

2022-1351
2024-07-10
Container

GROUP	7 + P 06	FUNGICIDE
NEMATICIDE		

BAS 494 ST

LIVE ORGANISM SUSPENSION

A seed treatment with two modes of action for use on soybean for the suppression of labelled nematodes and the control of early season infection by *Fusarium virguliforme*, the causal agent of Sudden Death Syndrome.

For use in commercial seed treatment (facilities and mobile treaters) with closed transfer including closed mixing, loading, calibrating, and closed treatment equipment. No open transfer of **BAS 494 ST** is permitted.

COMMERCIAL (AGRICULTURAL)

ACTIVE INGREDIENTS: Fluopyram.....360 g/L
Bacillus firmus strain I-1582..... minimum of 4×10^9 CFU/mL

Contains 1,2-benzisothiazolin-3-one at 0.03%, 5-chloro-2-methyl-4-isothiazolin-3-one at 0.0009% and 2-methyl-4-isothiazolin-3-one at 0.0003% as preservatives

REGISTRATION NO. 35226 PEST CONTROL PRODUCTS ACT

IN CASE OF EMERGENCY ENDANGERING LIFE OR PROPERTY INVOLVING THIS PRODUCT, CALL DAY OR NIGHT 1-800-454-2673



**WARNING - POISON
POTENTIAL SENSITIZER**

READ THE LABEL AND BROCHURE BEFORE USING
KEEP OUT OF REACH OF CHILDREN

NET CONTENTS : 1 L- Bulk

BASF Canada Inc.
5025 Creekbank Road
Building A, 2nd Floor
Mississauga, Ontario L4W 0B6
1-877-371-2273

This product contains no colourant. An appropriate colourant must be added when this product is applied to seed. Regulations pertaining to the "Seeds Act" must be strictly adhered to when using this product as a seed treatment.

NOTICE TO USER: This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label.

FIRST AID:

IF SWALLOWED: Call a poison control centre 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 a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice.

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further treatment advice.

IF IN EYES: Hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION: Treat symptomatically.

PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN. May cause sensitization. Avoid contact with eyes, skin and clothing. May be fatal if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

User Safety Recommendations:

User should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove personal protective equipment (PPE) immediately after handling this product.
- Wash the outside of gloves before removing.
- As soon as possible, wash thoroughly and change into clean clothing.
- Follow manufacturer's instructions for cleaning/maintaining. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.
- Follow the personal protective equipment and restriction requirements for the appropriate worker scenario as described in the booklet panel.
- Apply only in a way that this product will not contact workers or other persons, either directly or through drift. Only workers wearing personal protective equipment may be in the area where treating, bagging, sewing and/or stacking is occurring.

ENVIRONMENTAL PRECAUTIONS: TOXIC to aquatic organisms and non-target terrestrial plants. TOXIC to birds and small wild mammals. Any spilled or exposed seeds must be incorporated into the soil or otherwise cleaned-up from the soil surface. This product demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of **BAS 494 ST** in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

STORAGE: Store this product away from food or feed. Store in cool, dry area for up to 24 months from date of manufacture. Do not store in direct sunlight. Do not allow prolonged storage in temperatures that exceed 30°C or in temperatures that fall below 0°C.

DISPOSAL:

Recyclable Container:

Do not reuse this container for any purpose. This is a recyclable container and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial/territorial requirements.

Returnable Container:

Do not reuse this container for any purpose. For disposal, this empty container may be returned to the point of purchase (distributor/dealer).

Returnable-Refillable Container: For disposal, this empty container may be returned to the point of purchase (distributor/dealer). It must be refilled by the distributor/dealer with the same product. Do not use this container for any other purpose.

Non-Recyclable/Returnable/Refillable Container:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Follow provincial/territorial instructions for any required additional cleaning of the container prior to its disposal.
3. Make the empty container unsuitable for further use.
4. Dispose of the container in accordance with provincial/territorial requirements.

Disposal of Unused, Unwanted Product:

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial/territorial regulatory agency. Contact the manufacturer and the provincial/territorial regulatory agency in case of a spill, and for clean-up of spills.

