Fulltec Boron Max

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Issue date: 7/10/2024 Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Trade name : Fulltec Boron Max

1.2. Recommended use and restrictions on use

Recommended use : Agricultural applications

1.3. Supplier

Spraytec Fertilizers
3219 99th St
Urbandale, Iowa 50322
United States
T 515-252-7777
renato.firmento@spraytec.com

1.4. Emergency telephone number

Emergency number : For Hazardous Materials or Dangerous Goods Incident Spill, Leak, Fire, Exposure, Transport or Accident Call CHEMTREC Day or Night: 1-800-424-9300 (Toll Free, USA) / 703-527-3887 (Virgina, USA) CCN 706801

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Serious eye damage/eye irritation Category 2A
Reproductive toxicity Category 1B
Full text of H statements : see section 16

Causes serious eye irritation
May damage fertility or the unborn child

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :

Signal word (GHS US) : Danger
Hazard statements (GHS US) : Causes serious eye irritation
May damage fertility or the unborn child
Precautionary statements (GHS US) : Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wash hands, forearms and face thoroughly after handling.
Wear protective clothing, eye protection, face protection, protective gloves.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If exposed or concerned: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Store locked up.
Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Disodium octaborate	CAS-No.: 12280-03-4	44.1 – 45.1	Repr. 2, H361
Boric acid	CAS-No.: 10043-35-3	44.1 – 45.1	Repr. 1B, H360
Citric acid	CAS-No.: 77-92-9	9.8 – 11.8	Eye Irrit. 2A, H319 STOT SE 3, H335

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : First aider: Pay attention to self-protection. Never give anything by mouth to an unconscious person. Give artificial respiration if necessary. Induce artificial respiration with mask fitted with one-way valve or other suitable device but not mouth-to-mouth. If you feel unwell, seek medical advice.

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or a doctor.

First-aid measures after skin contact : Wash skin with plenty of water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Rinse mouth out with water. Do NOT induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : Not expected to present a significant hazard under anticipated conditions of normal use.

Symptoms/effects after skin contact : Not expected to present a significant skin hazard under anticipated conditions of normal use.

Symptoms/effects after eye contact : Causes serious eye irritation. Redness.

Symptoms/effects after ingestion : Not expected to present a significant ingestion hazard under anticipated conditions of normal use.

Most Important Symptoms/Effects : Causes serious eye irritation.

Chronic symptoms : May damage fertility or the unborn child.

4.3. Immediate medical attention and special treatment, if necessary

IF exposed or concerned: Get medical advice/attention.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Dry chemical, CO2, or water spray or regular foam.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard : No fire hazard.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection. Move containers from fire area if it can be done without personal risk. Prevent fire-fighting water from entering environment.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid all personal contact including breathing in the dust. Do not take actions involving personal risks. Absorb spillage to prevent material-damage. Stop leak if safe to do so. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Evacuate the danger area. Avoid breathing dust. Avoid contact with skin and eyes. If outdoors, move to an area upwind of the danger area. If possible without taking personal risks, remove ignition sources, ventilate area. Prevent other non-emergency personnel from entering the danger area.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Wear the recommended personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Evacuate personnel to a safe area. Do not touch spilled material. Stop leak if safe to do so. Prevent runoff from entering drains, sewers or waterways.

6.2. Environmental precautions

Do not let the product reach soil, drains, sewers, or surface and ground water.

6.3. Methods and material for containment and cleaning up

For containment : Stop leak, if possible without risk. Avoid dust formation. If liquid is present, contain with non-combustible inert absorbent.

Methods for cleaning up : Shovel or sweep up and put in a closed container for disposal. Dust deposited may be vacuum cleaned or the area hosed down with water. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing dust. Avoid contact with skin, eyes and clothing.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : The product must be stored in a cool (below 30°C), dry, ventilated place and away from direct sunlight; Protect the packaging from physical damage; Keep the product in its original packaging.

Incompatible materials : Alkalis. Metals. Oxidizing agents. Potassium. Strong bases. Strong reducing agents.

Packaging materials : Store always product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Fulltec Boron Max

No additional information available

Disodium octaborate (12280-03-4)

No additional information available

Boric acid (10043-35-3)

USA - ACGIH - Occupational Exposure Limits

Local name	Boric acid
ACGIH OEL TWA	2 mg/m³ (I - Inhalable particulate matter)
ACGIH OEL STEL	6 mg/m³ (I - Inhalable particulate matter)
Remark (ACGIH)	TLV® Basis: URT irr. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2024

Citric acid (77-92-9)

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station. Use general ventilation, local exhaust ventilation or process enclosure to keep the airborne concentrations below the permissible exposure limits. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

Environmental exposure controls : Avoid release to the environment. Take measures to reduce or limit air emissions and releases to soil and the aquatic environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Personal protective equipment should be chosen according to national standards and in discussion with the supplier of the protective equipment. Wear recommended personal protective equipment.

