

MONSANTO COMPANY

Safety Data Sheet Commercial Product

1. PRODUCT AND COMPANY IDENTIFICATION

1.1. Product identifier

QuickRoots[™] Dry Planter Box - Small Grains

1.1.1. Chemical name

Not applicable.

1.1.2. Synonyms

None.

1.2. Company

MONSANTO COMPANY, 800 N. Lindbergh Blvd., St. Louis, MO, 63167

Telephone: 800-332-3111, **Fax:** 314-694-5557

E-mail: safety.datasheet@monsanto.com

1.3. Emergency numbers

FOR CHEMICAL EMERGENCY, SPILL LEAK, FIRE, EXPOSURE, OR ACCIDENT Call CHEMTREC - Day or Night: 1-800-424-9300 toll free in the continental U.S., Puerto Rico, Canada, or Virgin Islands. For calls originating elsewhere: 703-527-3887 (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 OSHA Hazard Communication Standard, 29 CFR 1910.1200 (2012)

Combustible dust

STOT RE - Category 1

2.2. Label elements

2.2.1. Signal word

Danger

2.2.2. Hazard pictogram/pictograms



2.2.3. Hazard statement/statements

May form combustible dust concentrations in air.

Causes damage to lungs through prolonged or repeated exposure by inhalation.

2.2.4. Precautionary statement/statements

Do not breathe dust.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Get medical advice/attention if you feel unwell.
Dispose of contents/container in accordance with local, regional, national and international regulations.

2.3. Other hazards

0% of the mixture consists of ingredient/ingredients of unknown acute toxicity.

2.4. Appearance and odour (colour/form/odour)

Tan-Green /Granules / Musty

2.5. OSHA Status

This product is hazardous according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Active ingredient

None; {Not applicable}

Composition

COMPONENT	CAS No.	% by weight (approximate)
Bacillus amyloliquefaciens		19.33
Trichoderma virens		2.8
Talc	14807-96-6	>=30 - <=40
Minor formulating ingredients		>=35 - <=55

Trade secret composition.

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. Eye contact, short term:** Not expected to produce significant adverse effects when recommended use instructions are followed. Dust particles may cause slight eye irritation.
- 4.2.2. Skin contact, short term:** Not expected to produce significant adverse effects when recommended use instructions are followed.
- 4.2.3. Inhalation, short term:** Not expected to produce significant adverse effects when recommended use instructions are followed.
- 4.2.4. Single ingestion:** Not expected to produce significant adverse effects when recommended use instructions are followed.

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

- 4.3.1. Medical conditions aggravated by exposure:** Contains microorganisms which may have the potential to provoke sensitising reactions.

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. Fire fighting equipment:** Self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

5.4. Flash point

Not applicable.

6. ACCIDENTAL RELEASE MEASURES

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.

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

7. HANDLING AND STORAGE

Good industrial practice in housekeeping and personal hygiene should be followed.

7.1. Precautions for safe handling

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.

7.2. Conditions for safe storage

Maximum storage temperature: 20 °C

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

Keep only in the original container.

Keep container tightly closed in a cool, well-ventilated place.

Keep material dry.

Keep container off wet floors.

Keep away from direct sunlight.

Protect from freezing.

Keep away from heat.

Keep out of reach of children.

Keep away from food, drink and animal feed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Airborne exposure limits

Components	Exposure Guidelines
Bacillus amyloliquefaciens	No specific occupational exposure limit has been established.
Trichoderma virens	No specific occupational exposure limit has been established.
Talc	TLV (ACGIH): 2 mg/m ³ : respirable fraction PEL (OSHA): 20 mppcf
Minor formulating ingredients	No specific occupational exposure limit has been established.

8.2. Engineering controls:

Provide local exhaust ventilation.

8.3. Recommendations for personal protective equipment

8.3.1. Eye protection:

If there is potential for contact: Wear dust goggles.

8.3.2. Skin protection:

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

8.3.3. 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.

Colour/colour range:	Tan - Green
Odour:	Musty
Form:	Granules
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.
Evaporation rate:	Not applicable.
Dynamic viscosity:	Not applicable.
Kinematic viscosity:	Not applicable.
Density:	No data.
Solubility:	Soluble
pH:	Not applicable.
Partition coefficient:	No data.

10. STABILITY AND REACTIVITY

10.1. Stability

Stable under normal conditions of handling and storage.

10.2. Conditions to avoid

Protect from freezing. Keep away from heat.

10.3. Incompatible materials

Acids, bases, oxidizers, reducers, disinfectants, fungicides, and/or biocides may inactivate this product.;
 Compatible materials for storage: see section 7.2.

10.4. Hazardous decomposition

Thermal decomposition: Hazardous products of combustion: see section 5.

11. TOXICOLOGICAL INFORMATION

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

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

Potential health effects

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.

Monsanto has not conducted toxicity studies on this product. Data obtained on components are summarized below.

Talc

Carcinogenicity

Listed as Category 2A by the peridental route by the International Agency for Research on Cancer (IARC) but this is not a relevant route of occupational exposure.

EXPERIENCE WITH HUMAN EXPOSURE

Inhalation, prolonged, occupational:

Respiratory effects: wheezing, cough, shortness of breath (dyspnoea), fibrosis

12. ECOLOGICAL INFORMATION

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

Monsanto has not conducted environmental studies on this product.

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.

14.1. US Dept. of Transportation (DOT) Hazardous Materials Regulations (49 CFR Parts 105-180)

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

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

Proper Shipping Name (Technical Name if required):	Not regulated for transport under IATA/ICAO Regulations ()
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15. REGULATORY INFORMATION

15.1. Environmental Protection Agency

15.1.1. TSCA Inventory

All components are listed on or exempt from the TSCA Inventory.

15.1.2. SARA Title III Rules

Section 311/312 Hazard Categories:

See OSHA Hazard Communication Standard Categories in Section 2.1

Section 302 Extremely Hazardous Substances: Not applicable.

Section 313 Toxic Chemical(s): Not applicable.

15.1.3. CERCLA Reportable quantity

Not applicable.

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.

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)

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label.

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