

# Simplot Turf & Horticulture 19-4-14 12 Month

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations  
Issue date: 7/7/2021 Revision date: 4/22/2025 Supersedes: 7/7/2021 Version: 2.0

### SECTION 1 Identification

#### 1.1. Product identifier

Product form : Mixture  
Product name : Simplot Turf & Horticulture 19-4-14 12 Month  
Product code : M80409

#### 1.2. Other means of identification

No additional information available

#### 1.3. Recommended use of the chemical and restrictions on use

No additional information available

#### 1.4. Supplier's details

Simplot AB Retail, Inc., DBA Simplot Turf and Horticulture  
P.O. Box 9296  
Boise, ID, 83707

#### 1.5. Emergency phone number

Emergency number : CHEMTREC 1-800-424-9300

### SECTION 2 Hazard 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 2	H319	Causes serious eye irritation.
Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation	H335	May cause respiratory irritation.
Specific target organ toxicity — Repeated exposure, Category 2	H373	May cause damage to organs through prolonged or repeated exposure.

Full text of H statements : see section 16

#### 2.2. Label elements

##### GHS US labeling

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  
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary statements (GHS US) : P260 - Do not breathe dust, fume, gas, mist, vapors, spray.  
P264 - Wash hands, forearms and face thoroughly after handling.  
P271 - Use only outdoors or in a well-ventilated area.  
P280 - Wear protective gloves.  
P302+P352 - If on skin: Wash with plenty of water.  
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.

# Simplot Turf & Horticulture 19-4-14 12 Month

## Safety Data Sheet

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

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 or doctor if you feel unwell.  
P314 - Get medical advice or attention if you feel unwell.  
P321 - Specific treatment (see supplemental first aid instruction on this label).  
P332+P313 - If skin irritation occurs: Get medical advice or attention.  
P337+P313 - If eye irritation persists: Get medical advice or 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 and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

### 2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

### 2.4. Hazards not otherwise classified

No additional information available

### 2.5. Unknown acute toxicity

No additional information available

## SECTION 3 Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	GHS US classification
urea	CAS-No.: 57-13-6	30-40	Skin Irrit. 2, H315 Eye Irrit. 2B, H320 STOT SE 3, H335
Monoammonium Phosphate	CAS-No.: 7722-76-1	10-15	Eye Irrit. 2B, H320 STOT SE 3, H335
ammonium sulphate	CAS-No.: 7783-20-2	0-10	Eye Irrit. 2B, H320 STOT SE 3, H335
urea (57-13-6)	CAS-No.: 57-13-6	0-5	Eye Irrit. 2B, H320
Sodium Lignosulfonate	CAS-No.: 8061-51-6	<3	Skin Irrit. 2, H315 Eye Irrit. 2B, H320 STOT SE 3, H335 STOT RE 2, H373
iron(II)sulfate	CAS-No.: 7720-78-7	<3	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319
copper(II)sulfate	CAS-No.: 7758-98-7	<3	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319
manganese(II)sulfate	CAS-No.: 7785-87-7	<3	Acute Tox. 4 (Oral), H302 STOT RE 2, H373

# Simplot Turf & Horticulture 19-4-14 12 Month

## Safety Data Sheet

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

Name	Product identifier	%	GHS US classification
zinc sulphate	CAS-No.: 7733-02-0	<3	Acute Tox. 4 (Oral), H302 Eye Dam. 1, H318

Full text of hazard classes and H-statements : see section 16

### SECTION 4 First aid measures

#### 4.1. Description of necessary first-aid measures

First-aid measures general	: Call a poison center/doctor/physician if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician 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 advice/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 advice/attention.
First-aid measures after ingestion	: Call a poison center/doctor/physician if you feel unwell.

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

Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Irritation.
Symptoms/effects after eye contact	: Eye irritation.
Symptoms/effects after ingestion	: None under normal conditions.

#### 4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment	: Treat symptomatically.
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### SECTION 5: Fire-fighting measures

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

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

#### 5.2. Specific hazards arising from the chemical

Fire hazard	: No fire hazard.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

#### 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.
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

General measures	: Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.
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# Simplot Turf & Horticulture 19-4-14 12 Month

## Safety Data Sheet

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

### For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.  
Emergency procedures : Ventilate spillage area. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes.

### 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".  
Emergency procedures : Evacuate unnecessary personnel.  
Environmental precautions : Avoid release to the environment.

