

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY AND POLLUTION PREVENTION

May 28, 2020

Lauren Seabrook Product Registration Manager BASF Corporation 26 Davis Drive Research Triangle Park, NC 27709

Subject: Non-PRIA (Pesticide Registration Improvement Act) Labeling Amendment – Change to the Expiration Date Language
 Product Name: Cartissa S
 EPA Registration Number: 71840-28
 Application Date: September 18, 2019
 OPP Decision Number: 555828

Dear Ms. Seabrook:

The amended labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable.

This approval does not affect any terms or conditions that were previously imposed on this registration. You continue to be subject to existing terms or conditions on your registration and any deadlines connected with them.

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one (1) copy of the final printed labeling before you release this product for shipment with the new labeling. In accordance with 40 CFR § 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. "To distribute or sell" is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR § 152.3.

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 U.S. Environmental Protection Agency (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

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statements or claims substantially differing from statements or claims made in connection with obtaining a FIFRA section 3 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.

If you have any questions, please contact Daniel Schoeff by phone at (703) 347-0143 or via email at schoeff.daniel@epa.gov.

Sincerely,

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

Enclosure



Group 44 Fungicide

We create chemistry

Text in square brackets (e.g., [*Not registered for use in California.]) is optional label language.

CartissaTM S

Biofungicide

{Alternate Brand Names: Cartissa[™] S Cereals, Cartissa[™] S Soybean, Cartissa[™] S Soybean Red, Cartissa[™] S Soybean, Cartissa[™] S Liquid Biostacked[®]}

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 10 ⁸ colony forming units of each strain per mL of product.	

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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**.

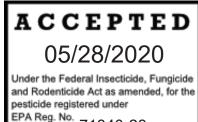
You may contact BASF Corporation for emergency medical treatment information at 1-800-832-HELP (4357).

Net Contents:

Batch Code: Located on physical container

[Not for sale or use after 2 years from the manufacture date stamped on the container.]

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



^{reg. No.} 71840-28

First Aid				
If on skin or clothing	 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	 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				
	or label with you when calling a poison control center or doctor or going for treatment. Corporation for emergency medical treatment information at 1-800-832-HELP (4357).			

Precautionary Statements

Hazards to Humans and Domestic Animals

CAUTION. Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, 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 <u>Worker</u> <u>Protection Standard (WPS)</u> uses (in general, agriculturalplant uses are covered by the Worker Protection Standard (40 CFR Part 170)) and <u>Non-WPS</u> 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 NIOSHapproved particulate respirator with any N, R, or P filter with NIOSH approval number prefix TC-84A; or a NIOSHapproved powered air purifying respirator with 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.

ENGINEERING CONTROLS

When handlers use closed systems in a manner that meets the requirements listed in the Worker Protection

Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4)), the handler PPE requirements may be reduced or modified as specified in the WPS.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

Environmental Hazards

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

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 **12 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 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 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. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling 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[™] S 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 S** 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 S 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.html

Application Instructions

Cartissa S 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 S as a water-based slurry alone or with other seed treatment products (fungicides, insecticides, nematicides, fertilizers, and rhizobial inoculants). DO NOT mix Cartissa S 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 S** with any other seed treatment product that bears a label prohibition against such mixing. When tank mixing **Cartissa S** 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 S** 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 S** 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 S** 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™ S Use Rate per Application
Alfalfa[*]	Fusarium spp. Rhizoctonia spp. Pythium spp.	4.0 – 30.0 fl oz per 100 lbs of seed 119 – 888 mL per 45.4 kg of seed
Bulb vegetables[*] Chive, fresh leaves Chive, Chinese, fresh leaves Daylily, bulb Elegans hosta Fritillaria, bulb Fritillaria, leaves Garlic, bulb Garlic, great headed, bulb Garlic, Serpent, bulb Kurrat Lady's leek Leek Leek, wild Lily, bulb Onion, Beltsville bunching Onion, Beltsville bunching Onion, fresh Onion, fresh Onion, fresh Onion, green Onion, potato, bulb Onion, tree, tops Onion, Welsh, tops Shallot, bulb Shallot, fresh leaves	Fusarium spp. Rhizoctonia spp. Pythium spp.	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[*]	Fusarium spp. Rhizoctonia spp. Pythium spp.	2.0 – 10.0 fl oz per 100 lbs of seed 60 – 296 mL per 45.4 kg of seed
Corn, all types[*]	Fusarium spp. Rhizoctonia spp. Pythium spp.	8.0 – 32.0 fl oz per 100 lbs of seed (at 1,600 seeds per pound) 236 – 949 mL per 45.4 kg of seed 1.793 – 7.592 mg per seed 4.0 – 16.0 fl oz per 80,000 seeds
Cotton[*]	Fusarium spp. Rhizoctonia spp. Pythium spp.	2.0 – 10.0 fl oz per 100 lbs of delinted seed 60 – 296 mL per 45.4 kg of delinted seed

