

# TranSorb Mn (5% Mn)

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations  
Issue date: 3/25/2026 Version: 1.0

### SECTION 1 Identification

#### 1.1. Product identifier

Product form : Mixture  
Product name : TranSorb Mn (5% Mn)  
Product code : 52018

#### 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

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) : 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.  
P314 - Get medical advice or attention if you feel unwell.  
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

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### 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
manganese(II)sulfate	CAS-No.: 7785-87-7	16.13	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
citric acid	CAS-No.: 77-92-9	4	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335
Fulvic Acid	CAS-No.: 479-66-3	2	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2B, H320

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	: Get medical advice/attention if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center/doctor/physician if you feel unwell.
Personal protection for first-aid responders.	: First aid workers will be equipped with suitable personal protective equipment.

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

Symptoms/effects after inhalation	: None under normal conditions.
Symptoms/effects after skin contact	: None under normal conditions.
Symptoms/effects after eye contact	: None under normal conditions.
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. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.

### 5.2. Specific hazards arising from the chemical

Fire hazard	: No fire hazard.
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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 : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.

#### 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.

#### 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. Stop leak if safe to do so.

Environmental precautions : Avoid release to the environment.

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

For containment : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk.  
Methods for cleaning up : Take up liquid spill into absorbent material.  
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 : Ensure good ventilation of the work station. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapors/spray.  
Hygiene measures : 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 : Keep cool. Protect from sunlight.  
Packaging materials : Always store product in container of same material as original container.

## SECTION 8 Exposure controls/personal protection

### 8.1. Control parameters

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### manganese(II)sulfate (7785-87-7)

#### USA - ACGIH - Occupational Exposure Limits

ACGIH® TLV® 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.

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

#### Personal protective equipment:

Wear recommended personal protective equipment.

#### Hand protection:

Protective gloves

#### Eye protection:

Safety glasses

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

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	: Liquid
Color	: Mixture contains one or more component(s) which have the following color(s): Colorless White Colourless to white
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
Odor threshold	: No data available
pH	: 5.0-5.5
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 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	: 1.3174
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available

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Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Explosion limits	: No data available
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

### 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)	: No data available
Acute toxicity (dermal)	: No data available
Acute toxicity (inhalation)	: No data available

<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>citric acid (77-92-9)</b>	
LD50 oral rat	3000 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Literature study; 11700 mg/kg bodyweight; Rat; Experimental value)
LD50 oral	5400 mg/kg body weight Animal: mouse, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 4500 - 6400
LD50 dermal rat	> 2000 mg/kg body weight (Rat; Experimental value; OECD 402: Acute Dermal Toxicity)
ATE US (oral)	3000 mg/kg body weight

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

Skin corrosion/irritation : No data available  
pH: 5.0-5.5

<b>manganese(II)sulfate (7785-87-7)</b>	
pH	6 – 6.5 (42.5 - 45 %, 20 °C, EU Method A.6: Water solubility)

<b>citric acid (77-92-9)</b>	
pH	2.2 (1 %)

Serious eye damage/irritation : No data available  
pH: 5.0-5.5

<b>manganese(II)sulfate (7785-87-7)</b>	
pH	6 – 6.5 (42.5 - 45 %, 20 °C, EU Method A.6: Water solubility)

<b>citric acid (77-92-9)</b>	
pH	2.2 (1 %)

Respiratory or skin sensitization : No data available  
Germ cell mutagenicity : No data available

Carcinogenicity : No data available

Reproductive toxicity : No data available  
STOT-single exposure : No data available

<b>citric acid (77-92-9)</b>	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure : May cause damage to organs through prolonged or repeated exposure.

<b>manganese(II)sulfate (7785-87-7)</b>	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.

<b>citric acid (77-92-9)</b>	
LOAEL (oral, rat, 90 days)	8000 mg/kg body weight Animal: rat
NOAEL (oral, rat, 90 days)	4000 mg/kg body weight Animal: rat

Aspiration hazard : No data available

<b>manganese(II)sulfate (7785-87-7)</b>	
Viscosity, kinematic	Not applicable

<b>citric acid (77-92-9)</b>	
Viscosity, kinematic	3.904 mm <sup>2</sup> /s

Symptoms/effects after inhalation : None under normal conditions.  
Symptoms/effects after skin contact : None under normal conditions.  
Symptoms/effects after eye contact : None under normal conditions.

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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) : No data available

Hazardous to the aquatic environment, long-term (chronic) : No data available

<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>citric acid (77-92-9)</b>	
LC50 - Fish [1]	2600 mg/l (48 h; Leuciscus idus; pH = 7)
EC50 - Crustacea [1]	120 mg/l (72 h; Daphnia magna; pH < 7)
EC50 - Other aquatic organisms [1]	> 50 mg/l Test organisms (species): other aquatic crustacea:
LC50 - Fish [2]	1516 mg/l (96 h; Lepomis macrochirus)
EC50 - Crustacea [2]	85 mg/l (Daphnia magna)
Threshold limit - Algae [1]	80 mg/l (192 h; Microcystis aeruginosa; Reproduction)
Threshold limit - Algae [2]	640 mg/l (168 h; Scenedesmus quadricauda)

#### 12.2. Persistence and degradability

<b>TranSorb Mn (5% Mn)</b>	
Persistence and degradability	Rapidly degradable

  

<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>citric acid (77-92-9)</b>	
Persistence and degradability	Readily biodegradable in water, Biodegradable in the soil, Not established.
Biochemical oxygen demand (BOD)	0.42 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	0.728 g O <sub>2</sub> /g substance
ThOD	0.686 g O <sub>2</sub> /g substance
BOD (% of ThOD)	(20 day(s)) 0.89

  

<b>Fulvic Acid (479-66-3)</b>	
Persistence and degradability	Not established.

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### 12.3. Bioaccumulative potential

#### manganese(II)sulfate (7785-87-7)

Bioaccumulative potential	No bioaccumulation data available. Not established.
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#### citric acid (77-92-9)

Partition coefficient n-octanol/water (Log Pow)	-1.72 (Experimental value)
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Bioaccumulative potential	Bioaccumulation: not applicable. Not established.
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#### Fulvic Acid (479-66-3)

Bioaccumulative potential	Not established.
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### 12.4. Mobility in soil

#### manganese(II)sulfate (7785-87-7)

Ecology - soil	No (test)data on mobility of the substance available.
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### 12.5. Other adverse effects

Ozone : No data available  
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 : 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

### 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

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### 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, except for:

Fulvic Acid	CAS-No. 479-66-3	2%
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### 15.2. International regulations

#### CANADA

##### manganese(II)sulfate (7785-87-7)

Listed on the Canadian DSL (Domestic Substances List)

##### citric acid (77-92-9)

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

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### National regulations

No additional information available

### 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

## SECTION 16 Other information

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Full text of hazard classes and H-statements	
H302	Harmful if swallowed
H312	Harmful in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H320	Causes eye irritation
H332	Harmful if inhaled
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.