### 6.2. Methods and materials for containment and cleaning up

For containment : Using a clean shovel, put the material in a dry container and cover without compressing it.  
Methods for cleaning up : Mechanically recover the product.  
Other information : Dispose of materials or solid residues at an authorized site.

For further information refer to section 13

## SECTION 7 Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Do not breathe dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes. Wear personal protective equipment.  
Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.  
Additional hazards when processed : Not expected to present a significant hazard under anticipated conditions of normal use.

### 7.2. Conditions for safe storage, including incompatibilities

Technical measures : Keep in a cool, well-ventilated place away from heat.  
Storage conditions : Store locked up. Store in a well-ventilated place. Keep container tightly closed.  
Packaging materials : Store always product in container of same material as original container.

## SECTION 8 Exposure controls/personal protection

### 8.1. Control parameters

#### iron(II)sulfate (7720-78-7)

##### USA - ACGIH - Occupational Exposure Limits

ACGIH OEL TWA	1 mg/m <sup>3</sup>
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#### manganese(II)sulfate (7785-87-7)

##### USA - ACGIH - Occupational Exposure Limits

ACGIH OEL TWA	0.1 mg/m <sup>3</sup> (Inhalable fraction)
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### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.  
Environmental exposure controls : Avoid release to the environment.

# Simplot Turf & Horticulture 19-4-14 12 Month

## Safety Data Sheet

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

### 8.3. Individual protection measures, such as personal protective equipment

#### Personal protective equipment:

Wear recommended personal protective equipment.

<b>Hand protection:</b>
Protective gloves
<b>Eye protection:</b>
Safety glasses
<b>Skin and body protection:</b>
Wear suitable protective clothing
<b>Respiratory protection:</b>
In case of insufficient ventilation, wear suitable respiratory equipment

#### Personal protective equipment symbol(s):



## SECTION 9 Physical and chemical properties

### 9.1. Basic physical and chemical properties

Physical state	: Solid
Color	: Mixture contains one or more component(s) which have the following color(s): Colourless-white White Colourless to white Commercial substance: grey-green Unpurified: grey-brown Yellow-brown to dark brown Pure substance: white On exposure to air: turns yellow-brown Commercial substance: blue-green White-grey to green-blue Colourless
Odor	: There may be no odor warning properties, odor is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odor: Odourless In moist air: Ammonia odour
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor 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	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: Not applicable
Explosion limits	: Not applicable
Particle characteristics	: No data available

<b>urea (57-13-6)</b>	
Particle characteristics	No data available

# Simplot Turf & Horticulture 19-4-14 12 Month

## Safety Data Sheet

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

Monoammonium Phosphate	
Particle characteristics	No data available

urea	
Particle characteristics	No data available

ammonium sulphate	
Particle characteristics	No data available

Sodium Lignosulfonate	
Particle characteristics	No data available

iron(II)sulfate	
Particle characteristics	No data available

copper(II)sulfate	
Particle characteristics	No data available

manganese(II)sulfate	
Particle characteristics	No data available

zinc sulphate	
Particle characteristics	No data available

### 9.2. Data relevant with regard to physical hazard classes (supplemental)

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

# Simplot Turf & Horticulture 19-4-14 12 Month

## Safety Data Sheet

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

### 10.6. Hazardous decomposition products

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

## 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

urea (57-13-6) (57-13-6)	
LD50 oral rat	8471 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Literature study; 14300 mg/kg bodyweight; Rat; Experimental value)
LD50 dermal rat	> 3200 mg/kg (Rat; Literature study)
LD50 dermal rabbit	> 21000 mg/kg (Rabbit; Literature study)
ATE US (oral)	8471 mg/kg body weight
Monoammonium Phosphate (7722-76-1)	
LD50 oral rat	> 2000 mg/kg body weight (OECD 425: Acute Oral Toxicity: Up-and-Down Procedure, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rabbit	> 5000 mg/kg Source: International Uniform Chemical Information Database
LC50 Inhalation - Rat	> 5 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Read-across, Inhalation (dust), 14 day(s))
urea (57-13-6)	
LD50 oral rat	14300 – 15000 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral)
ATE US (oral)	14300 mg/kg body weight
ammonium sulphate (7783-20-2)	
LD50 oral rat	4250 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 7 day(s))
LD50 dermal rat	> 2000 mg/kg
ATE US (oral)	4250 mg/kg body weight
Sodium Lignosulfonate (8061-51-6)	
LD50 oral rat	> 40000 mg/kg (Rat, Oral)
iron(II)sulfate (7720-78-7)	
LD50 oral rat	500 mg/kg body weight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Female, Read-across, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Read-across, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 1.1 mg/l (EPA OPP 81-3: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Read-across, Inhalation (dust))
ATE US (oral)	500 mg/kg body weight

