



Root Rescue Environmental Products Inc.
PO Box 864
Waterdown, ON, L0R 2H0
Telephone: (416) 995-9050

Root Rescue Transplanter MS-CS
SDS Revision Date (mm/dd/yyyy): 03/24/2016

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SECTION 1. IDENTIFICATION

Product identifier used on the label

Root Rescue Transplanter MS-CS

Product Code(s) CFIA Registration # 2015122A
Recommended use of the chemical and restrictions on use

Organic plant growth aid

Chemical family Mixture

Name, address, and telephone number of the manufacturer:
Refer to Supplier

Name, address, and telephone number of the supplier:
Root Rescue Environmental Products Inc.

PO Box 864
Waterdown, ON,
L0R 2H0
Supplier's Telephone # (416) 995-9050
24 Hr. Emergency Tel # (289) 895-8396

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

This product is not regulated by the Hazardous Products Act (WHMIS).
Contains ingredients classified under GHS as Eye Irritant, Category 2B.

Label elements

Hazard pictogram(s)



Signal Word

Not applicable.

Hazard statement(s)

Labelled as per the Fertilizers Act and Regulations.

Precautionary statement(s)

Labelled as per the Fertilizers Act and Regulations

Other hazards

This product contains viable spores of fungi and may cause adverse effects in sensitive individuals. Use only as directed. Do not ingest or inhale. Avoid skin contact. This product may contain live microorganisms other than those listed under the minimum guarantee (see package for more details). Follow all instructions on label for proper preparation and application.



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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical name	Common name and synonyms	CAS #	Concentration (% by weight)
Humic acids, potassium salts		68514-28-3	N/Av
Extract from algae		84775-78-0	N/Av
Attapulgite clay		12174-11-7	N/Av
Quartz	Quartz silica	14808-60-7	Less than 5%; Respirable <0.015%
Proprietary	Crystallized silicon dioxide	N/Av	0.5 - 5.0

SECTION 4. FIRST-AID MEASURES

Description of first aid measures

<i>Ingestion</i>	Non-toxic. If ingestion of a large amount does occur, call a poison control center immediately. Do not induce vomiting without medical advice. Clean mouth with water and drink afterwards plenty of water.
<i>Inhalation</i>	None required under normal conditions. Remove exposed person to fresh air if adverse effects, such as breathing difficulty arise. Get medical attention if symptoms persist.
<i>Skin contact</i>	Wash affected area with mild soap and water. Remove contaminated clothing. Get medical attention if irritation develops and persists.
<i>Eye contact</i>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if irritation develops and persists.

Most important symptoms and effects, both acute and delayed

Product should be non-toxic when used as intended.

Indication of any immediate medical attention and special treatment needed

This product is generally non-toxic, but may create a nuisance dust or cause mechanical irritation of the eyes. Consult a physician if you feel any ill effects after use.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media
Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media
None known.

Special hazards arising from the substance or mixture / Conditions of flammability

Not flammable under normal conditions of use. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Flammability classification (OSHA 29 CFR 1910.106)

Not applicable.

Hazardous combustion products

None known.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters
Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.

Special fire-fighting procedures
Move containers from fire area if you can do so without risk. Water spray may be



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useful in cooling equipment exposed to heat and flame.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Environmental precautions Wear gloves and eye protection when cleaning up spills since product may cause temporary skin staining or mechanical irritation of the eyes.
 Do not allow material to contaminate ground water system. Remove as much solid as possible, such as by sweeping. Wash area of spill with large amounts of water. Avoid loose product on floor in damp areas, as it may become slippery with the addition of water.

Methods and material for containment and cleaning up
 Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Use only non-sparking tools and equipment in the clean-up process. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13).

Special spill response procedures
 None known.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling Use with adequate ventilation. Avoid breathing dust. Keep away from heat, flame, sparks, or ignition sources. Wash thoroughly after handling. Wear gloves to protect from temporary skin staining.

Conditions for safe storage Store in a cool, dry place out of direct sunlight. Provide adequate ventilation. Clean up any dust spills around container. Do not contaminate water, food or feed by storage or disposal.

