

# PHT SUPER- MICRO (5%S 2%Fe 2%Mn 4%Zn)

## Safety Data Sheet

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

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form : Mixture  
Product name : PHT SUPER- MICRO (5%S 2%Fe 2%Mn 4%Zn)  
Product code : M24323FP

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

#### 1.3. Details of the supplier of the safety data sheet

JR Simplot Company  
Boise, ID 83707  
T 1-208-336-2110

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC 1-800-424-9300

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification (GHS-US)

Eye Dam. 1 H318  
Carc. 1A H350

Full text of H-phrases: see section 16

#### 2.2. Label elements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



GHS05

GHS08

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H318 - Causes serious eye damage  
H350 - May cause cancer

Precautionary statements (GHS-US) :

P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P308+P313 - If exposed or concerned: Get medical advice/attention  
P310 - Immediately call a poison center/doctor/...  
P405 - Store locked up  
P501 - Dispose of contents/container to ... in accordance with local/regional/national regulations

#### 2.3. Other hazards

No additional information available

#### 2.4. Unknown acute toxicity (GHS-US)

No data available

### SECTION 3: Composition/information on ingredients

#### 3.1. Substance

Not applicable

#### 3.2. Mixture

Name	Product identifier	%	Classification (GHS-US)
Water	(CAS No) 7732-18-5		Not classified
zinc sulfate	(CAS No) 7733-02-0		Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318

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Name	Product identifier	%	Classification (GHS-US)
REAX 100M*			Not classified
iron(II) sulfate, heptahydrate	(CAS No) 7782-63-0		Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315
manganese(II)sulfate, monohydrate	(CAS No) 10034-96-5		Eye Irrit. 2B, H320 STOT SE 3, H335
sulfuric acid	(CAS No) 7664-93-9		Skin Corr. 1A, H314 Carc. 1A, H350
sodium dioctyl sulfosuccinate	(CAS No) 577-11-7		Not classified

\*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

### 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 : Assure fresh air breathing. Allow the victim to rest.
- 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.
- First-aid measures after eye contact : Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

#### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.

#### 4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

### SECTION 5: Firefighting measures

#### 5.1. 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. Special hazards arising from the substance or mixture

No additional information available

#### 5.3. Advice for firefighters

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

### 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.

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### 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 vapor.

#### 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.

#### 7.3. Specific end use(s)

No additional information available

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

##### iron(II) sulfate, heptahydrate (7782-63-0)

USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	1 mg/m <sup>3</sup>
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##### manganese(II)sulfate, monohydrate (10034-96-5)

USA ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup>
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#### 8.2. Exposure controls

Personal protective equipment : Avoid all unnecessary exposure.  
Hand protection : Wear protective gloves.  
Eye protection : Chemical goggles or safety glasses.  
Respiratory protection : Wear appropriate mask.  
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  
Appearance : Brown liquid.  
Color : Brown  
Odor : Slight ligin odor  
Odor threshold : No data available  
pH : 4  
Relative evaporation rate (butyl acetate=1) : No data available  
Melting point : No data available  
Freezing point : No data available  
Boiling point : No data available  
Flash point : No data available  
Auto-ignition temperature : No data available  
Decomposition temperature : No data available  
Flammability (solid, gas) : No data available  
Vapor pressure : No data available  
Relative vapor density at 20 °C : No data available  
Relative density : No data available  
Solubility : Water: Solubility in water of component(s) of the mixture :  
• : > 54 g/100ml • : 100 g/100ml • : 42 g/100ml • : 1.5 g/100ml • :  
Log Pow : No data available  
Log Kow : No data available  
Viscosity, kinematic : No data available  
Viscosity, dynamic : No data available  
Explosive properties : No data available

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Oxidizing properties : No data available

Explosive limits : No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No additional information available

### 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 : Not classified

zinc sulfate (7733-02-0)	
LD50 oral rat	1000 - 2000 mg/kg (Rat)
ATE US (oral)	1000.00000000 mg/kg body weight

iron(II) sulfate, heptahydrate (7782-63-0)	
LD50 oral rat	1480 mg/kg (Rat)
ATE US (oral)	1480.00000000 mg/kg body weight

sodium dioctyl sulfosuccinate (577-11-7)	
LD50 oral rat	> 2000 mg/kg (Rat)
LD50 dermal rabbit	> 10000 mg/kg (Rabbit)

