ACTIBOR15 — Safety Data Sheet

SECTION I - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: ACTIBOR15
Product use: Agricultural Micronutrient
Ceramics, Detergent, Borosilicate glass insulation fibreglass

Chemical formula: $Na_2B_4O_7 \cdot 5H_2O$
Chemical name/synonyms: Sodium tetraborate pentahydrate, disodium tetraborate pentahydrate, borax pentahydrate, borax 5 Mol
Chemical Family: Inorganic borates
CAS Registry Number: 12179-04-3

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SECTION II - COMPOSITION / INFORMATION ON INGREDIENTS

The product contains greater than 99.9 percent (%) borax pentahydrate Na2B4O7.5H2O

SECTION III - HAZARD IDENTIFICATION

Classification of the substance acoording 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

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

Warning

H319: Causes serious eye irritation.

Warning

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: Actibor15 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 Actibor15 can be hamful to plants and other species. Therefore, releases to the environment should be minimized.
POTENTIAL HEALTH EFFECTS: Inhalation is the most significant route of exposure in occupational and other settings. Dermal exposure is not usually a concern because Actibor15 is poorly absorbed through intact skin.
INHALATION: Occasional mild irritation effects to nose and throat may occur from inhalation of Actibor15 dust at levels greater than 10 mg/m^3 .
EYE CONTACT: Actibor15 is non-irritating to eyes in normal use.
SKIN CONTACT: Actibor15 does not cause irritation.

INGESTION: Products containing Actibor15 are not intended for ingestion. Actibor15 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: Actibor15 is not a known carcinogen.
SIGNS AND SYMPTOMS OF EXPOSURE:
Symptoms of accidental over-exposure to Actibor15 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

SECTION VI - ACCIDENTAL RELEASE MEASURES

General: Actibor15 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 Actibor15 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 Actibor15 dust below permissible exposure levels.

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White, Odorless, Crystalline Solid	**Melting point:**	200°C (heated in closed space)
Specific gravity:	1.81	**pH @ 20°C:**	9.3 (3.0 % solution)
Vapor pressure:	Negligible @ 20°C	**Flash Point:**	Non flammable
Molecular weight:	291.24	**Explosion Hazard:**	Non explosive
Solubility in water:	3.8% @ 20°C; 51.2% @ 100°C		

SECTION X - STABILITY AND REACTIVITY

General: Actibor15 is a stable product, but when heated it loses water, eventually forming anhydrous borax ($Na_2B_4O_7$).
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 3,200 to 3,400 mg/kg of body weight.
Skin/dermal: Low acute dermal toxicity; LD50 in rabbits is greater than 2,000 mg/kg of body weight. Actibor15 is poorly absorbed through intact skin.

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 eye irritation effects. Fifty years of occupational exposure to Actibor15 indicates no adverse effects on human eye. Therefore, Actibor15 is not considered to be a human eye irritant in normal industrial use.
Sensitization: Actibor15 is not a skin sensitizer.

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 epidemological studies under the conditions of normal occupational exposure to borate dust indicated no effect on fertility.

SECTION XII - ECOLOGICAL INFORMATION

Ecotoxicity data
General: Boron (B) is the element in sodium tetraborate pentahydrate (Actibor15) 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 sodium tetraborate pentahydrate into the equivalent boron (B) content, multiply by 0.1484.
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 Actibor15 released 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

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 = 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. Actibor15 decomposes in the environment to natural borate.
Octanol/water partition coefficient: No value. In aqueous solution sodium tetraborate pentahydrate is converted substantially into undissociated boric acid.
Soil mobility: Actibor15 is soluble in water and is leachable through normal soil.

SECTION XIII - DISPOSAL CONSIDERATIONS

Disposal guidance: Small quantities of Actibor15 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

SECTION XIV - TRANSPORT INFORMATION

ACTIBOR15 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	1330-43-4	Japanese	MITI (1)-69
Canadian DSL	1330-43-4	EINECS	215-540-4
South Korea	1-760		

Clean Air Act (Montreal Protocol)

ACTIBOR 15 was not manufactured with and does not contain any Class I and Class II ozon 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
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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.