Booklet

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NEMATOCIDE		

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GENERAL INFORMATION

SECTION 1: NOTICE TO USER

This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label.

SECTION 2: THE PRODUCT

BAS 494 ST is a seed treatment that when applied to seed can control early season infection by *Fusarium virguliforme*, the causal agent of Sudden Death Syndrome and suppress certain nematodes that attack the root system of soybean.

SAFETY AND HANDLING

SECTION 3: FIRST AID AND TOXICOLOGICAL INFORMATION

FIRST AID:

IF SWALLOWED: Call a poison control centre 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 a poison control centre or doctor. Do not give anything by mouth to an unconscious person.

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice.

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IF IN EYES: Hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION:

Treat symptomatically.

SECTION 4: PRECAUTIONS, PROTECTIVE CLOTHING AND EQUIPMENT

PRECAUTIONS:

KEEP OUT OF REACH OF CHILDREN. May cause sensitization. Avoid contact with eyes, skin and clothing. May be fatal if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

User Safety Recommendations:

User should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove personal protective equipment (PPE) immediately after handling this product.
- Wash the outside of gloves before removing.
- As soon as possible, wash thoroughly and change into clean clothing.

- Follow manufacturer's instructions for cleaning/maintaining. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.
- Apply only in a way that this product will not contact workers or other persons, either directly or through drift. Only workers wearing personal protective equipment may be in the area where treating, bagging, sewing and/or stacking is occurring.

Personal Protective Equipment

If clothing becomes contaminated, remove and wash separately from household laundry before reuse.

Seed Types	Tasks	PPE/ Engineering Controls
For Commercial Seed Treatment (including mobile treaters)		
All Seed Types	Treating	Wear a long-sleeved shirt, long pants, protective eyewear (goggles), chemical-resistant gloves, shoes plus socks and a NIOSH-approved particulate filtering facepiece respirator with any N, R, or P filter when mixing/loading or applying the product.
	Clean-up and repair activities	Wear coveralls over a long-sleeved shirt, long pants, protective eyewear (goggles), chemical-resistant gloves, and shoes and socks and a NIOSH-approved particulate filtering facepiece respirator with any N, R or P filter during clean-up and repair activities.
	Bagging / Sewing / Stacking	Wear a long-sleeved shirt, long pants, protective eyewear (goggles), chemical-resistant gloves, socks and shoes and a NIOSH-approved particulate filtering facepiece respirator with an N, R or P filter when bagging, sewing, stacking or operating a forklift.
For Planting Treated Seeds		
All Seed Types	Planting	Wear a long-sleeved shirt, long pants, protective eyewear (goggles), chemical-resistant gloves, socks and shoes and a NIOSH-approved particulate filtering facepiece respirator with any N, R or P filter when handling treated seed.
	Closed-cab tractor	Closed-cab tractors must be used when planting more than 2900 kg of treated soybean seeds per day.

SECTION 5: ENVIRONMENTAL PRECAUTIONS

TOXIC to aquatic organisms and non-target terrestrial plants. TOXIC to birds and small wild mammals. Any spilled or exposed seeds must be incorporated into the soil or otherwise cleaned-up from the soil surface.

This product demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of **BAS 494 ST** in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

SECTION 6: STORAGE

Store this product away from food or feed. Store in cool, dry area for up to 24 months from date of manufacture. Do not store in direct sunlight. Do not allow prolonged storage in temperatures that exceed 30°C or in temperatures that fall below 0°C.

SECTION 7: DISPOSAL

Recyclable Container:

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, dispose of the container in accordance with provincial/territorial requirements.

Returnable Container:

Do not reuse this container for any purpose. For disposal, this empty container may be returned to the point of purchase (distributor/dealer).

Returnable-Refillable Container: For disposal, this empty container may be returned to the point of purchase (distributor/dealer). It must be refilled by the distributor/dealer with the same product. Do not use this container for any other purpose.

Non-Recyclable/Returnable/Refillable Container:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Follow provincial/territorial instructions for any required additional cleaning of the container prior to its disposal.
3. Make the empty container unsuitable for further use.
4. Dispose of the container in accordance with provincial/territorial requirements.