# Simplot Turf & Horticulture 19-4-14 12 Month

## Safety Data Sheet

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

<b>copper(II)sulfate (7758-98-7)</b>	
LD50 oral rat	482 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))
ATE US (oral)	482 mg/kg body weight
<b>manganese(II)sulfate (7785-87-7)</b>	
LD50 oral rat	2150 mg/kg (Rat, Male / female, Experimental value, Oral)
LC50 Inhalation - Rat	> 4.45 mg/l air (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (dust))
ATE US (oral)	500 mg/kg body weight
<b>zinc sulphate (7733-02-0)</b>	
LD50 oral rat	1710 mg/kg body weight (OECD 401: Acute Oral Toxicity, Rat, Male, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 15 day(s))
ATE US (oral)	1710 mg/kg body weight
Skin corrosion/irritation	: Causes skin irritation.
<b>urea (57-13-6) (57-13-6)</b>	
pH	7.2 (10 %)
<b>Monoammonium Phosphate (7722-76-1)</b>	
pH	3.6 – 4 (1 %)
<b>urea (57-13-6)</b>	
pH	No data available in the literature
<b>ammonium sulphate (7783-20-2)</b>	
pH	5.5 (1.3 %)
<b>iron(II)sulfate (7720-78-7)</b>	
pH	2.1 (1 %, 22 °C)
<b>copper(II)sulfate (7758-98-7)</b>	
pH	4 (3.2 %)
<b>manganese(II)sulfate (7785-87-7)</b>	
pH	6 – 6.5 (42.5 - 45 %, 20 °C, EU Method A.6: Water solubility)
<b>zinc sulphate (7733-02-0)</b>	
pH	2.7 – 4.1 (21 %, 20 °C, OECD 105: Water Solubility)
Serious eye damage/irritation	: Causes serious eye irritation.
<b>urea (57-13-6) (57-13-6)</b>	
pH	7.2 (10 %)

# Simplot Turf & Horticulture 19-4-14 12 Month

## Safety Data Sheet

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

Monoammonium Phosphate (7722-76-1)	
pH	3.6 – 4 (1 %)
urea (57-13-6)	
pH	No data available in the literature
ammonium sulphate (7783-20-2)	
pH	5.5 (1.3 %)
iron(II)sulfate (7720-78-7)	
pH	2.1 (1 %, 22 °C)
copper(II)sulfate (7758-98-7)	
pH	4 (3.2 %)
manganese(II)sulfate (7785-87-7)	
pH	6 – 6.5 (42.5 - 45 %, 20 °C, EU Method A.6: Water solubility)
zinc sulphate (7733-02-0)	
pH	2.7 – 4.1 (21 %, 20 °C, OECD 105: Water Solubility)

Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.

Monoammonium Phosphate (7722-76-1)	
STOT-single exposure	May cause respiratory irritation.
urea (57-13-6)	
STOT-single exposure	May cause respiratory irritation.
ammonium sulphate (7783-20-2)	
STOT-single exposure	May cause respiratory irritation.
Sodium Lignosulfonate (8061-51-6)	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.
Sodium Lignosulfonate (8061-51-6)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.
manganese(II)sulfate (7785-87-7)	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

Simplot Turf & Horticulture 19-4-14 12 Month	
Viscosity, kinematic	Not applicable
urea (57-13-6) (57-13-6)	
Viscosity, kinematic	Not applicable (solid)

# Simplot Turf & Horticulture 19-4-14 12 Month

## Safety Data Sheet

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

<b>urea (57-13-6) (57-13-6)</b>	
<b>Monoammonium Phosphate (7722-76-1)</b>	
Viscosity, kinematic	No data available
<b>urea (57-13-6)</b>	
Viscosity, kinematic	Not applicable
<b>ammonium sulphate (7783-20-2)</b>	
Viscosity, kinematic	Not applicable (solid)
<b>Sodium Lignosulfonate (8061-51-6)</b>	
Viscosity, kinematic	No data available
<b>iron(II)sulfate (7720-78-7)</b>	
Viscosity, kinematic	Not applicable (solid)
<b>copper(II)sulfate (7758-98-7)</b>	
Viscosity, kinematic	Not applicable (solid)
<b>manganese(II)sulfate (7785-87-7)</b>	
Viscosity, kinematic	Not applicable
<b>zinc sulphate (7733-02-0)</b>	
Viscosity, kinematic	Not applicable (solid)

Symptoms/effects after inhalation : May cause respiratory irritation.  
Symptoms/effects after skin contact : Irritation.  
Symptoms/effects after eye contact : Eye irritation.  
Symptoms/effects after ingestion : None under normal conditions.