Incompatible materials None known or reported by the manufacturer.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

<u>Chemical Name</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Humic acids, potassium salts	N/Av	N/Av	N/Av	N/Av
Extract from algae	N/Av	N/Av	N/Av	N/Av
Attapulgate clay	N/Av	N/Av	N/Av	N/Av
Quartz	0.025 mg/m ³ (respirable)	N/Av	0.1 mg/m ³ (respirable) (final rule limit)	N/Av
Proprietary	N/Av	N/Av	N/Av	N/Av

Exposure controls

Ventilation and engineering measures No special requirements under ordinary conditions of use and with adequate ventilation.

Respiratory protection If used in open areas, natural ventilation may be sufficient. Otherwise, wear a



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Skin protection	NIOSH/MSHA approved high efficiency particulate respirator to remove dust.
Eye / face protection	Rubber or other impermeable gloves should be worn while handling due to staining.
Other protective equipment	Wear safety glasses with side shields (or goggles).
General hygiene considerations	Wear apron or overalls to protect clothing from staining.
	Avoid breathing dust. Wash hands and face before breaks and immediately after handling the product. Wash contaminated clothing before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Gray powder
Odour	Earthy
Odour threshold	Not available.
pH	Not available.
Melting/Freezing point	Not applicable.
Initial boiling point and boiling range	Not applicable.
Flash point	Not applicable.
Flashpoint (Method)	Not applicable.
Evaporation rate (BuAe = 1)	Not applicable.
Flammability (solid, gas)	May form combustible dust - air mixtures.
Lower flammable limit (% by vol.)	Not available.
Upper flammable limit (% by vol.)	Not available.
Oxidizing properties	None known.
Explosive properties	Not explosive
Vapour pressure	Not applicable.
Vapour density	Not applicable.



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Relative density / Specific gravity

Not available.

Solubility in water

Insoluble.

Other solubility(ies)

Not available.

Partition coefficient: n-octanol/water or Coefficient of water/oil distribution

Not applicable.

Auto-ignition temperature

Not available.

Decomposition temperature

No information available.

Viscosity

Not applicable.

Volatiles (% by weight)

Not applicable.

Volatile organic Compounds (VOC's)

Not applicable.

Absolute pressure of container

Not applicable.

Flame projection length

Not applicable.

Other physical/chemical comments

None known or reported by the manufacturer.

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not normally reactive.

Chemical stability

Stable under normal conditions.

Possibility of hazardous reactions

Hazardous polymerization does not occur.

Conditions to avoid

Extreme heat and flame, wet or humid conditions

Incompatible materials

None known or reported by the manufacturer.

Hazardous decomposition products

None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:



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Routes of entry inhalation YES
 Routes of entry skin & eye YES
 Routes of entry Ingestion NO

Routes of exposure skin absorption
 NO

Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

High concentrations of dust may cause coughing and mild, temporary irritation.

Sign and symptoms ingestion

Considered generally non-toxic. Swallowing large amounts may cause nausea, discomfort in stomach or irritation of mouth.

Sign and symptoms skin

Does not normally cause skin irritation beyond possible slight reddening on contact. May cause temporary skin staining.

Sign and symptoms eyes

Inert particles may cause mechanical irritation of the eyes, including scratches.

Potential Chronic Health Effects

None expected, when used as intended.

Mutagenicity

Not expected to be mutagenic in humans.

Carcinogenicity

No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity

Not expected to cause reproductive effects.

Sensitization to material

Not expected to be a skin or respiratory sensitizer.

Specific target organ effects

Eyes, skin, respiratory system.

Medical conditions aggravated by overexposure

Persons with respiratory problems such as emphysema and asthma should avoid inhalation.

Synergistic materials

None known or reported by the manufacturer.

Toxicological data

See below for toxicological data on the substance.