Disposal of Unused, Unwanted Product:

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial/territorial regulatory agency. Contact the manufacturer and the provincial/territorial regulatory agency in case of a spill, and for clean-up of spills.

DIRECTIONS FOR USE:

As this product is not registered for the control of pests in aquatic systems, DO NOT use to control aquatic pests.

DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

DO NOT apply by air.

SECTION 8: CROPS AND PESTS

8.1 Soybean

Pest	Application Rates ¹	Product Instructions
Sudden Death Syndrome (SDS) (<i>Fusarium virguliforme</i>)	0.21-0.34 mg ai/seed (delivers 0.15-0.25 mg fluopyram/seed) 58-97 mL / 140,000 soybean seeds 257-428 mL / 100 kg seed	The higher rate is recommended for fields with moderate to high disease pressure and/or known history of SDS outbreaks and/or for use on soybean varieties that are known to be susceptible for this disease. The lower rate should be used under low disease pressure.
SUPPRESSION OF NEMATODES: Soybean Cyst Nematodes (<i>Heterodera glycines</i>) Root Lesion Nematodes (<i>Pratylenchus penetrans</i>) Root Knot Nematodes (<i>Meloidogyne</i> spp.)	0.105-0.21 mg ai/seed (delivers 0.075-0.15 mg fluopyram/seed) 29-58 mL / 140,000 soybean seeds 128-257 mL / 100 kg seed	The higher rate should be used on soybean seed planted in fields with high nematode pressure or in fields with nematodes as well as Sudden Death Syndrome. Fields with history of Soybean Cyst Nematodes should be planted with SCN-tolerant soybean cultivars in addition to the BAS 494 ST seed treatment to achieve the best yield potential of soybean.

¹Rate is calculated based on 6,172 soybean seeds/kg

Note:

Apply using commercial slurry or mist-type seed treatment equipment. Uniform application of seed is necessary to ensure seed safety and best disease protection. Dilute product with sufficient water to ensure complete seed coverage. Apply to high quality, properly cleaned seeds.

This product contains no colourant. An appropriate colourant must be added when this product is applied to seed. Regulations pertaining to the "Seeds Act" must be strictly adhered to when using this product as a seed treatment.

8.2 Tank-Mixes

This product may be tank mixed with a fertilizer, a supplement, or with registered pest control products, whose label also allow tank mixing, provided the entirety both labels, including Directions For Use, Precautions, Restrictions, Environmental Precautions, and Spray Buffer Zones are followed for each product. In cases where these requirements differ between the tank

mix partner labels, the most restrictive label must be followed. Do not tank mix products containing the same active ingredient unless specifically listed on this label.

In some cases, tank mixing pest control products can result in reduced pesticide efficacy or increased host crop injury. The user should contact BASF Canada Inc. at 1-877-371-2273 for information before applying any tank mix that is not specifically recommended on this label.

Refer to section 10 for pertinent mixing instructions.

Treated seed must be labeled in accordance with the requirements of the *Seeds Act*. Observe the most restrictive of the labeling limitations and precautions of all products used in mixtures.

SECTION 9: APPLICATION INSTRUCTIONS AND USE LIMITATIONS

For use in commercial seed treatment (facilities and mobile treaters) with closed transfer including closed mixing, loading, calibrating, and closed treatment equipment. No open transfer of **BAS 494 ST** is permitted. Not for use in hopper box, planter box, slurry box, or other on-farm seed treatment applications. Read the entire label and observe all label directions and precautions before use.

9.1 Labelling of Treated Seed

All bags/containers containing treated seed must be labelled or tagged as follows:

- This seed has been treated with fluopyram and *Bacillus firmus*.
- Do not use treated seed for feed, food or oil processing.
- Store this product away from food or feed.
- Do not allow children, pets, or livestock to have access to treated seed.
- For all activities involving handling of treated seeds (including planting), wear a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes when handling treated seed.
- Closed-cab tractors must be used when planting more than 2900 kg of treated soybean seeds per day.
- This product is toxic to birds, small wild mammals, aquatic organisms and non-target terrestrial plants.
- Any spilled or exposed seeds must be incorporated into the soil or otherwise cleaned-up from the soil surface.
- Dispose of all excess treated seed. Leftover treated seed may be double-sown around the headland or buried away from water sources in accordance with local requirements.
- DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.
- Dispose of empty seed packaging or containers in accordance with local requirements. Do not use empty seed bags/containers for any other purpose.
- To reduce seed dust which can drift onto blooming crops or weeds, ensure that planting equipment is functioning properly in accordance with manufacturer's recommendations. Surplus seed or empty seed containers should be stored or disposed according to local federal regulations.
- Treated at manufacturer's recommended rate.

