

<p style="text-align: center;">Monsanto Canada Safety Data Sheet Commercial Product</p>
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1. PRODUCT AND COMPANY IDENTIFICATION

1.1. Product identifier

QuickRoots® Wettable Powder - Corn multi-crop

1.1.1. **Chemical name**
Not applicable.

1.1.2. **Synonyms**
None.

1.2. **Product use**
Inoculant

1.3. **Company**
Monsanto Canada, 900 - One Research Road, Winnipeg, MB, R3T 6E3
Telephone: 204-985-1000 or 800-667-4944, **Fax:** 204-488-9599
E-mail: safety.datasheet@monsanto.com

1.4. **Emergency numbers**
FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT Call
CANUTEC - Day or Night: 613-996-6666 (collect calls accepted) or MONSANTO: 314-694-4000
(collect calls accepted).
FOR MEDICAL EMERGENCY - Day or Night: +1 (314) 694-4000 (collect calls accepted).

2. HAZARDS IDENTIFICATION

2.1. **Classification**
Classification according to the Hazardous Products Regulations, 2015 Workplace Hazardous Materials
Information System (WHMIS 2015)
Combustible dust

2.2. **Label elements**
Hazard pictogram/pictograms
Not Applicable
Signal word
WARNING!
Hazard statement/statements
H May form combustible dust concentrations in air.
Precautionary statement/statements
Pxxx Not applicable.

2.3. **Other hazards**
0% of the mixture consists of ingredient/ingredients of unknown acute toxicity.

2.3.1. **Potential other effects**
May form combustible dust concentrations in air.

2.4. Appearance and odour (colour/form/odour)
Tan /Granules / Musty

Refer to section 11 for toxicological and section 12 for environmental information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance: Not applicable.

3.2. Mixture: Yes.

Composition/information on ingredients

Components	CAS No.	Concentration
Trichoderma virens		20 - 36 %
Bacillus amyloliquefaciens		2 - 15 %
Minor formulating ingredients		49 - 78 %

Trade secret composition.

Active ingredient

None; {Not applicable}

4. FIRST AID MEASURES

Use personal protection recommended in section 8.

4.1. Description of first aid measures

4.1.1. Eye contact

If in eyes, hold eye open and rinse slowly and gently for 15-20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.

4.1.2. Skin contact

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Sensitized persons should avoid further contact and reuse of contaminated clothing.

4.1.3. Inhalation

If inhaled, move person to fresh air. If person is not breathing, call emergency number or ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.

4.1.4. Ingestion

Call poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison center or doctor. Do not give anything by mouth to an unconscious person.

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

4.2.1. Potential health effects

Likely routes of exposure: Skin contact, eye contact, inhalation

Eye contact, short term: Not expected to produce significant adverse effects when recommended use instructions are followed. Dust particles may cause slight eye irritation.

Skin contact, short term: Not expected to produce significant adverse effects when recommended use instructions are followed.

Inhalation, short term: Not expected to produce significant adverse effects when recommended use instructions are followed.

Single ingestion: Not expected to produce significant adverse effects when recommended use instructions are followed.

4.2.2. Medical conditions aggravated by exposure:

Contains microorganisms which may have the potential to provoke sensitising reactions. Opportunistic infections may occur in patients with compromised immune functions.

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

Not applicable.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

5.1.1. Recommended: Water, Dry chemical, Foam, Carbon dioxide (CO₂)

5.2. Special hazards

5.2.1. Unusual fire and explosion hazards

This material as normally packaged and handled can contain sufficient fines to form an explosive mixture if dispersed in a sufficient quantity of air. Environmental precautions: see section 6.

5.2.2. Hazardous products of combustion

Carbon monoxide (CO), Carbon dioxide (CO₂), Nitrogen oxides (NO_x)

5.3. Advice for firefighters

Self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

5.4. Flash point

Not applicable.

6. ACCIDENTAL RELEASE MEASURES

Use handling recommendations in Section 7 and personal protection recommendations in Section 8.

6.1. Personal precautions

Do not breathe dust.

6.2. Environmental precautions

Keep out of drains, sewers, ditches and water ways. Do NOT contaminate water when disposing of rinse waters.

6.3. Methods for cleaning up

Collect in containers for reclamation or disposal. Use vacuum equipment designed specifically for combustible dust. Wash spill area with detergent and water.

Refer to section 13 for disposal of spilled material.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Good industrial practice in housekeeping and personal hygiene should be followed. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Do NOT taste or swallow. When using do not eat, drink or smoke. Wash hands thoroughly after handling or contact. Wash contaminated clothing before re-use.