## SECTION 12 Ecological information

### 12.1. Ecotoxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.  
Hazardous to the aquatic environment, short-term (acute) : Not classified  
Hazardous to the aquatic environment, long-term (chronic) : Not classified

<b>urea (57-13-6) (57-13-6)</b>	
LC50 - Fish [1]	> 6810 mg/l (96 h; <i>Leuciscus idus</i> ; Nominal concentration)
EC50 - Crustacea [1]	> 10000 mg/l (48 h; <i>Daphnia magna</i> ; Nominal concentration)
LC50 - Fish [2]	17500 mg/l (96 h; <i>Poecilia reticulata</i> )
EC50 - Crustacea [2]	> 10000 mg/l (24 h; <i>Daphnia magna</i> )
EC50 72h - Algae [1]	24541.9 mg/l Test organisms (species): <i>Raphidocelis subcapitata</i> (previous names: <i>Pseudokirchneriella subcapitata</i> , <i>Selenastrum capricornutum</i> )
EC50 96h - Algae [1]	42184 mg/l Source: Ecological Structure Activity Relationships
TLM - Fish [1]	17500 ppm (96 h; <i>Poecilia reticulata</i> )
Threshold limit - Other aquatic organisms [1]	120000 mg/l (16 h; Bacteria; Toxicity test)
Threshold limit - Other aquatic organisms [2]	> 10000 mg/l ( <i>Pseudomonas putida</i> )

# Simplot Turf & Horticulture 19-4-14 12 Month

## Safety Data Sheet

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

<b>urea (57-13-6) (57-13-6)</b>	
Threshold limit - Algae [1]	> 10000 mg/l (168 h; Scenedesmus quadricauda; Growth rate)
Threshold limit - Algae [2]	47 mg/l (192 h; Microcystis aeruginosa; Growth rate)
<b>Monoammonium Phosphate (7722-76-1)</b>	
LC50 - Fish [1]	> 100 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	> 100 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)
ErC50 algae	> 97.1 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, GLP)
<b>urea (57-13-6)</b>	
LC50 - Fish [1]	> 6810 mg/l (96 h, Leuciscus idus, Experimental value, Lethal)
EC50 - Crustacea [1]	> 10000 mg/l (DIN 38412-11, 24 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
<b>ammonium sulphate (7783-20-2)</b>	
LC50 - Fish [1]	53 mg/l (96 h, Oncorhynchus mykiss, Fresh water)
EC50 - Crustacea [1]	169 mg/l (48 h, Daphnia magna, Static system, Fresh water)
<b>iron(II)sulfate (7720-78-7)</b>	
LC50 - Fish [1]	925 mg/l (96 h; Poecilia reticulata; Heptahydrate)
EC50 - Crustacea [1]	7.2 mg/l (48 h; Daphnia magna; Metal ion)
LC50 - Fish [2]	100 mg/l (96 h; Oryzias latipes; GLP)
ErC50 algae	130 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Heptahydrate)
<b>copper(II)sulfate (7758-98-7)</b>	
LC50 - Fish [1]	38.4 µg/l (96 h, Pimephales promelas, Flow-through system, Fresh water, Read-across)
EC50 72h - Algae [1]	0.01 – 0.28 mg/l (Selenastrum capricornutum, Growth)
EC50 72h - Algae [2]	18 – 46 µg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate)
<b>manganese(II)sulfate (7785-87-7)</b>	
LC50 - Fish [1]	3.17 mg/l (96 h, Oncorhynchus mykiss, Flow-through system, Fresh water, Weight of evidence, Manganese ion)
EC50 72h - Algae [1]	61 mg/l (OECD 201: Alga, Growth Inhibition Test, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Growth rate)
<b>zinc sulphate (7733-02-0)</b>	
LC50 - Fish [1]	330 – 780 µg/l (95 h, Pimephales promelas, Static system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	1.4 – 2.5 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)

