

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixture  
 Product name : RootpHos FS21 Bio  
 Product code : M32263

#### 1.2. Recommended use and restrictions on use

No additional information available

#### 1.3. Supplier

JR Simplot Company  
 P.O. Box 70013  
 Boise, ID 83707  
 T 1-208-336-2110

#### 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 2B	H320	Causes eye irritation
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335	May cause respiratory irritation.

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.  
 H320 - Causes eye irritation  
 H335 - May cause respiratory irritation.

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.  
 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
Ammonium Polyphosphate	(CAS-No.) 68333-79-9	32.393784	Skin Irrit. 2, H315 Eye Irrit. 2B, H320 STOT SE 3, H335
Fulvic Acid	(CAS-No.) 479-66-3	<= 4.19284734	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2B, H320
potassium acetate	(CAS-No.) 127-08-2	<= 4.19284734	Eye Irrit. 2B, H320 STOT SE 3, H335
Avail		0.237	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335
disodium tetraborate, decahydrate	(CAS-No.) 1303-96-4	<= 0.06578	Skin Irrit. 2, H315 Eye Irrit. 2B, H320 STOT SE 3, H335
cobalt(II)sulfate	(CAS-No.) 10124-43-3	<= 0.06578	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	: Call a poison center or a doctor if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Irritation.
Symptoms/effects after eye contact	: mild eye irritation.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

### 5.2. Specific hazards arising from the chemical

No additional information available

### 5.3. Special protective equipment and precautions for fire-fighters

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

##### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

##### 6.1.2. For emergency responders

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

#### 6.2. Environmental precautions

Avoid release to the environment.

#### 6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

#### 6.4. Reference to other sections

For further information refer to section 13.

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

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/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

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 : Store in a well-ventilated place. Keep cool. Store locked up. Keep container tightly closed.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### Ammonium Polyphosphate (68333-79-9)

Not applicable

##### Fulvic Acid (479-66-3)

Not applicable

##### potassium acetate (127-08-2)

Not applicable

##### disodium tetraborate, decahydrate (1303-96-4)

ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup>
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ACGIH	ACGIH STEL (mg/m <sup>3</sup> )	6 mg/m <sup>3</sup>
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##### cobalt(II)sulfate (10124-43-3)

ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0.02 mg/m <sup>3</sup>
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##### Avail

Not applicable

#### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

#### 8.3. Individual protection measures/Personal protective equipment

##### Hand protection:

Protective gloves

##### Eye protection:

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Safety glasses

### Skin and body protection:

Wear suitable protective clothing

### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: White to beige
Odour	: There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odour: No data available on odour Odourless Almost odourless
Odour threshold	: No data available
pH	: No data available
Melting point	: Not applicable
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)	: Not applicable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: WT per gallon 10.64%
Solubility	: No data available
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

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

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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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

<b>Ammonium Polyphosphate (68333-79-9)</b>	
LD50 oral rat	5625 mg/kg (Rat)
LD50 dermal rabbit	> 3160 mg/kg (Rabbit)
ATE US (oral)	5625 mg/kg bodyweight

<b>Fulvic Acid (479-66-3)</b>	
ATE US (oral)	500 mg/kg bodyweight
ATE US (dermal)	1100 mg/kg bodyweight
ATE US (gases)	4500 ppmv/4h
ATE US (vapours)	11 mg/l/4h
ATE US (dust,mist)	1.5 mg/l/4h

<b>potassium acetate (127-08-2)</b>	
LD50 oral rat	3530 mg/kg bodyweight (Rat)
ATE US (oral)	3530 mg/kg bodyweight

<b>disodium tetraborate, decahydrate (1303-96-4)</b>	
LD50 oral rat	2660 mg/kg (Rat)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit)
ATE US (oral)	2660 mg/kg bodyweight

<b>cobalt(II)sulfate (10124-43-3)</b>	
LD50 oral rat	424 mg/kg bodyweight (Rat; OECD 401: Acute Oral Toxicity; Experimental value)
ATE US (oral)	424 mg/kg bodyweight

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

<b>cobalt(II)sulfate (10124-43-3)</b>	
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.

<b>Ammonium Polyphosphate (68333-79-9)</b>	
STOT-single exposure	May cause respiratory irritation.

<b>potassium acetate (127-08-2)</b>	
STOT-single exposure	May cause respiratory irritation.

<b>disodium tetraborate, decahydrate (1303-96-4)</b>	
STOT-single exposure	May cause respiratory irritation.

<b>Avail</b>	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified  
Viscosity, kinematic : No data available  
Symptoms/effects after inhalation : May cause respiratory irritation.

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Symptoms/effects after skin contact : Irritation.  
Symptoms/effects after eye contact : mild eye irritation.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

<b>potassium acetate (127-08-2)</b>	
LC50 fish 1	6800 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
<b>disodium tetraborate, decahydrate (1303-96-4)</b>	
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)
<b>cobalt(II)sulfate (10124-43-3)</b>	
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)

#### 12.2. Persistence and degradability

<b>Ammonium Polyphosphate (68333-79-9)</b>	
Persistence and degradability	Biodegradability in water: no data available. No (test)data on mobility of the components available. Not established.
<b>Fulvic Acid (479-66-3)</b>	
Persistence and degradability	Not established.
<b>potassium acetate (127-08-2)</b>	
Persistence and degradability	Not established.
<b>disodium tetraborate, decahydrate (1303-96-4)</b>	
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
<b>cobalt(II)sulfate (10124-43-3)</b>	
Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the substance available. Not established.
ThOD	Not applicable (inorganic)
<b>Avail</b>	
Persistence and degradability	Not established.

#### 12.3. Bioaccumulative potential

<b>Ammonium Polyphosphate (68333-79-9)</b>	
Bioaccumulative potential	No bioaccumulation data available. Not established.
<b>Fulvic Acid (479-66-3)</b>	
Bioaccumulative potential	Not established.

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<b>potassium acetate (127-08-2)</b>	
Log Pow	-3.72 (Estimated value)
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.
<b>disodium tetraborate, decahydrate (1303-96-4)</b>	
Bioaccumulative potential	Not bioaccumulative. Not established.
<b>cobalt(II)sulfate (10124-43-3)</b>	
BCF other aquatic organisms 1	400 (35 days; Phaeophyta; Fresh weight)
Bioaccumulative potential	Bioaccumable. Not established.
<b>Avail</b>	
Bioaccumulative potential	Not established.

### 12.4. Mobility in soil

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

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

Not applicable

### Transportation of Dangerous Goods

Not applicable

### Transport by sea

Not applicable

### Air transport

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

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:

Fulvic Acid	CAS-No. 479-66-3	<= 4.19284734%
Avail	CAS-No.	0.237%

### 15.2. International regulations

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### CANADA

#### Ammonium Polyphosphate (68333-79-9)

Listed on the Canadian DSL (Domestic Substances List)

#### Fulvic Acid (479-66-3)

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

cobalt(II)sulfate (10124-43-3)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No		

## SECTION 16: Other information

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Revision date : 01/14/2020

Full text of H-statements:

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H320	Causes eye irritation
H332	Harmful if inhaled.
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.
H410	Very toxic to aquatic life with long lasting effects.

SDS US (GHS HazCom 2012)

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