### SECTION XIII - DISPOSAL CONSIDERATIONS

**Disposal guidance:** Small quantities of Actibor17 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.

#### SECTION XIV - TRANSPORT INFORMATION

ACTIBOR17 has no UN number and is not regulated under international rail, road, water or air transport regulations.

#### SECTION XV-REGULATORY INFORMATION

##### Chemical inventory listing

- U.S. EPA TSCA Inventory 10043-35-3
- Canadian DSL 10043-35-3
- EINECS 233-139-2
- South Korea 1-439
- Japanese MITI (1)-63

##### Clean Air Act (Montreal protocol)

ACTIBOR 56 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 the toxicology of borates see ECETOC Technical Report No. 63 (1995); Patty's Industrial Hygiene and Toxicology, 4th Edition Vol. II, (1994) Chap. 42, 'Boron'.

##### 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.