



U.S. ENVIRONMENTAL PROTECTION AGENCY
 Office of Pesticide Programs
 Biopesticides and Pollution Prevention Division (7511P)
 1200 Pennsylvania Ave., N.W.
 Washington, D.C. 20460

EPA Reg. Number:

71840-19

Date of Issuance:

11/14/2016

NOTICE OF PESTICIDE:

Registration
 Reregistration
 (under FIFRA, as amended)

Term of Issuance:

Unconditional

Name of Pesticide Product:

Cartissa™ G

Name and Address of Registrant (include ZIP Code):

BASF Corporation
 26 Davis Drive
 Research Triangle Drive, NC 27709

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Biopesticides and Pollution Prevention Division prior to use of the label in commerce. In any correspondence on this product, always refer to the above EPA Registration Number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA or the Act).

Registration is in no way to be construed as an endorsement or recommendation of this product by the U.S. Environmental Protection Agency (EPA). In order to protect health and the environment, the Administrator, on his or her motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under the Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:

1. Submit and/or cite all data required for registration or registration review of your product when the EPA requires all registrants of similar products to submit such data.

Signature of Approving Official:

Jeannine Kausch, Acting Product Manager 92
 Microbial Pesticides Branch
 Biopesticides and Pollution Prevention Division (7511P)
 Office of Pesticide Programs

Date:

11/14/2016

2. Submit storage stability and corrosion characteristics (Guidelines 830.6317 and 830.6320) data as these data requirements are not satisfied. A one-year study is required to satisfy the data requirements. You have 18 months from the date of this registration to provide these data to EPA.
3. Make the following labeling change before you release this product for shipment:
 - Revise the EPA Registration Number to read, “EPA Reg. No. 71840-19.”
4. Submit one (1) copy of the final printed labeling for the record before you release this product for shipment.

Should you wish to add/retain a reference to your company’s website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the EPA. If the website is false or misleading, the product will be considered to be misbranded and sale or distribution of the product is unlawful under FIFRA section 12(a)(1)(E). 40 CFR § 156.10(a)(5) lists examples of statements the EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product’s label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the EPA find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the website will be referred to the EPA’s Office of Enforcement and Compliance Assurance.

Your release for shipment of this product constitutes acceptance of these terms. If these terms are not complied with, this registration will be subject to cancellation in accordance with FIFRA section 6. A stamped copy of the labeling is enclosed for your records. Please also note that the record for this product currently contains the following acceptable Confidential Statements of Formula (CSFs):

- Basic CSF dated 11/02/2016
- Alternate CSF #1 dated 11/02/2016
- Alternate CSF #2 dated 11/02/2016

Any CSFs other than those listed above are superseded.

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OPP Decision No. 515343

If you have any questions, please contact Michael Glikes by phone at (703) 305-6231 or via email at glikes.michael@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'JKausch', written in a cursive style.

Jeannine Kausch, Acting Product Manager 92
Microbial Pesticides Branch
Biopesticides and Pollution
Prevention Division (7511P)
Office of Pesticide Programs

Enclosure

Cartissa™ G

Biofungicide

{Alternate Brand Names: Cartissa™ Cereals G, Cartissa™ Soybean, Cartissa™ Soybean Red, Cartissa™ Soybean G, Cartissa™ G Liquid Biostacked®, PPST 2030 G, PA 2030 Red}

For commercial and on-farm use

Seed treatment for disease suppression in selected crops

Active Ingredients:

Bacillus amyloliquefaciens strain MBI 600* 0.090%

Bacillus pumilus strain BU F-33* 0.099%

Other Ingredients: 99.811%

Total: 100.000%

*Contains a minimum of 5.0 x 10⁸ colony forming units per mL of each strain

EPA Reg. No. 71840-XX

EPA Est. No.

**KEEP OUT OF REACH OF CHILDREN
CAUTION/PRECAUCION**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See inside for complete **First Aid, Precautionary Statements, Directions For Use, and Conditions of Sale and Warranty.**

You may contact BASF Corporation for emergency medical treatment information at 1-800-832-HELP (4357).

Net Contents:

Batch Code: Located on physical container

BASF Corporation
26 Davis Drive, Research Triangle Park, NC 27709

ACCEPTED
11/14/2016
Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 71840-19

First Aid	
If on skin or clothing	<ul style="list-style-type: none"> • 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.
If in eyes	<ul style="list-style-type: none"> • Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after first 5 minutes; then continue rinsing eyes. • Call a poison control center or doctor for treatment or advice.
Hotline Number	
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact BASF Corporation for emergency medical treatment information at 1-800-832-HELP (4357).	

