

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Trade name : Fulltec K

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

Serious eye damage/eye irritation Category 1	Causes serious eye damage
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
Germ cell mutagenicity Category 2	Suspected of causing genetic defects
Carcinogenicity Category 1B	May cause cancer (Inhalation)
Reproductive toxicity Category 1B	May damage fertility or the unborn child
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
Causes serious eye damage
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Suspected of causing genetic defects
May cause cancer (Inhalation)
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.

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Avoid breathing 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.
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.
Immediately call a poison center or doctor.
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
Potassium chloride	CAS-No.: 7447-40-7	14.9 – 15.9	Eye Irrit. 2B, H320
Disodium octaborate	CAS-No.: 12280-03-4	8.7 – 9.7	Repr. 2, H361
Tetrasodium EDTA	CAS-No.: 64-02-8	3.5 – 4.5	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318
Citric acid	CAS-No.: 77-92-9	2 – 3	Eye Irrit. 2A, H319 STOT SE 3, H335
Cobalt monosulfate heptahydrate	CAS-No.: 10026-24-1	1 – 2	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

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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.
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	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately transport the casualty to an eye doctor / hospital. Continue rinsing during the transport with isotonic saline solution, alternatively with water.
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/effects after skin contact	: May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Most Important Symptoms/Effects	: Corrosive effects. Risk of irreversible damage to affected area.
Chronic symptoms	: Suspected of causing genetic defects. May damage fertility or the unborn child. Prolonged and frequent exposure through inhalation may cause cancer.

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, CO2, 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 and corrosive vapors 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.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid all personal contact including breathing in the mist, spray, vapors. 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. 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 spilt 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.

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Incompatible materials : Strong bases.
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

Disodium octaborate (12280-03-4)

No additional information available

Cobalt monosulfate heptahydrate (10026-24-1)

No additional information available

Potassium chloride (7447-40-7)

No additional information available

Tetrasodium EDTA (64-02-8)

No additional information available

Citric acid (77-92-9)

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station. Handle in accordance with good industrial hygiene and safety procedures. 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:

Wear respiratory protection. Dust production: dust mask with filter type P2. Self-contained breathing apparatus

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Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid.
Appearance	: Liquid.
Color	: Purple
Odor	: Slightly phosphoric
Odor threshold	: No data available
pH	: 3.9 – 5.5 (2g/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	: 1.22 g/cm ³ (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.

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10.5. Incompatible materials

Strong bases.

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.

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

Cobalt monosulfate heptahydrate

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

Potassium chloride

LD50 oral rat	2600 mg/kg body weight
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Tetrasodium EDTA

LD50 oral rat	1780 – 2000 mg/kg body weight
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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: 3.9 – 5.5 (2g/L solution)

Citric acid

Skin corrosion/irritation, rabbit	Mildly irritating
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Serious eye damage/irritation : Causes serious eye damage.
pH: 3.9 – 5.5 (2g/L solution)

Potassium chloride

Serious eye damage/irritation, rabbit	Mildly irritating
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Citric acid

Serious eye damage/irritation, rabbit	Moderately irritating
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Respiratory or skin sensitization : May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Germ cell mutagenicity : Suspected of causing genetic defects.

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Carcinogenicity : May cause cancer (Inhalation).

Cobalt monosulfate heptahydrate

National Toxicity Program (NTP) Status : Reasonably anticipated to be Human Carcinogen

Potassium chloride

NOAEL (chronic,oral,animal/male,2 years) : \approx 1820 mg/kg body weight

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

Potassium chloride

NOAEL (oral, rat, 90 days) : \approx 1820 mg/kg body weight

Tetrasodium EDTA

LOAEL (oral, rat, 90 days) : 60 mg/kg body weight

LOAEC (inhalation, rat, dust/mist/fume, 90 days) : 0.015 mg/l air

NOAEL (oral, rat, 90 days) : 6 mg/kg body weight

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 : May cause irritation to the respiratory tract, sneezing, coughing, burning sensation of throat with constricting sensation of the larynx and difficulty in breathing.

Symptoms/effects after skin contact : May cause an allergic skin reaction.

Symptoms/effects after eye contact : Causes serious eye damage.

Symptoms/effects after ingestion : May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Most Important Symptoms/Effects : Corrosive effects. Risk of irreversible damage to affected area.

Chronic symptoms : Suspected of causing genetic defects. May damage fertility or the unborn child. Prolonged and frequent exposure through inhalation may cause cancer.

SECTION 12: Ecological information

12.1. Toxicity

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

Cobalt monosulfate heptahydrate

LC50 - Fish [1] : 1.5 mg/l

EC50 - Crustacea [1] : 0.61 mg/l

ErC50 algae : 0.0241 mg/l

Potassium chloride

LC50 - Fish [1] : 880 mg/l

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Potassium chloride	
EC50 - Other aquatic organisms [1]	440 – 880 mg/l
EC50 - Other aquatic organisms [2]	580 – 670 mg/l
EC50 72h - Algae [1]	> 100 mg/l
Tetrasodium EDTA	
LC50 - Fish [1]	> 116 mg/l
EC50 - Crustacea [1]	> 114 mg/l
EC50 72h - Algae [1]	> 60 mg/l
LOEC (chronic)	50 mg/l
NOEC chronic fish	≥ 25.7 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

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DOT	IMDG	IATA
14.1. UN number		
Not regulated	3082	3082
14.2. Proper Shipping Name		
Not regulated	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (cobalt sulfate)	Environmentally hazardous substance, liquid, n.o.s. (cobalt sulfate)
14.3. Transport hazard class(es)		
Not regulated	9	9
Not applicable		
14.4. Packing group		
Not regulated	III	III
14.5. Environmental hazards		
Not regulated	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No
No supplementary information available		

14.6. Special precautions for user

DOT

Not regulated

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

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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	8.7 – 9.7%
Cobalt monosulfate heptahydrate	CAS-No. 10026-24-1	1 – 2%

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)

Cobalt monosulfate heptahydrate (10026-24-1)

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

Potassium chloride (7447-40-7)

Listed on the Canadian DSL (Domestic Substances List)

Tetrasodium EDTA (64-02-8)

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

Cobalt monosulfate heptahydrate (10026-24-1)

Listed as carcinogen on NTP (National Toxicology Program)

Potassium chloride (7447-40-7)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

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Tetrasodium EDTA (64-02-8)

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



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
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
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
H360	May damage fertility or the unborn child
H361	Suspected of damaging fertility or the unborn child
H400	Very toxic to aquatic life
H410	Very 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.