Hand protection:
Wear protective gloves. Wear rubber gloves
Eye protection:
Chemical goggles or safety glasses
Skin and body protection:
Wear suitable protective clothing
Respiratory protection:
In case of inadequate ventilation wear respiratory protection. Dust production: dust mask with filter type P2

Personal protective equipment symbol(s):

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid.
Color	:	White
Odor	:	Characteristic
Odor threshold	:	No data available
pH	:	7 – 8.5 (5 g/L solution)
Melting point	:	No data available
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Relative evaporation rate (butyl acetate=1)	:	No data available
Flammability (solid, gas)	:	Not applicable.
Vapor pressure	:	No data available
Relative vapor density at 20°C	:	No data available
Relative density	:	No data available
Solubility	:	Soluble in water.
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosion limits	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

High temperature. Direct sunlight. Incompatible materials.

10.5. Incompatible materials

Alkalis. Metals. Oxidizing agents. Potassium. Strong bases. Strong reducing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition generates : Toxic fumes may be released.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified.
Acute toxicity (inhalation) : Not classified

Disodium octaborate	
LD50 oral rat	> 2550 mg/kg
LD50 dermal rabbit	> 2000 mg/kg

Boric acid	
LD50 oral rat	> 2600 mg/kg body weight
LD50 dermal rabbit	> 2000 mg/kg body weight
LC50 Inhalation - Rat	> 2.12 mg/l air

Citric acid	
LD50 oral rat	5400 mg/kg body weight
LD50 oral	5400 mg/kg body weight
LD50 dermal rat	> 2000 mg/kg body weight

Skin corrosion/irritation : Not classified
pH: 7 – 8.5 (5 g/L solution)

Citric acid	
Skin corrosion/irritation, rabbit	Mildly irritating

Serious eye damage/irritation : Causes serious eye irritation.
pH: 7 – 8.5 (5 g/L solution)

Citric acid	
Serious eye damage/irritation, rabbit	Moderately irritating

Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified

Carcinogenicity	:	Not classified
Reproductive toxicity	:	May damage fertility or the unborn child.
STOT-single exposure	:	Not classified

Citric acid	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure	:	Not classified

Citric acid	
LOAEL (oral,rat,90 days)	8000 mg/kg body weight
NOAEL (oral,rat,90 days)	4000 mg/kg body weight

Aspiration hazard	:	Not classified
Viscosity, kinematic	:	No data available
Symptoms/effects after inhalation	:	Not expected to present a significant hazard under anticipated conditions of normal use.
Symptoms/effects after skin contact	:	Not expected to present a significant skin hazard under anticipated conditions of normal use.
Symptoms/effects after eye contact	:	Causes serious eye irritation. Redness.
Symptoms/effects after ingestion	:	Not expected to present a significant ingestion hazard under anticipated conditions of normal use.
Most Important Symptoms/Effects	:	Causes serious eye irritation.
Chronic symptoms	:	May damage fertility or the unborn child.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	:	The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Boric acid	
LC50 - Fish [1]	79.7 mg/l
LC50 - Fish [2]	74 mg/l
EC50 72h - Algae [1]	66 mg/l
EC50 72h - Algae [2]	54 mg/l Test organisms (species): Phaeodactylum tricornutum
NOEC chronic fish	6.4 mg/l

Citric acid	
LC50 - Fish [1]	> 100 mg/l
EC50 - Other aquatic organisms [1]	> 50 mg/l

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation	:	Disposal must be done according to official regulations.
Waste treatment methods	:	Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	:	Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	:	Disposal must be done according to official regulations. Dispose of this material and its container at hazardous or special waste collection point. Refer to all applicable national, international and local regulations or provisions.
Additional information	:	Do not re-use empty containers.
Ecological waste information	:	Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT / IMDG / IATA

DOT	IMDG	IATA
14.1. UN number		
Not regulated for transport		
14.2. Proper Shipping Name		
Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)		
Not regulated	Not regulated	Not regulated
14.4. Packing group		
Not regulated	Not regulated	Not regulated
14.5. Environmental hazards		
Not regulated	Not regulated	Not regulated
No supplementary information available		

14.6. Special precautions for user

DOT
Not regulated

IMDG
Not regulated

IATA
Not regulated

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

Disodium octaborate	CAS-No. 12280-03-4	44.1 – 45.1%

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.2. International regulations

CANADA

Disodium octaborate (12280-03-4)

Not listed on the Canadian DSL (Domestic Substances List)/NDSL (Non-Domestic Substances List)

Boric acid (10043-35-3)

Listed on the Canadian DSL (Domestic Substances List)

Citric acid (77-92-9)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

Boric acid (10043-35-3)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Citric acid (77-92-9)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of hazard classes and H-statements	
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H360	May damage fertility or the unborn child
H361	Suspected of damaging fertility or the unborn child

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.