

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Trade name : Fulltec Ultra

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 (Virginia, USA) CCN 706801

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Respiratory sensitization, Category 1	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization, Category 1	May cause an allergic skin reaction
Carcinogenicity Category 1B	May cause cancer (Inhalation)
Reproductive toxicity Category 1B	May damage fertility or the unborn child
Specific target organ toxicity (repeated exposure) Category 2	May cause damage to organs (central nervous system) through prolonged or repeated exposure (Inhalation)

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger

Hazard statements (GHS US) : May cause an allergic skin reaction
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause cancer (Inhalation)
May damage fertility or the unborn child
May cause damage to organs (central nervous system) through prolonged or repeated exposure (Inhalation)

Precautionary statements (GHS US) : Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.

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Do not breathe mist, spray, vapors.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective clothing, eye protection, face protection, protective gloves.
[In case of inadequate ventilation] wear respiratory protection.
If on skin: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a poison center or doctor.
Get medical advice/attention if you feel unwell.
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
Manganese Sulfate	CAS-No.: 10034-96-5	28.6 – 29.6	STOT RE 2, H373 Aquatic Chronic 2, H411
Copper Sulfate	CAS-No.: 7758-98-7	1.6 – 2.6	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Cobalt monosulfate heptahydrate	CAS-No.: 10026-24-1	0.3 – 0.9	Acute Tox. 4 (Oral), H302 Resp. Sens. 1, H334 Skin Sens. 1, H317 Muta. 2, H341 Carc. 1B, H350 Repr. 1B, H360 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

: Call a physician immediately. 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.

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First-aid measures after inhalation	: Call a physician immediately. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If the victim is unconscious : Lay in a stable manner on victim's side. Induce artificial respiration with mask fitted with one-way valve or other suitable device; not mouth-to-mouth.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. If skin irritation or rash 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. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Call a physician immediately.

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

Symptoms/effects after inhalation	: May cause irritation to the respiratory tract, sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing. Symptoms may be delayed.
Symptoms/effects after skin contact	: May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Not expected to present a significant eye contact hazard under anticipated conditions of normal use.
Symptoms/effects after ingestion	: May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Most Important Symptoms/Effects	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Chronic symptoms	: May damage fertility or the unborn child. Prolonged and frequent exposure through inhalation may cause cancer. May cause damage to organs (central nervous system) through prolonged or repeated exposure (Inhalation).

4.3. Immediate medical attention and special treatment, if necessary

IF exposed: Call a POISON CENTER or doctor/physician.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Dry chemical, CO ₂ , alcohol-resistant foam or waterspray.
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. Sulfur oxides. Carbon dioxide. Carbon monoxide.

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

6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment.
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Emergency procedures : Evacuate the danger area. Do not breathe mist, spray, vapors. 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. Contain with non-combustible inert absorbent. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Do not touch or walk on the spilled product.

Methods for cleaning up : Take up liquid spill into absorbent material. Contaminated absorbent material may pose the same hazard as the spill product. Decontaminate surfaces and equipment with water and detergent. Until a sufficient level of dilution is achieved, the decontamination water may pose the same hazards as the product. 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. Do not breathe mist, spray, vapors. 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. Wash contaminated clothing before reuse.

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. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
Incompatible materials : Strong bases. Oxidizing agents. Metals.
Packaging materials : Store always product in container of same material as original container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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No additional information available

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Manganese Sulfate (10034-96-5)

USA - ACGIH - Occupational Exposure Limits

ACGIH OEL TWA	0.1 mg/m ³ Inhalable particulate matter (Manganese)
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USA - OSHA - Occupational Exposure Limits

OSHA PEL C	5 mg/m ³ (Manganese)
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USA - NIOSH - Occupational Exposure Limits

NIOSH REL TWA	1 mg/m ³ (Manganese)
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NIOSH REL STEL	3 mg/m ³ (Manganese)
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Copper Sulfate (7758-98-7)

No additional information available

Cobalt monosulfate heptahydrate (10026-24-1)

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. Wear safety glasses which protect from splashes

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. Self-contained breathing apparatus

Personal protective equipment symbol(s):



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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid.
Appearance	: Liquid.
Color	: Silver
Odor	: Slightly phosphoric
Odor threshold	: No data available
pH	: 2 – 3 (2 mL/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
Density	: 1.43 (25 °C / 77 °F)
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

Incompatible materials. Heat. Protect from sunlight.

10.5. Incompatible materials

Strong bases. Oxidizing agents. Metals.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition generates : Sulfur oxides. Carbon dioxide. Carbon monoxide.