Chemical name	LC ₅₀ (4hr) inh, rat	LD ₅₀ (Oral, rat)	LD ₅₀ (Rabbit, dermal)
Humic acids, potassium salts	N/Av	N/Av	N/Av
Extract from algae	N/Av	N/Av	N/Av
Attapulgate clay	N/Av	N/Av	N/Av
Quartz	N/Av	N/Av	N/Av
Proprietary	N/Av	N/Av	N/Av

Other important toxicological hazards

None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Not expected to be significantly toxic to the environment.

Ecotoxicity data:



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<u>Ingredients</u>	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Humic acids, potassium salts	68514-28-3	N/Av	N/Av	N/Av
Extract from algae	84775-78-0	N/Av	N/Av	N/Av
Attapulgate clay	12174-11-7	N/Av	N/Av	N/Av
Quartz	14808-60-7	N/Av	N/Av	N/Av
Proprietary	N/Av	N/Av	N/Av	N/Av

<u>Ingredients</u>	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Humic acids, potassium salts	68514-28-3	N/Av	N/Av	N/Av
Extract from algae	84775-78-0	N/Av	N/Av	N/Av
Attapulgate clay	12174-11-7	N/Av	N/Av	N/Av
Quartz	14808-60-7	N/Av	N/Av	N/Av
Proprietary	N/Av	N/Av	N/Av	N/Av

<u>Ingredients</u>	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Humic acids, potassium salts	68514-28-3	N/Av	N/Av	N/Av
Extract from algae	84775-78-0	N/Av	N/Av	N/Av
Attapulgate clay	12174-11-7	N/Av	N/Av	N/Av
Quartz	14808-60-7	N/Av	N/Av	N/Av
Proprietary	N/Av	N/Av	N/Av	N/Av

Persistence and degradability

Partially biodegradable. Contains inorganic material, such as quartz, which does not biodegrade but which is not harmful to the environment.

Bioaccumulation potential

Not expected to bioaccumulate.

Components

Partition coefficient n-octanol/water (log Kow) Bioconcentration factor (BCF)

Mobility in soil

Not known.

Other Adverse Environmental effects

None known.



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SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal Handle in accordance with good industrial hygiene and safety practice. Refer to protective measures listed in sections 7 and 8.

Methods of Disposal Dispose in accordance with all applicable federal, state, provincial and local regulations.

RCRA Not applicable in Canada.

SECTION 14. TRANSPORTATION INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
TDG TDG Additional information	None. None.	Not regulated.	not regulated	none	
49CFR/DOT 49CFR/DOT Additional information	None. None.	Not regulated.	not regulated	none	
ICAO/IATA ICAO/IATA Additional information	None. None.	Not regulated.	not regulated	none	
IMDG IMDG Additional information	None. None.	Not regulated.	not regulated	none	

Special precautions for user Not dangerous goods

Environmental hazards See Section 12 for more environmental information.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15. REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

TSCA	CERCLA	SARA TITLE III: Sec. 302, Extremely	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical
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<u>Ingredients</u>	<u>CAS #</u>	<u>Inventory</u>	<u>Reportable Quantity(RQ) (40 CFR 117.302):</u>	<u>Hazardous Substance, 40 CFR 355:</u>	<u>Toxic Chemical</u>	<u>de minimus Concentration</u>
Humic acids, potassium salts	68514-28-3	Yes	N/Ap	N/Av	No	NS
Extract from algae	84775-78-0	NL	N/Ap	N/Av	No	NS
Attapulgate clay	12174-11-7	NL	N/Ap	N/Av	No	NS
Quartz	14808-60-7	Yes	None.	None.	No	N/Ap
Proprietary	N/Av	NS	Not available.	N/Av	NS	NS

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	<u>CAS #</u>	<u>California Proposition 65</u>		<u>State "Right to Know" Lists</u>					
		<u>Listed</u>	<u>Type of Toxicity</u>	<u>CA</u>	<u>MA</u>	<u>MN</u>	<u>NJ</u>	<u>PA</u>	<u>RI</u>
Humic acids, potassium salts	68514-28-3	No	N/Ap	No	No	No	No	No	No
Extract from algae	84775-78-0	No	N/Ap	No	No	No	No	No	No
Attapulgate clay	12174-11-7	Yes	carcinogen (> μm in length)	Yes	No	No	No	No	No
Quartz	14808-60-7	Yes	Cancer (airborne particles of respirable size)	No	Yes	Yes	Yes	Yes	Yes
Proprietary	N/Av	No	N/Ap	NS	NS	NS	NS	NS	NS

Canadian Information:

Registered with the Plant Health and Biosecurity Directorate, Registration # 2015122A.