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

Personal Protective Equipment (PPE)

The PPE requirements below apply to both Worker Protection Standard (WPS) uses (in general, agricultural-plant uses are covered by the Worker Protection Standard (40 CFR Part 170)) and Non-WPS uses.

Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Waterproof or nitrile gloves
- Shoes plus socks
- Protective eyewear

Mixers/loaders and applicators must wear a NIOSH approved particulate respirator with any N, R, or P filter with NIOSH approval number prefix TC-84A; or a NIOSH approved powered air purifying respirator with an HE filter with NIOSH approval number prefix TC-21C. (Repeated exposure to high concentrations of microbial proteins can cause allergic sensitization.)

Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

USER SAFETY RECOMMENDATIONS

Users should:

- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Environmental Hazards

{Environmental hazards statements for the following for container sizes less than 5 gal}

For terrestrial uses: **DO NOT** apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. **DO NOT** contaminate water when disposing of equipment washwater or rinsate.

{Environmental hazards statements for the following for containers equal to or greater than 5 gallons.}

DO NOT discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. **DO NOT** discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

Directions For Use

It is a violation of federal law to use this product in a manner inconsistent with its labeling. **DO NOT** apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation.

AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

DO NOT enter or allow worker reentry into treat areas during the restricted-entry interval (REI) of **4 hours**.

Exception: If the product is soil-injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

PPE required for early entry to treated areas (that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water), is:

- Coveralls
- Chemical-resistant gloves (made of any waterproof material)
- Shoes plus socks
- Protective eyewear

NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses that are NOT within the scope of the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Keep unprotected persons out of treatment area until seeds have dried or been packaged.

STORAGE AND DISPOSAL

DO NOT contaminate water, food, or feed by storage or disposal.

Pesticide Storage

Ensure container closures are tight. Store in a cool, dry place.

Pesticide Disposal

To avoid wastes, use all material in this container by application according to label directions. If wastes cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments or by industry).

Container Handling

{For containers with capacities less than or equal to 5 gallons}

Nonrefillable container. DO NOT reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container $\frac{1}{4}$ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill or by incineration. **DO NOT** burn, unless allowed by state and local ordinances. If burned, stay out of smoke.

{For containers with capacities more than 5 gallons}

Nonrefillable container. DO NOT reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container $\frac{1}{4}$ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact Ag Container Recycling Council at 877-952-2272 or www.acrecycle.org. Alternatively, puncture and dispose of in a sanitary landfill or by incineration. **DO NOT** burn, unless allowed by state and local ordinances. If burned, stay out of smoke.

{For bulk/mini-bulk containers}

Refillable Container: Refill this container with pesticide only. **DO NOT** reuse this container for any other purpose. Triple rinsing the container before final disposal is the responsibility of the refiller.

Triple rinse as follows: To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure 2 more times.

When container is empty, replace the cap and seal all openings that opened during use; return the container to the point of purchase or to a designated location. This container must only be refilled with pesticide product. Prior to refilling, inspect carefully for damage such as cracks, punctures, abrasions, worn-out threads and

closure devices. Check for leaks after refilling and transport. **DO NOT** transport if this container is damaged or leaking. If the container is damaged, or leaking, or obsolete and not returned to the point of purchase or designated location, triple rinse emptied container and offer for recycling, if available, or dispose of container in compliance with state and local regulations.

In Case of Emergency

In case of large-scale spill of this product, call:

- CHEMTREC 1-800-424-9300
- BASF Corporation 1-800-832-HELP (4357)

In case of medical emergency regarding this product, call:

- Your local doctor for immediate treatment
- Your local poison control center (hospital)
- BASF Corporation 1-800-832-HELP (4357)

Product Information

Cartissa™ G is an all-in-one product that includes:

- Biofungicide active ingredient, *Bacillus amyloliquefaciens* strain MBI 600, that inhibits seedling and root pathogens, such as *Fusarium spp.*, *Rhizoctonia spp.*, and *Pythium spp.*
- Biofungicide active ingredient, *Bacillus pumilus* strain BU F-33, that elicits systemic changes in the plant that activate the plant's own defense system against pathogens.
- Improved seed flow through planting and seed handling equipment for better seed drop accuracy with more precise and consistent seed placement.
- Reduced dust-off which means improved retention of active chemicals and biological products on the seed.
- EPA-approved colorants to color pesticide treated seeds as required under 40 CFR 153.155 and provide distinctive color and high quality, uniform visual appearance.