9.2 Seed Quality and Storage of Treated Seed

Laboratory and field studies have shown that **BAS 494 ST** applied to soybean seed will not adversely affect germination.

Due to seed quality conditions beyond the control of BASF, no claims are made to guarantee germination of carry-over seed. Treatment of mechanically scarred or damaged seed, or of seed known to be of low germ, low vigour and poor quality is not recommended. Treatment of highly mechanically damaged seed, or seed of known low vigor and poor quality, may result in reduced germination and/or reduction of seed and seedling vigor. Treat and conduct germination tests on a small portion of seed before committing the total seed lot to a selected chemical treatment.

9.3 Rotational Crop Restrictions

Do not replant to alfalfa for 14 days after application. If the treated crop is lost due to environmental conditions and re-seeding is required, all other crops may be replanted immediately.

SECTION 10: MIXING INSTRUCTIONS

When applied with seed treatment application equipment designed to treat seed utilizing a treatment slurry mixture, add approximately 1/2 to 2/3 of the required water to the treatment slurry tank followed by the accompanying seed treatment products and **BAS 494 ST**. The order of product addition is dependent on the accompanying seed treatment products and application equipment used. Allow each slurry component to disperse completely prior to the next addition until a uniform suspension is obtained. After all slurry components have been added and dispersed completely add the remaining 1/2 to 1/3 of required water for proper slurry volume and mix until uniform. Do not store mixed slurries for greater than 72 hours. Maintain adequate agitation until treatment slurry is applied. For additional instructions for use, slurry component mixing order, and other application suggestions contact your BASF representative.

COMPATIBILITY PRE-TEST

It is essential that before using **BAS 494 ST** seed treatment in any tank mixture the compatibility of the mixture be established. Add **BAS 494 ST** at the labeled rate to a clean litre (quart) jar containing approximately one-half the amount of water intended for a final slurry application rate. Next, follow with all other tank mix components that will be used in the total slurry application. Add last the remaining balance of water. The total amount of volume is determined by the seed size and how much is necessary to ensure complete and uniform coverage and distribution on the seed, as well as the type of commercial seed treating application equipment that will be used.

DO NOT USE MIXTURES THAT CURDLE, PRECIPITATE, OR GEL. USE TANK MIXTURES IMMEDIATELY AFTER MIXING WITH ADEQUATE AGITATION.

SECTION 11: RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, **BAS 494 ST** contains a Group 7 and group P 06 fungicide. Any fungal population may contain individuals naturally resistant to **BAS 494 ST** and other Group 7 and group P 06 fungicides. A gradual or total loss of pest control may occur over time if these fungicides are used repeatedly in the same field. Other resistance mechanisms that are not linked to site of action, but specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

To delay fungicide resistance:

- Where possible, rotate the use of **BAS 494 ST** or other Group 7 and group P 06 fungicides with different groups that control the same pathogens in a field.

- Use tank mixtures with fungicides from a different group that is effective on the target pathogen when such use is permitted.
- Fungicide use should be based on an integrated disease management program that includes scouting, historical information related to pesticide use and crop rotation and considers host plant resistance, impact of environmental conditions on disease development, disease thresholds, as well as cultural, biological and other chemical control practices.
- Monitor treated fungal populations for resistance development. Notify BASF if reduced sensitivity of the pathogen to **BAS 494 ST** is suspected.
- If disease continues to progress after treatment with this product, do not increase the use rate. Discontinue use of this product, and switch to another fungicide with a different target site of action, if available.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for specific crops and disease problems in your area.
- For further information and to report suspected resistance, contact BASF at 1-877-371-2273 or at www.agsolutions.ca.