Skin corrosion/irritation : Not classified

pH: 4

Serious eye damage/irritation : Causes serious eye damage.

pH: 4

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Based on available data, the classification criteria are not met

Carcinogenicity : May cause cancer.

sulfuric acid (7664-93-9)	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	2 - Known Human Carcinogens

Reproductive toxicity : Not classified

Based on available data, the classification criteria are not met

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Based on available data, the classification criteria are not met

Aspiration hazard : Not classified

Based on available data, the classification criteria are not met

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

### SECTION 12: Ecological information

#### 12.1. Toxicity

<b>zinc sulfate (7733-02-0)</b>	
LC50 fish 1	1.7 mg/l (96 h; Poecilia reticulata)
EC50 Daphnia 1	1 mg/l (24 h; Daphnia magna)
LC50 fish 2	2.4 mg/l 96 h; Salmo gairdneri (Oncorhynchus mykiss)
EC50 Daphnia 2	0.56 mg/l (48 h; Daphnia magna)
Threshold limit algae 1	136 µg/l (72 h; Selenastrum capricornutum; Growth rate)
Threshold limit algae 2	24 µg/l (3 days; Selenastrum capricornutum; Growth rate)

<b>iron(II) sulfate, heptahydrate (7782-63-0)</b>	
LC50 fish 1	925 mg/l (96 h; Poecilia reticulata)
EC50 Daphnia 1	7.2 mg/l (48 h; Daphnia magna; Metal ion)
LC50 fish 2	> 200 mg/l (48 h; Leuciscus idus)
EC50 Daphnia 2	152 mg/l (48 h; Daphnia magna; Anhydrous form)

<b>manganese(II)sulfate, monohydrate (10034-96-5)</b>	
LC50 fish 1	2850 mg/l (96 h; Colisa fasciatus; Anhydrous form)
EC50 Daphnia 1	8.28 mg/l (48 h; Daphnia magna; Anhydrous form)
LC50 fish 2	33.8 mg/l (96 h; Pimephales promelas; Anhydrous form)
EC50 Daphnia 2	10 mg/l (24 h; Daphnia magna; Anhydrous form)
Threshold limit algae 1	25.7 mg/l (Phaeodactylum; Anhydrous form)

<b>sodium dioctyl sulfosuccinate (577-11-7)</b>	
LC50 fish 1	37 mg/l (96 h; Lepomis macrochirus)
EC50 Daphnia 1	36 mg/l (48 h; Daphnia magna)
LC50 fish 2	28 mg/l (96 h; Oncorhynchus mykiss)

<b>sulfuric acid (7664-93-9)</b>	
LC50 fish 1	42 mg/l (96 h; Gambusia affinis)
EC50 Daphnia 1	29 mg/l (24 h; Daphnia magna)
LC50 fish 2	49 mg/l (48 h; Lepomis macrochirus)
TLM fish 1	42 mg/l (96 h; Gambusia affinis)
Threshold limit other aquatic organisms 1	6900 mg/l (24 h; Pseudomonas fluorescens)

#### 12.2. Persistence and degradability

<b>PHT SUPER- MICRO (5%S 2%Fe 2%Mn 4%Zn)</b>	
Persistence and degradability	Not established.

<b>Water (7732-18-5)</b>	
Persistence and degradability	Not established.

<b>REAX 100M</b>	
Persistence and degradability	Not established.

<b>zinc sulfate (7733-02-0)</b>	
Persistence and degradability	Biodegradability: not applicable. Not established.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

<b>iron(II) sulfate, heptahydrate (7782-63-0)</b>	
Persistence and degradability	Biodegradability in water: no data available. Biodegradability in soil: no data available. Adsorbs into the soil. Not established.

<b>manganese(II)sulfate, monohydrate (10034-96-5)</b>	
Persistence and degradability	Biodegradability: not applicable. Not established.

