

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Trade name : Micronutrient mix

1.2. Recommended use and restrictions on use

1.3. Supplier

INNICTIS® BIOSCIENCE
PLANT HEALTH TECHNOLOGIES
P.O. Box 9296
Boise ID 83707, - USA
T 855-466-8428

1.4. Emergency telephone number

Emergency number : CHEMTREC 1-800-424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Skin corrosion/irritation, Category 2	H315 Causes skin irritation.
Serious eye damage/eye irritation, Category 2A	H319 Causes serious eye irritation.
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335 May cause respiratory irritation.
Hazardous to the aquatic environment — Acute Hazard, Category 3	H402 Harmful to aquatic life

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labelling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Warning

Hazard statements (GHS US) :

H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.
H402 - Harmful to aquatic life

Precautionary statements (GHS US) :

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 - Wash hands, forearms and face thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 - If on skin: Wash with plenty of water/...
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 - Call a poison center/doctor/... if you feel unwell
P321 - Specific treatment (see supplemental first aid instruction on this label)
P332+P313 - If skin irritation occurs: Get medical attention
P337+P313 - If eye irritation persists: Get medical attention
P362+P364 - Take off contaminated clothing and wash it before reuse.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

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2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
disodium tetraborate, decahydrate	(CAS-No.) 1303-96-4	Proprietary	Skin Irrit. 2, H315 Eye Irrit. 2B, H320 STOT SE 3, H335
cobalt(II)sulfate	(CAS-No.) 10124-43-3	Proprietary	Acute Tox. 4 (Oral), H302 Resp. Sens. 1, H334 Skin Sens. 1, H317 Muta. 2, H341 Carc. 1B, H350 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

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 : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- 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/doctor.
- First-aid measures after skin contact : Wash with plenty of water/.... Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. Specific treatment (see supplemental first aid instruction on this label). If skin irritation or rash occurs:
- 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.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

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

- Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met.
- Symptoms/effects : Suspected of causing genetic defects. May cause cancer.
- Symptoms/effects after inhalation : May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
- Symptoms/effects after skin contact : Causes skin irritation.
- Symptoms/effects after eye contact : Causes eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

No additional information available

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

5.3. Special protective equipment and precautions for fire-fighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Avoid breathing dust/fume/gas/mist/vapours/spray. Obtain special instructions before use. Use personal protective equipment as required. Do not handle until all safety precautions have been read and understood.

Hygiene measures : Wash hands, forearms and face thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Micronutrient mix	
No additional information available	
disodium tetraborate, decahydrate (1303-96-4)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH TWA (mg/m ³)	2 mg/m ³
ACGIH STEL (mg/m ³)	6 mg/m ³
cobalt(II)sulfate (10124-43-3)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH TWA (mg/m ³)	0.02 mg/m ³
Copper EDTA (14025-15-1)	
No additional information available	
Iron EDTA (139-89-5)	
No additional information available	
Manganese EDTA (55448-20-9)	
No additional information available	
sodium molybdate, dihydrate (10102-40-6)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH TWA (mg/m ³)	0.5 mg/m ³
Zinc EDTA (14025-21-9)	
No additional information available	

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8.2. Appropriate engineering controls

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Wear protective 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.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless
Odour	: characteristic
Odour threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
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
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

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10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide.

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 tetraborate, decahydrate (1303-96-4)

LD50 oral rat	2660 mg/kg (Rat)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit)

cobalt(II)sulfate (10124-43-3)

LD50 oral rat	424 mg/kg bodyweight (Rat; OECD 401: Acute Oral Toxicity; Experimental value)
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Iron EDTA (139-89-5)

LD50 oral rat	> 5 g/kg
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sodium molybdate, dihydrate (10102-40-6)

LD50 oral rat	4233 mg/kg (Rat)
LD50 dermal rat	> 2000 mg/kg (Rat)

Skin corrosion/irritation : Causes skin irritation.
Serious eye damage/irritation : Causes serious eye irritation.
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

cobalt(II)sulfate (10124-43-3)

IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen

Reproductive toxicity : Not classified

STOT-single exposure : May cause respiratory irritation.

disodium tetraborate, decahydrate (1303-96-4)

STOT-single exposure	May cause respiratory irritation.
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STOT-repeated exposure : Not classified

Aspiration hazard : Not classified
Viscosity, kinematic : No data available

Potential adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

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Symptoms/effects	: Suspected of causing genetic defects. May cause cancer.
Symptoms/effects after inhalation	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