Thoroughly clean equipment after use. Refer to section 13 of the safety data sheet for disposal of rinse water. Do not contaminate drains, sewers and water ways when disposing of equipment rinse water. Emptied packages retain product residue and dust. FOLLOW LABELLED WARNINGS EVEN AFTER CONTAINER IS EMPTIED.

7.2. Conditions for safe storage, including any incompatibilities

Incompatible materials for storage: Acids, bases, oxidizers, reducers, disinfectants, fungicides, and/or biocides may inactivate this product.

Read label for specific storage conditions. Keep in a cool place. Store in a dry place. Avoid extremely high or low temperatures. Keep away from direct sunlight. Keep away from heat and flame.

7.3. Specific end use(s)

Not applicable.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Airborne exposure limits

Components	Exposure Guidelines
Trichoderma virens	No specific occupational exposure limit has been established.
Bacillus amyloliquefaciens	No specific occupational exposure limit has been established.
Minor formulating ingredients	No specific occupational exposure limit has been established.

8.2. Exposure controls

Engineering controls

Provide local exhaust ventilation. Have eye wash facilities immediately available at locations where eye contact can occur.

Eye protection:

If there is potential for contact: Wear dust goggles.

Skin protection:

Wear chemical resistant gloves.

If there is potential for contact: Wear chemical resistant clothing/footwear.

Respiratory protection:

If airborne exposure is excessive: Wear respirator.

When recommended, consult manufacturer of personal protective equipment for the appropriate type of equipment for a given application.

9. PHYSICAL AND CHEMICAL PROPERTIES

These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

9.1 Information on basic physical and chemical properties

Colour/colour range:	Tan
Form:	Granules
Odour:	Musty
Odour threshold:	No data.

Physical form changes (melting, boiling, etc.):	
Melting point:	No data.
Boiling point:	Not applicable.
Flash point:	Not applicable.
Explosive properties:	No data.
Auto ignition temperature:	No data.
Self-accelerating decomposition temperature (SADT):	No data.
Oxidizing properties:	No data.
Specific gravity:	Not applicable.
Vapour pressure:	No significant volatility.
Vapour density:	Not applicable.
Dynamic viscosity:	Not applicable.
Kinematic viscosity:	Not applicable.
Density:	No data.
Solubility:	Soluble
pH:	Not applicable.
Partition coefficient:	No data.

9.2 Other information

Evaporation rate:	Not applicable.
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10. STABILITY AND REACTIVITY

10.1. Reactivity

None

10.2. Chemical stability

Stable under normal conditions of handling and storage.

10.3. Possibility of hazardous reactions

10.4. Conditions to avoid

None

10.5. Incompatible materials

Incompatible materials for storage: Acids, bases, oxidizers, reducers, disinfectants, fungicides, and/or biocides may inactivate this product.

Compatible materials for storage: see section 7.2.

10.6. Hazardous decomposition products

Hazardous products of combustion: see section 5.

11. TOXICOLOGICAL INFORMATION

This section is intended for use by toxicologists and other health professionals.

11.1. Information on toxicological effects

Acute oral toxicity: Based on available data classification criteria are not met.

Acute dermal toxicity: Based on available data classification criteria are not met.

Acute inhalation toxicity: Based on available data classification criteria are not met.

Skin corrosion/irritation: Based on available data classification criteria are not met.

Eye corrosion/irritation: Based on available data classification criteria are not met.

Skin sensitization: Based on available data classification criteria are not met.

Respiratory sensitization: Based on available data classification criteria are not met.

Mutagenicity: Based on available data classification criteria are not met.

Carcinogenicity: Based on available data classification criteria are not met.

Reproductive/Developmental Toxicity: Based on available data classification criteria are not met.

Specific Target Organ Toxicity - Single Exposure: Based on available data classification criteria are not met.

Specific Target Organ Toxicity - Repeated Exposure: Based on available data classification criteria are not met.

Aspiration hazard: Based on available data classification criteria are not met.

Most important symptoms and effects, both acute and delayed

Potential health effects

Likely routes of exposure: Skin contact, eye contact, inhalation

Eye contact, short term: Not expected to produce significant adverse effects when recommended use instructions are followed. Dust particles may cause slight eye irritation.

Skin contact, short term: Not expected to produce significant adverse effects when recommended use instructions are followed.

Inhalation, short term: Not expected to produce significant adverse effects when recommended use instructions are followed.

Single ingestion: Not expected to produce significant adverse effects when recommended use instructions are followed.