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<b>manganese(II)sulfate, monohydrate (10034-96-5)</b>	
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

<b>sodium dioctyl sulfosuccinate (577-11-7)</b>	
Persistence and degradability	Readily biodegradable in water. Photodegradation in water.

<b>sulfuric acid (7664-93-9)</b>	
Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the components available. Not established.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

### 12.3. Bioaccumulative potential

<b>PHT SUPER- MICRO (5%S 2%Fe 2%Mn 4%Zn)</b>	
Bioaccumulative potential	Not established.

<b>Water (7732-18-5)</b>	
Bioaccumulative potential	Not established.

<b>REAX 100M</b>	
Bioaccumulative potential	Not established.

<b>zinc sulfate (7733-02-0)</b>	
BCF fish 1	59 - 242 (Cyprinus carpio; Test duration: 8 weeks)
Bioaccumulative potential	Bioaccumable. Not established.

<b>iron(II) sulfate, heptahydrate (7782-63-0)</b>	
Bioaccumulative potential	Not bioaccumulative. Not established.

<b>manganese(II)sulfate, monohydrate (10034-96-5)</b>	
Bioaccumulative potential	Not established.

<b>sodium dioctyl sulfosuccinate (577-11-7)</b>	
BCF fish 1	< 0.9/<9.3,Cyprinus carpio; Test duration: 6 weeks
Bioaccumulative potential	Not bioaccumulative.

<b>sulfuric acid (7664-93-9)</b>	
Log Pow	-2.20 (Estimated value)
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Effect on ozone layer	: No additional information available
Effect on the global warming	: No known ecological damage caused by this product.
Other information	: Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials	: Avoid release to the environment.

## SECTION 14: Transport information

In accordance with DOT  
Not regulated for transport

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### Additional information

Other information : No supplementary information available.

### ADR

Transport document description :

### Transport by sea

No additional information available

### Air transport

No additional information available

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### PHT SUPER- MICRO (5%S 2%Fe 2%Mn 4%Zn)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

All components of this product are listed on the Toxic Substances Control Act (TSCA) inventory except for:

iron(II) sulfate, heptahydrate	CAS No 7782-63-0	
manganese(II)sulfate, monohydrate	CAS No 10034-96-5	

This product or mixture does not 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.

#### zinc sulfate (7733-02-0)

Listed on United States SARA Section 313

RQ (Reportable quantity, section 304 of EPA's List of Lists) :	1000 lb
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#### iron(II) sulfate, heptahydrate (7782-63-0)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

Not listed on SARA Section 313 (Specific toxic chemical listings)

RQ (Reportable quantity, section 304 of EPA's List of Lists) :	1000 lb
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#### manganese(II)sulfate, monohydrate (10034-96-5)

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

#### sulfuric acid (7664-93-9)

Not listed on SARA Section 313 (Specific toxic chemical listings)

Listed on United States SARA Section 313

RQ (Reportable quantity, section 304 of EPA's List of Lists) :	1000 lb
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SARA Section 302 Threshold Planning Quantity (TPQ)	1000 lb
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### 15.2. International regulations

#### CANADA

No additional information available

#### EU-Regulations

No additional information available

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

#### Classification according to Directive 67/548/EEC or 1999/45/EC

Not classified

#### 15.2.2. National regulations

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### sulfuric acid (7664-93-9)

Listed on IARC (International Agency for Research on Cancer)  
Listed as carcinogen on NTP (National Toxicology Program)

### 15.3. US State regulations

#### zinc sulfate (7733-02-0)

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) List

#### iron(II) sulfate, heptahydrate (7782-63-0)

U.S. - Pennsylvania - RTK (Right to Know) List

#### sulfuric acid (7664-93-9)

U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) List

## SECTION 16: Other information

Data sources :  
REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of H-phrases: see section 16:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Carc. 1A	Carcinogenicity Category 1A
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Eye Irrit. 2B	Serious eye damage/eye irritation Category 2B
Skin Corr. 1A	Skin corrosion/irritation Category 1A
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H318	Causes serious eye damage
H320	Causes eye irritation
H335	May cause respiratory irritation
H350	May cause cancer

SDS US (GHS HazCom 2012)

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