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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

Copper Sulfate

LD50 oral rat	960 mg/kg body weight
LD50 dermal rat	> 2000 mg/kg body weight

Cobalt monosulfate heptahydrate

LD50 oral rat	768 mg/kg
LD50 dermal rat	> 2000 mg/kg

Skin corrosion/irritation : Not classified
pH: 2 – 3 (2 mL/L solution)
Serious eye damage/irritation : Not classified
pH: 2 – 3 (2 mL/L solution)
Respiratory or skin sensitization : May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Germ cell mutagenicity : Not classified
Carcinogenicity : May cause cancer (Inhalation).

Cobalt monosulfate heptahydrate

National Toxicity Program (NTP) Status	Reasonably anticipated to be Human Carcinogen
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Reproductive toxicity : May damage fertility or the unborn child.
STOT-single exposure : Not classified
STOT-repeated exposure : May cause damage to organs (central nervous system) through prolonged or repeated exposure (Inhalation).

Manganese Sulfate

STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
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Aspiration hazard : Not classified
Viscosity, kinematic : No data available
Symptoms/effects after inhalation : May cause irritation to the respiratory tract, sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing. Symptoms may be delayed.
Symptoms/effects after skin contact : May cause an allergic skin reaction.
Symptoms/effects after eye contact : Not expected to present a significant eye contact hazard under anticipated conditions of normal use.
Symptoms/effects after ingestion : May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Most Important Symptoms/Effects : May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.
Chronic symptoms : May damage fertility or the unborn child. Prolonged and frequent exposure through inhalation may cause cancer. May cause damage to organs (central nervous system) through prolonged or repeated exposure (Inhalation).

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.

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Copper Sulfate	
LC50 - Fish [1]	0.1 mg/l
EC50 - Crustacea [1]	0.0058 – 0.0073 mg/l
Cobalt monosulfate heptahydrate	
LC50 - Fish [1]	1.5 mg/l
EC50 - Crustacea [1]	0.61 mg/l
ErC50 algae	0.0241 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		
3082	3082	3082
14.2. Proper Shipping Name		
Environmentally hazardous substances, liquid, n.o.s. (Copper sulphate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Copper sulphate)	Environmentally hazardous substance, liquid, n.o.s. (Copper sulphate)
14.3. Transport hazard class(es)		
9	9	9

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DOT	IMDG	IATA
		
14.4. Packing group		
III	III	III
14.5. Environmental hazards		
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No
No supplementary information available		

14.6. Special precautions for user

DOT

UN-No.(DOT) : UN3082
DOT Packaging Exceptions (49 CFR 173.xxx) : 155
DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
DOT Packaging Bulk (49 CFR 173.xxx) : 241
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : No Limit
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : No Limit
DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

IMDG

Special provision (IMDG) : 274, 335, 969
Limited quantities (IMDG) : 5 L
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : LP01, P001
Packing provisions (IMDG) : PP1
IBC packing instructions (IMDG) : IBC03
Tank instructions (IMDG) : T4
Tank special provisions (IMDG) : TP1, TP29
EmS-No. (Fire) : F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage) : S-F - SPILLAGE SCHEDULE Foxtrot - WATER-SOLUBLE MARINE POLLUTANTS
Stowage category (IMDG) : A
Segregation (IMDG) : SGG1, SG36, SG49
Properties and observations (IMDG) : Miscible in water. Mildly corrosive to most metals.

IATA

PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y964
PCA limited quantity max net quantity (IATA) : 30kgG
PCA packing instructions (IATA) : 964
PCA max net quantity (IATA) : 450L
CAO packing instructions (IATA) : 964
CAO max net quantity (IATA) : 450L
ERG code (IATA) : 9L

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

Not applicable

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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:

Manganese Sulfate	CAS-No. 10034-96-5	28.6 – 29.6%
Cobalt monosulfate heptahydrate	CAS-No. 10026-24-1	0.3 – 0.9%

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Copper Sulfate	CAS-No. 7758-98-7	1.6 – 2.6%
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Copper Sulfate (7758-98-7)

CERCLA RQ	10 lb
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15.2. International regulations

CANADA

Manganese Sulfate (10034-96-5)

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

Copper Sulfate (7758-98-7)

Listed on the Canadian DSL (Domestic Substances List)

Cobalt monosulfate heptahydrate (10026-24-1)

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

EU-Regulations

No additional information available

National regulations

Manganese Sulfate (10034-96-5)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Copper Sulfate (7758-98-7)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

Cobalt monosulfate heptahydrate (10026-24-1)


Listed as carcinogen on NTP (National Toxicology Program)

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15.3. US State regulations

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

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	
H302	Harmful if swallowed
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341	Suspected of causing genetic defects
H350	May cause cancer
H360	May damage fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects

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.