Bacillus amyloliquefaciens strain MBI 600 initially colonizes germinating seeds. The same bacteria then colonize the developing root systems of plants and suppress disease organisms that attack such root systems (e.g., *Fusarium spp.*, *Rhizoctonia spp.*, and, under some conditions, *Pythium spp.*). As root systems develop, the bacteria grow with the roots, extending the protection throughout the growing season. Because of this biological protection, vigorous root systems are established by plants, which often results in more uniform stands, overall improved plant growth and greater yields.

A second line of defense is realized by the activity of the other microbial active ingredient in *Bacillus pumilus* strain BU F-33. Like *B. amyloliquefaciens* strain MBI 600, the microbe colonizes germinating seeds and subsequently the developing root systems of plants. *B. pumilus* strain BU F-33 acts to stimulate the plant's own defense system against certain pests and pathogens.

Both active ingredients in **Cartissa G** increase root nodulation by nitrogen-fixing bacteria when applied to legume seeds. This increase in nodulation is a result of a healthier root system allowing formation of more sites for nitrogen-fixing nodules.

Cartissa G can be applied with other registered fungicide seed treatment products to provide additional modes of action against early season seedling diseases.

Label statement required by the State of Oregon

Information regarding the contents and levels of metals in this product is available on the Internet at <http://www.aapfco.org/metals.htm>

Application Instructions

Cartissa G can be used in commercial seed treatment facilities and on-farm. **DO NOT** use for applications at hopper box and planter box. For use with commercial treatment application equipment only.

DO NOT use treated seed for food or feed purposes or process for oil.

The Federal Seed Act requires that bags containing seed treated with this product shall be labeled with the following information: "This seed has been treated with *Bacillus amyloliquefaciens* strain MBI 600 and *Bacillus pumilus* strain BU F-33. **DO NOT** use for food, feed or oil purposes. Excess treated seed may be used for ethanol production only if by-products are not used for livestock feed and no measurable residues of pesticide remain in ethanol by-products that are used in agronomic practice."

Mixing Instructions: Apply **Cartissa G** as a water-based slurry alone or with other seed treatment products (fungicides, insecticides, nematicides, fertilizers, and rhizobial inoculants). **DO NOT** mix **Cartissa G** with any copper based products. Additionally, rhizobial inoculant products, such as **PPST 120+** and **Vault® NP**, can be added to the tank mix.

Prior to mixing, determine physical compatibility by mixing proportional quantities of the products in water. **DO NOT** mix **Cartissa G** with any other seed treatment product that bears a label prohibition against such mixing. When tank mixing **Cartissa G** with any other seed treatment product, observe the most restrictive of the labeling limitations and precautions of all products used in mixtures.

ATTENTION: If rhizobial inoculants are to be used in the tank mix with other seed treatments (fungicides, insecticides, nematicides, and fertilizers), make sure that they are compatible (not harmful) to the *Rhizobia*. Likewise, use only cool, chlorine-free water in the tank mix. If one or more treatments are not compatible (harmful), mix those products in, and apply them from, a separate mix tank.

To mix, first add the other seed treatment product(s) and/or the rhizobial inoculant product(s) to the mix tank with approximately ½ of the required water. Slowly add **Cartissa G** to the slurry until a uniform suspension is obtained. Add the remainder of the water while maintaining constant agitation. **DO NOT** store mixed slurries for longer than 24 hours.

Some ingredients in **Cartissa G** may not completely solubilize; therefore, it is important to maintain a uniform suspension by continuously agitating the solution throughout the application process. **DO NOT** exceed label application dosage rates.

Because smaller seed has a greater surface area to volume ratio than larger seed, the average size of the seed being treated influences the application rate. For each crop listed in the **Crop Specific Directions** table, apply **Cartissa G** at rates from the higher end of the specified application rate range when treating smaller seed. Additionally, use the higher end of the specified application range when treated seed is to be planted in fields that historically experience severe disease pressure.