# Simplot Turf & Horticulture 19-4-14 12 Month

## Safety Data Sheet

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

### 12.2. Persistence and degradability

Simplot Turf & Horticulture 19-4-14 12 Month	
Persistence and degradability	Rapidly degradable
<b>urea (57-13-6) (57-13-6)</b>	
Persistence and degradability	Inherently biodegradable, Hydrolysis in water, Not established.
ThOD	0.27 g O <sub>2</sub> /g substance
<b>Monoammonium Phosphate (7722-76-1)</b>	
Persistence and degradability	Biodegradability in water: no data available, Not established.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
<b>urea (57-13-6)</b>	
Persistence and degradability	Inherently biodegradable, Hydrolysis in water, Not established.
ThOD	0.27 g O <sub>2</sub> /g substance
<b>ammonium sulphate (7783-20-2)</b>	
Persistence and degradability	Biodegradability in water: no data available, Not established.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
<b>Sodium Lignosulfonate (8061-51-6)</b>	
Persistence and degradability	Not readily biodegradable in water, Not established.
<b>iron(II)sulfate (7720-78-7)</b>	
Persistence and degradability	Biodegradability in water: no data available, No (test)data on mobility of the substance available, Not established.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
<b>copper(II)sulfate (7758-98-7)</b>	
Persistence and degradability	May cause long-term adverse effects in the environment.
BOD (% of ThOD)	Not applicable
<b>manganese(II)sulfate (7785-87-7)</b>	
Persistence and degradability	Biodegradability: not applicable, No (test)data on mobility of the substance available, May cause long-term adverse effects in the environment.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
<b>zinc sulphate (7733-02-0)</b>	
Persistence and degradability	Biodegradability: not applicable, Not established.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

# Simplot Turf & Horticulture 19-4-14 12 Month

## Safety Data Sheet

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

### 12.3. Bioaccumulative potential

<b>urea (57-13-6) (57-13-6)</b>	
BCF - Fish [1]	1 (72 h; Brachydanio rerio; Fresh water)
BCF - Other aquatic organisms [1]	11700 (Chlorella sp.)
Partition coefficient n-octanol/water (Log Pow)	< -1.73 (Experimental value; EU Method A.8: Partition Coefficient)
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.
<b>Monoammonium Phosphate (7722-76-1)</b>	
Bioaccumulative potential	Not bioaccumulative. Not established.
<b>urea (57-13-6)</b>	
Partition coefficient n-octanol/water (Log Pow)	< -1.73 (Experimental value, EU Method A.8: Partition Coefficient, 22 °C)
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.
<b>ammonium sulphate (7783-20-2)</b>	
Partition coefficient n-octanol/water (Log Pow)	-5.1 (Experimental value, Equivalent or similar to OECD 107, 25 °C)
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.
<b>Sodium Lignosulfonate (8061-51-6)</b>	
Partition coefficient n-octanol/water (Log Pow)	-3.45 (Estimated value)
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.
<b>iron(II)sulfate (7720-78-7)</b>	
BCF - Fish [1]	2 – 20 (OECD 305: Bioconcentration: Flow-Through Fish Test, 28 day(s), Cyprinus carpio, Flow-through system, Fresh water, Experimental value, Heptahydrate)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500). Not established.
<b>copper(II)sulfate (7758-98-7)</b>	
Bioaccumulative potential	Bioaccumulation: not applicable.
<b>manganese(II)sulfate (7785-87-7)</b>	
Bioaccumulative potential	No bioaccumulation data available. Not established.
<b>zinc sulphate (7733-02-0)</b>	
BCF - Fish [1]	0.4 – 7.51 (45 day(s), Channa punctatus, Semi-static system, Fresh water, Experimental value)
Bioaccumulative potential	Bioaccumable. Not established.

### 12.4. Mobility in soil

<b>urea (57-13-6) (57-13-6)</b>	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	-1.43 – -1.19 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.
<b>Monoammonium Phosphate (7722-76-1)</b>	
Ecology - soil	No (test)data on mobility of the substance available.

# Simplot Turf & Horticulture 19-4-14 12 Month

## Safety Data Sheet

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

urea (57-13-6)	
Surface tension	No data available in the literature
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	-1.43 – -1.19 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.
ammonium sulphate (7783-20-2)	
Ecology - soil	Adsorption to soil is possible.
iron(II)sulfate (7720-78-7)	
Ecology - soil	No (test)data on mobility of the substance available.
copper(II)sulfate (7758-98-7)	
Surface tension	No data available in the literature
Ecology - soil	No (test)data on mobility of the substance available.
manganese(II)sulfate (7785-87-7)	
Ecology - soil	No (test)data on mobility of the substance available.
zinc sulphate (7733-02-0)	
Surface tension	No data available in the literature
Ecology - soil	No (test)data on mobility of the substance available.