disodium tetraborate, decahydrate (1303-96-4)	
LC50 fish 1	100 – 1000 mg/l (96 h; Pisces)
LC50 other aquatic organisms 1	100 – 1000 mg/l (96 h)
EC50 Daphnia 1	141 mg/l (48 h; Daphnia magna)
LC50 fish 2	1900 mg/l (Pimephales promelas)
Threshold limit other aquatic organisms 1	100 - 1000,96 h; Protozoa; Anhydrous form
Threshold limit other aquatic organisms 2	1 mg/l (72 h; Rana sp.)
Threshold limit algae 1	158 mg/l (96 h; Scenedesmus subspicatus; Anhydrous form)
cobalt(II)sulfate (10124-43-3)	
LC50 fish 1	52 mg/l (96 h; Pisces; Cobalt ion)
EC50 Daphnia 1	0.021 mg/l (48 h; Daphnia magna; Cobalt ion)
LC50 fish 2	100 mg/l (48 h; Leuciscus idus; Cobalt ion)
EC50 Daphnia 2	0.012 mg/l (504 h; Daphnia magna; Reproduction)
Threshold limit algae 1	≤ 0.2 mg/l (72 h; Selenastrum capricornutum; Growth rate)
Threshold limit algae 2	0.0067 mg/l (Algae)
sodium molybdate, dihydrate (10102-40-6)	
LC50 fish 1	9000 mg/l (72 h; Salmo gairdneri (Oncorhynchus mykiss); Nominal concentration)
EC50 Daphnia 1	3100 mg/l (24 h; Daphnia magna; Nominal concentration)
LC50 fish 2	7600 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); Nominal concentration)
EC50 Daphnia 2	330 mg/l (48 h; Daphnia magna; Nominal concentration)
Threshold limit algae 1	> 100 mg/l (72 h; Scenedesmus subspicatus; Biomass)
Threshold limit algae 2	12.5 mg/l (72 h; Scenedesmus subspicatus)

12.2. Persistence and degradability

Micronutrient mix	
Persistence and degradability	Not established.
disodium tetraborate, decahydrate (1303-96-4)	
Persistence and degradability	Biodegradability: not applicable. Biodegradability in soil: not applicable. Adsorbs into the soil. Not established.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
cobalt(II)sulfate (10124-43-3)	
Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the substance available. Not established.
ThOD	Not applicable (inorganic)
Copper EDTA (14025-15-1)	
Persistence and degradability	Not established.
Manganese EDTA (55448-20-9)	
Persistence and degradability	Not established.
sodium molybdate, dihydrate (10102-40-6)	
Persistence and degradability	Biodegradability: not applicable. Photolysis in water. No (test)data on mobility of the substance available. Not established.

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sodium molybdate, dihydrate (10102-40-6)	
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
Zinc EDTA (14025-21-9)	
Persistence and degradability	Non degradable in the soil. Adsorbs into the soil. Not established.

12.3. Bioaccumulative potential

Micronutrient mix	
Bioaccumulative potential	Not established.
disodium tetraborate, decahydrate (1303-96-4)	
Bioaccumulative potential	Not bioaccumulative. Not established.
cobalt(II)sulfate (10124-43-3)	
BCF other aquatic organisms 1	400 (35 days; Phaeophyta; Fresh weight)
Bioaccumulative potential	Bioaccumable. Not established.
Copper EDTA (14025-15-1)	
Bioaccumulative potential	Not established.
Manganese EDTA (55448-20-9)	
Bioaccumulative potential	Not established.
sodium molybdate, dihydrate (10102-40-6)	
BCF fish 1	4.9 (28 days; Oncorhynchus tshawytscha; Anhydrous form)
BCF other aquatic organisms 1	164.3 (Mollusca; Anhydrous form)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500). Not established.
Zinc EDTA (14025-21-9)	
Bioaccumulative potential	No bioaccumulation data available. Not established.

12.4. Mobility in soil

disodium tetraborate, decahydrate (1303-96-4)	
Ecology - soil	May be harmful to plant growth, blooming and fruit formation.

12.5. Other adverse effects

Other information : Avoid unintentional release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

- Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
- Ecology - waste materials : Avoid unintentional release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not applicable

Transportation of Dangerous Goods

Not applicable

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Transport by sea

Not applicable

Air transport

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Micronutrient mix

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

Iron EDTA	CAS-No. 139-89-5	≤ 14.3%
Manganese EDTA	CAS-No. 55448-20-9	≤ 14.3%
sodium molybdate, dihydrate	CAS-No. 10102-40-6	≤ 14.3%

15.2. International regulations

CANADA

Micronutrient mix

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

disodium tetraborate, decahydrate (1303-96-4)

Listed on the Canadian DSL (Domestic Substances List)

Copper EDTA (14025-15-1)

Listed on the Canadian DSL (Domestic Substances List)

Iron EDTA (139-89-5)

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

Manganese EDTA (55448-20-9)

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

sodium molybdate, dihydrate (10102-40-6)

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

Zinc EDTA (14025-21-9)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

cobalt(II)sulfate (10124-43-3)

Listed as carcinogen on NTP (National Toxicology Program)

15.3. US State regulations

WARNING: This product can expose you to cobalt(II)sulfate, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Component	State or local regulations
disodium tetraborate, decahydrate(1303-96-4)	U.S. - Massachusetts - Right To Know List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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

Other information : None.

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Full text of H-statements:

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H320	Causes eye irritation
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H400	Very toxic to aquatic life.
H402	Harmful to aquatic life
H410	Very toxic to aquatic life with long lasting effects.

SDS US (GHS HazCom 2012)

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.