OPTIONAL TEXT: [*Not registered for use in California.]

Crop Specific Directions (continued)

Сгор	Target Diseases	Cartissa™ S Use Rate per Application
Cucurbit vegetables[*] Chayote (fruit) Chinese waxgourd Citron melon Cucumber Sherkin Pumpkin Watermelon Edible gourd Hyotan Cucuzza Chinese okra Momordica spp. Balsam apple Balsam pear Bitter melon Chinese cucumber Muskmelon Chinese cucumber Chinese cuc	Fusarium spp. Rhizoctonia spp. Pythium spp.	2.0 – 8.0 fl oz per 100 lbs of seed 60 – 237 mL per 45.4 kg of seed
Fruiting vegetables[*] Eggplant Groundcherry Pepino Pepper (all varieties) Tomatillo Tomato	Fusarium spp. Rhizoctonia spp. Pythium spp.	5.0 – 30.0 fl oz per 100 lbs of seed 148 – 888 mL per 45.4 kg of seed
Green Beans[*], Snap Beans[*], Lima Beans[*], Kidney Beans[*], Navy Beans[*], Pinto Beans[*], Wax Beans[*], Pole Beans[*], Garden Peas[*], Field Beans[*]	Fusarium spp. Rhizoctonia spp. Pythium spp.	0.7 – 6.0 fl oz per 100 lbs of seed 20 – 178 mL per 45.4 kg of seed

OPTIONAL TEXT: [*Not registered for use in California.]

Crop Specific Directions (continued)

Сгор	Target Diseases	Cartissa™ S Use Rate per Application
Rapeseed[*], Canola[*], and Sunflower[*]	Fusarium spp. Rhizoctonia spp. Pythium spp.	4.0 – 30.0 fl oz per 100 lbs of seed 119 – 888 mL per 45.4 kg of seed
Peanuts[*]	Fusarium spp. Rhizoctonia spp. Pythium spp.	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[*]	Fusarium spp. Rhizoctonia spp. Pythium spp.	0.7 – 4.2 fl oz per 100 lbs of seed 20 – 123 mL per 45.4 kg of seed
Rice[*]	Fusarium spp. Rhizoctonia spp. Pythium spp.	5.0 – 30.0 fl oz per 100 lbs of seed 148 – 888 mL per 45.4 kg of seed
Root and tuber vegetables[*] Potato Arracacha Arrowroot Artichoke, Chinese Artichoke, Jerusalem Carrot Cassava (bitter and sweet) Chayote (root) Chufa Dasheen (taro) Canna, edible Ginger Leren Sweet potato Tanier Turmeric Yam bean Yam, true	Fusarium spp. Rhizoctonia spp. Pythium spp.	1.0 – 30.0 fl oz per 100 lbs of seed 30 – 888 mL per 45.4 kg of seed
Sorghum, all types[*]	Fusarium spp. Rhizoctonia spp. Pythium spp.	0.7 – 6.0 fl oz per 100 lbs of seed 20 – 178 mL per 45.4 kg of seed
Soybeans[*]	Fusarium spp. Rhizoctonia spp. Pythium spp.	2.0 – 8.0 fl oz per 100 lbs of seed (at 2,800 seeds per pound) 59 – 236 mL per 45.4 kg of seed 0.256 – 1.084 mg per seed 1.0 – 4.0 fl oz per 140,000 seeds

OPTIONAL TEXT: [*Not registered for use in California.]

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. **Biostacked** and **Vault** are registered trademarks of BASF. **Cartissa** is a trademark of BASF.

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



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