International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	<u>CAS #</u>	<u>European EINECs</u>	<u>Australia AICS</u>	<u>Philippines PICCS</u>	<u>Japan ENCS</u>	<u>Korea KECI/KECL</u>	<u>China IECSC</u>	<u>NewZealand IOC</u>
Humic acids, potassium salts	68514-28-3	271-030-1	Not listed	Not listed	Not listed	KE-19976	Present	Not listed
Extract from algae	84775-78-0	283-907-6	Present	Not listed	Not listed	Not listed	Not listed	Not listed
Attapulgate clay	12174-11-7	N/Av	Present	Present	Not listed	Not listed	Present	HSR003229
Quartz	14808-60-7	238-878-4	Present	Present	(1)-548	KE-29983	Present	HSR003125
Proprietary	N/Av	No data available.	No data available.	No data available.	No data available.	No data available.	No data available.	No data available.

SECTION 16. OTHER INFORMATION

Legend

ACGIH: American Conference of Governmental Industrial Hygienists



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AICS: Australian Inventory of Chemical Substances
ATE: Acute Toxicity Estimate
CA: California
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
CSA: Canadian Standards Association
DOT: Department of Transportation
ECHA: European Chemicals Agency
ECOTOX: U.S. EPA Ecotoxicology Database
EINECS: European Inventory of Existing Commercial chemical Substances
ENCS: Existing and New Chemical Substances
EPA: Environmental Protection Agency
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
IBC: Intermediate Bulk Container
IECSC: Inventory of Existing Chemical Substances
IMDG: International Maritime Dangerous Goods
IOC: Inventory of Chemicals
IUCLID: International Uniform Chemical Information Database
KECI: Korean Existing Chemicals Inventory
KECL: Korean Existing Chemicals List
LC: Lethal Concentration
LD: Lethal Dose
MA: Massachusetts
MN: Minnesota
N/Ap: Not Applicable
N/Av: Not Available
NIOSH: National Institute of Occupational Safety and Health
NJ: New Jersey
NOEC: No observable effect concentration
NTP: National Toxicology Program
OECD: Organisation for Economic Co-operation and Development
OSHA: Occupational Safety and Health Administration
PA: Pennsylvania
PEL: Permissible exposure limit
PICCS: Philippine Inventory of Chemicals and Chemical Substances
RCRA: Resource Conservation and Recovery Act
RI: Rhode Island
RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
SDS: Safety Data Sheet / Material Safety Data Sheet
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TSCA: Toxic Substance Control Act
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References

1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2016.
2. International Agency for Research on Cancer Monographs, searched 2016.
3. Canadian Centre for Occupational Health and Safety, CInfoWeb databases, 2016 (Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists - 2016 version.



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6. California Proposition 65 List 2016 version
Preparation Date (mm/dd/yyyy) 03/24/2016

Reviewed Date SDS (dd/mm/yyyy)

24/03/2016

Revision No. 1.1
Revision Information Version 1.1 - updated 24-hour telephone number and ingredient concentrations.

Other special considerations for handling
Provide adequate information, instruction and training for operators.



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HMIS Rating	* - Chronic hazard	0 - Minimal	1 - Slight	2 - Moderate	3 - Serious	4 - Severe
	<i>Health: 0</i>		<i>Flammability: 1</i>		<i>Reactivity: 0</i>	
NFPA Rating	0 - Minimal	1 - Slight	2 - Moderate	3 - Serious	4 - Severe	
	<i>Health: 0</i>		<i>Flammability: 1</i>	<i>Instability: 0</i>	<i>Special Hazards: None</i>	



Prepared for:

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