### 12.5. Other adverse effects

Ozone	: Not classified
Fluorinated greenhouse gases	: No

## SECTION 13 Disposal considerations

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	: Comply with applicable regulations for solid waste disposal. Disposal must be done according to official regulations.
Additional information	: Do not re-use empty containers.

## SECTION 14 Transport information

### 14.1. UN number

UN-No. (DOT)	: Not applicable
UN-No. (TDG)	: Not applicable
UN-No. (IMDG)	: Not applicable
UN-No. (IATA)	: Not applicable

### 14.2. UN Proper Shipping Name

Proper Shipping Name (DOT)	: Not applicable
Proper Shipping Name (TDG)	: Not applicable
Proper Shipping Name (IMDG)	: Not applicable
Proper Shipping Name (IATA)	: Not applicable

# Simplot Turf & Horticulture 19-4-14 12 Month

## Safety Data Sheet

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

### 14.3. Transport hazard class(es)

#### DOT

Transport hazard class(es) (DOT) : Not applicable

#### TDG

Transport hazard class(es) (TDG) : Not applicable

#### IMDG

Transport hazard class(es) (IMDG) : Not applicable

#### IATA

Transport hazard class(es) (IATA) : Not applicable

### 14.4. Packing group

Packing group (DOT) : Not applicable

Packing group (TDG) : Not applicable

Packing group (IMDG) : Not applicable

Packing group (IATA) : Not applicable

### 14.5. Environmental hazards

Other information : No supplementary information available.

### 14.6. Transport in bulk

Not applicable

### 14.7. Special precautions for user

#### DOT

Not applicable

#### TDG

Not applicable

#### IMDG

Not applicable

#### IATA

Not applicable

## SECTION 15 Regulatory information

### 15.1. 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

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(II)sulfate	CAS-No. 7758-98-7	<3%
zinc sulphate	CAS-No. 7733-02-0	<3%

### iron(II)sulfate (7720-78-7)

CERCLA RQ	1000 lb
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# Simplot Turf & Horticulture 19-4-14 12 Month

## Safety Data Sheet

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

<b>copper(II)sulfate (7758-98-7)</b>	
CERCLA RQ	10 lb

<b>zinc sulphate (7733-02-0)</b>	
CERCLA RQ	1000 lb

### 15.2. International regulations

#### CANADA

<b>urea (57-13-6) (57-13-6)</b>	
Listed on the Canadian DSL (Domestic Substances List)	

<b>Monoammonium Phosphate (7722-76-1)</b>	
Listed on the Canadian DSL (Domestic Substances List)	

<b>urea (57-13-6)</b>	
Listed on the Canadian DSL (Domestic Substances List)	

<b>ammonium sulphate (7783-20-2)</b>	
Listed on the Canadian DSL (Domestic Substances List)	

<b>Sodium Lignosulfonate (8061-51-6)</b>	
Listed on the Canadian DSL (Domestic Substances List)	

<b>iron(II)sulfate (7720-78-7)</b>	
Listed on the Canadian DSL (Domestic Substances List)	

<b>copper(II)sulfate (7758-98-7)</b>	
Listed on the Canadian DSL (Domestic Substances List)	

<b>manganese(II)sulfate (7785-87-7)</b>	
Listed on the Canadian DSL (Domestic Substances List)	

<b>zinc sulphate (7733-02-0)</b>	
Listed on the Canadian DSL (Domestic Substances List)	

#### EU-Regulations

No additional information available

#### National regulations

<b>urea (57-13-6) (57-13-6)</b>	
Listed on INSQ (Mexican National Inventory of Chemical Substances)	

# Simplot Turf & Horticulture 19-4-14 12 Month

## Safety Data Sheet

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

### Monoammonium Phosphate (7722-76-1)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

### 15.3. State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Component	State or local regulations
ammonium sulphate(7783-20-2)	U.S. - Massachusetts - Right To Know List; U.S. - Pennsylvania - RTK (Right to Know) List
iron(II)sulfate(7720-78-7)	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
copper(II)sulfate(7758-98-7)	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
zinc sulphate(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

## SECTION 16 Other information

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

Revision date : 4/22/2025

Issue date : 7/7/2021

### Full text of hazard classes and H-statements

H302	Harmful if swallowed
H315	Causes skin irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation
H320	Causes eye irritation
H335	May cause respiratory irritation
H373	May cause damage to organs through prolonged or repeated exposure

Safety Data Sheet (SDS), USA

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.