Medical conditions aggravated by exposure: Contains microorganisms which may have the potential to provoke sensitising reactions. Opportunistic infections may occur in patients with compromised immune functions.

Monsanto has not conducted toxicity studies on this product. Contains microorganisms which may have the potential to provoke sensitising reactions. Opportunistic infections may occur in patients with compromised immune functions.

12. ECOLOGICAL INFORMATION

This section is intended for use by ecotoxicologists and other environmental specialists.

Monsanto has not conducted environmental studies on this product.

12.1 Toxicity

No data.

12.2 Persistence and degradability

No data.

12.3 Bioaccumulative potential

Refer to section 9 for partition coefficient data.

12.4 Mobility in soil

No data.

12.5 Results of PBT and vPvB assessment

No data.

12.6 Other adverse effects

No data.

12.7 Additional information

If available, data obtained on similar products and/or on components are summarized below.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

13.1.1. Product

Keep out of drains, sewers, ditches and water ways. Recycle if appropriate facilities/equipment available. Burn in proper incinerator. Follow all local/regional/national/international regulations.

13.1.2. Container

Emptied packages retain product residue and dust. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Empty packaging completely. Triple or pressure rinse empty containers. Do NOT contaminate water when disposing of rinse waters. Ensure packaging cannot be reused. Do NOT re-use containers. Recycle if appropriate facilities/equipment available. Follow all local/regional/national/international regulations.

Use handling recommendations in Section 7 and personal protection recommendations in Section 8.

14. TRANSPORT INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

Transport of Dangerous Goods Regulations (TDG)

14.1 **UN No.:** Not applicable.

14.2 **Proper Shipping Name (Technical Name if required):** Not regulated for domestic ground transportation.

14.3 **Transport hazard class:** Not applicable.

14.4 **Packing Group:** Not applicable.

14.5 **Environmental hazards:** Not applicable.

14.6 **Special precautions for the user:** Not applicable.

IMO

14.1 **UN No.:** Not applicable.

14.2 **Proper Shipping Name (Technical Name if required):** Not regulated for transport under IMO Regulations.

14.3 **Transport hazard class:** Not applicable.

14.4 **Packing Group:** Not applicable.

14.5 **Environmental hazards:** Not applicable.

14.6 **Special precautions for the user:** Not applicable.

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

IATA/ICAO

14.1 **UN No.:** Not applicable.

14.2 **Proper Shipping Name (Technical Name if required):** Not regulated for transport under IATA/ICAO Regulations.

14.3 **Transport hazard class:** Not applicable.

14.4 **Packing Group:** Not applicable.

- 14.5 **Environmental hazards: Not applicable.**
14.6 **Special precautions for the user: Not applicable.**

15. REGULATORY INFORMATION

15.1. Pest Management Regulatory Agency, Pest Control Products Act [PMRA PCPA]

Not regulated by PMRA.

16. OTHER INFORMATION

The information given here is not necessarily exhaustive but is representative of relevant, reliable data.
Follow all local/regional/national/international regulations.
Please consult supplier if further information is needed.
Revised for new format.
In this document the British spelling was applied.

Full denomination of most frequently used acronyms. BCF (Bioconcentration Factor), BOD (Biochemical Oxygen Demand), COD (Chemical Oxygen Demand), EC50 (50% effect concentration), ED50 (50% effect dose), I.M. (intramuscular), I.P. (intraperitoneal), I.V. (intravenous), Koc (Soil adsorption coefficient), LC50 (50% lethality concentration), LD50 (50% lethality dose), LDLo (Lower limit of lethal dosage), LEL (Lower Explosion Limit), LOAEC (Lowest Observed Adverse Effect Concentration), LOAEL (Lowest Observed Adverse Effect Level), LOEC (Lowest Observed Effect Concentration), LOEL (Lowest Observed Effect Level), MEL (Maximum Exposure limit), MTD (Maximum Tolerated Dose), NOAEC (No Observed Adverse Effect Concentration), NOAEL (No Observed Adverse Effect Level), NOEC (No Observed Effect Concentration), NOEL (No Observed Effect Level), OEL (Occupational Exposure Limit), PEL (Permissible Exposure Limit), PII (Primary Irritation Index), Pow (Partition coefficient n-octanol/water), S.C. (subcutaneous), STEL (Short-Term Exposure Limit), STOT SE (Specific Target Organ Toxicity, Single Exposure), STOT RE (Specific Target Organ Toxicity, Repeated Exposure), TLV-C (Threshold Limit Value-Ceiling), TLV-TWA (Threshold Limit Value - Time Weighted Average), UEL (Upper Explosion Limit)

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