Crop Specific Directions

Crop	Target Diseases	Cartissa™ G Use Rate per Application
Alfalfa	<i>Fusarium spp.</i> <i>Rhizoctonia spp.</i> <i>Pythium spp.</i>	4.0 – 30.0 fl oz per 100 lbs of seed 119 – 888 mL per 45.4 kg of seed
Bulb Vegetable Group	<i>Fusarium spp.</i> <i>Rhizoctonia spp.</i> <i>Pythium spp.</i>	5.0 – 30.0 fl oz per 100 lbs of seed 148 – 888 mL per 45.4 kg of seed
Barley, Oats, Rye, Triticale, and Wheat	<i>Fusarium spp.</i> <i>Rhizoctonia spp.</i> <i>Pythium spp.</i>	2.0 – 10.0 fl oz per 100 lbs of seed 60 – 296 mL per 45.4 kg of seed
Corn, all types	<i>Fusarium spp.</i> <i>Rhizoctonia spp.</i> <i>Pythium spp.</i>	2.0 – 8.0 fl oz per 100 lbs of seed 60 – 237 mL per 45.4 kg of seed 0.481 – 1.900 mg per seed based on 1600 seed per pound
Cotton	<i>Fusarium spp.</i> <i>Rhizoctonia spp.</i> <i>Pythium spp.</i>	2.0 – 10.0 fl oz per 100 lbs of delinted seed 60 – 296 mL per 45.4 kg of delinted seed
Cucurbit Vegetable Group	<i>Fusarium spp.</i> <i>Rhizoctonia spp.</i> <i>Pythium spp.</i>	2.0 – 8.0 fl oz per 100 lbs of seed 60 – 237 mL per 45.4 kg of seed
Fruiting Vegetable Group	<i>Fusarium spp.</i> <i>Rhizoctonia spp.</i> <i>Pythium spp.</i>	5.0 – 30.0 fl oz per 100 lbs of seed 148 – 888 mL per 45.4 kg of seed

Crop	Target Diseases	Cartissa™ G Use Rate per Application
Green Beans, Snap Beans, Lima Beans, Kidney Beans, Navy Beans, Pinto Beans, Wax Beans, Pole Beans, Garden Peas, Field Beans	<i>Fusarium spp.</i> <i>Rhizoctonia spp.</i> <i>Pythium spp.</i>	0.7 – 6.0 fl oz per 100 lbs of seed 20 – 178 mL per 45.4 kg of seed
Oilseed Rape, Canola, and Sunflower	<i>Fusarium spp.</i> <i>Rhizoctonia spp.</i> <i>Pythium spp.</i>	4.0 – 30.0 fl oz per 100 lbs of seed 119 – 888 mL per 45.4 kg of seed
Peanuts	<i>Fusarium spp.</i> <i>Rhizoctonia spp.</i> <i>Pythium spp.</i>	1.0 – 8.0 fl oz per 100 lbs of seed 30 – 178 mL per 45.4 kg of seed
Peas, Lentils, Dry Beans, and Chickpeas	<i>Fusarium spp.</i> <i>Rhizoctonia spp.</i> <i>Pythium spp.</i>	0.7 – 4.2 fl oz per 100 lbs of seed 20 – 123 mL per 45.4 kg of seed
Rice	<i>Fusarium spp.</i> <i>Rhizoctonia spp.</i> <i>Pythium spp.</i>	5.0 – 30.0 fl oz per 100 lbs of seed 148 – 888 mL per 45.4 kg of seed
Root and Tuber Vegetable Group	<i>Fusarium spp.</i> <i>Rhizoctonia spp.</i> <i>Pythium spp.</i>	1.0 – 30.0 fl oz per 100 lbs of seed 30 – 888 mL per 45.4 kg of seed
Sorghum, all types	<i>Fusarium spp.</i> <i>Rhizoctonia spp.</i> <i>Pythium spp.</i>	0.7 – 6.0 fl oz per 100 lbs of seed 20 – 178 mL per 45.4 kg of seed
Soybeans	<i>Fusarium spp.</i> <i>Rhizoctonia spp.</i> <i>Pythium spp.</i>	2.0 – 8.0 fl oz per 100 lbs of seed 60 – 237 mL per 45.4 kg of seed 0.275 – 1.086 mg per seed based on 2800 seeds per pound

Conditions of Sale and Warranty

The **Directions For Use** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and must be followed carefully. However, it is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as the presence of other or untested or unapproved materials, seed of low quality or low vigor or low germination, use of the product in a manner inconsistent with its labeling, misapplication of this product, or weather conditions at planting or environmental conditions during seed storage, all of which are beyond the control of BASF CORPORATION ("BASF") or the Seller. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer.

BASF warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **Directions For Use**, subject to the inherent risks, referred to above.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BASF MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BUYER'S EXCLUSIVE REMEDY AND BASF'S EXCLUSIVE LIABILITY, WHETHER IN CONTRACT, TORT, NEGLIGENCE, STRICT LIABILITY, OR OTHERWISE, SHALL BE LIMITED TO REPAYMENT OF THE PURCHASE PRICE OF THIS PRODUCT.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, BASF AND THE SELLER DISCLAIM ANY LIABILITY FOR CONSEQUENTIAL, EXEMPLARY, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT.

BASF and the Seller offer this product, and the Buyer and User accept it, subject to the foregoing **Conditions of Sale and Warranty** that may be varied only by agreement in writing signed by a duly authorized representative of BASF.

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Research Triangle Park, NC 27709



We create chemistry