

ASPERELLO T34 Biocontrol

Biological Fungicide Wettable Powder

For the suppression of fusarium wilt caused by *Fusarium oxysporum* in greenhouse ornamentals

COMMERCIAL

READ THE LABEL BEFORE USING

ACTIVE INGREDIENT: *Trichoderma asperellum* strain T34 12.00 %

This wettable powder formulation contains a minimum of 12.00 % or 1×10^9 colony forming units per gram of dry weight.

REGISTRATION NO. 30229 PEST CONTROL PRODUCTS ACT

POTENTIAL SENSITIZER

Net Contents: 100 - 500 grams

Batch number:

Expiry date:

Manufactured by:
Biocontrol Technologies, S.L.
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Spanish Patent ES 2 188 385 B1
European Patent EP 1 400 586 B1
USA Patent US 7 553 657 B2

PRODUCT INFORMATION

ASPERELLO T34 Biocontrol is a biological fungicide containing dry conidia of the beneficial fungus *Trichoderma asperellum* strain T34 which is used preventatively for the suppression of *Fusarium oxysporum* on greenhouse ornamentals.

The product must be applied repetitively, at regular intervals (of 2 to 3 months), throughout the life of the crop in order to maintain the appropriate level of *Trichoderma* in the growing media and obtain an optimal effect, starting during plant propagation (seedlings and cuttings).

ASPERELLO T34 Biocontrol, preventively applied, protects plants from diseases, due to its capacity to colonize the growing media and plants root zone.

ASPERELLO T34 Biocontrol has a suppressive effect on the soil-borne pathogen *Fusarium oxysporum* since it directly competes for space and/or nutrients and can parasitize the pathogenic fungus.

ASPERELLO T34 Biocontrol near plant roots builds a physical barrier against pathogens and induces systemic resistance (ISR).

ASPERELLO T34 Biocontrol germinates and grows in a wide range of soils and growing media, around the crop roots. It develops in a variety of pHs (6-8) and soil temperatures (20-35°C), but its optimal growth temperature is around 25-30°C.

DIRECTIONS FOR USE

ASPERELLO T34 Biocontrol can be applied by spraying/drenching, dipping or via chemigation.

Application equipment should be thoroughly cleaned before use so that no traces of previous pesticides remain. Suspend the correct amount of ASPERELLO T34 Biocontrol in a small amount of water and shake to obtain good product dispersion. Add this suspension to the application tank, with the total volume of water necessary, stirring continuously to ensure a homogeneous application of the product.

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 allow effluent or runoff from greenhouses containing this product to enter lakes, streams, ponds or other waters.

When chemigation is used, make sure ASPERELLO T34 Biocontrol reaches the roots in the late afternoon and that it leaves the irrigation system as soon as possible. This will also minimize the wash-out risk and help obtaining a good installation around the roots.

Application equipment should be thoroughly cleaned after use.

GREENHOUSE ORNAMENTALS: suppression of fusarium wilt (*Fusarium oxysporum*)

Application type	Rate in suspension (application tank) in g product per 100 L water	Application volume	Final rate product in growing media in g product per m ³ growing media	Remark
Incorporation in the growing media by Spray/drench before sowing, rooting or planting	10 g/100 L water	100L suspension per m ³ growing media (or 1000 1L pots)	10 g/m ³ of growing media (or 10 g/1000 1L pots)	Growing media
		or 5L/m ² (if 5cm depth)	or 0.5g/m ² (if 5 cm depth)	Seedtrays and multipots
AND/OR				
Root bath (dip)	1 g/100 L water			Dip of cuttings or plug trays

AND/OR				
Chemigation after planting	5 g/100L water	100L suspension per 1000 1L pots	5 g/m ³ growing media (or 5 g/1000 1L pots)	Repeat this application one week later if plants were not treated during propagation Apply a follow-up treatment every 2-3 months

Incorporation by spray/drench of the growing media used for propagation

Apply ASPERELLO T34 Biocontrol to the growing media at a dose of 10 grams of ASPERELLO T34 Biocontrol per m³ of growing media (or per 1000 1L pots) before potting, by mixing 10 grams ASPERELLO T34 Biocontrol to 100 L water, and by using 100 mL of this suspension per 1L growing media.

A spray of the growing media area (seedtrays and multipots) can also be done at a rate of 0,5 grams per m² (assuming a depth of growing media of 5 cm) before or just after sowing, sticking or planting by mixing 10 grams ASPERELLO T34 Biocontrol to 100 L water, and by applying 5 L of this suspension per m² growing media.

Root bath (dip)

Dip the roots of the cuttings several hours or overnight in a suspension, containing 1 g of ASPERELLO T34 Biocontrol in 100 L of water (or 0,01 g ASPERELLO T34 Biocontrol in 1 L water).

Chemigation of container-grown crops at planting or during the crop season

Apply 5 grams of ASPERELLO T34 Biocontrol per 1000 1 L pots at planting day, by mixing 5 grams ASPERELLO T34 Biocontrol to 100 L water, and by adding 100 mL of this suspension to 1L growing media

Repeat this application one week later if plants were not treated during propagation.

Re-apply every 2-3 months as follow-up treatment, or earlier in case of a stress situation.

Maximum total concentration: Do not exceed the maximum concentration of 10 g/L water.

Compatibility:

Provide enough time between sterilization, fumigation, solarization, bio-fumigation and the application of ASPERELLO T34 Biocontrol.

ASPERELLO T34 Biocontrol should not be applied in a tank mix with other products (pesticides or liquid fertilizers). The effect of other products applied either before or after ASPERELLO T34 Biocontrol on the effectiveness of ASPERELLO T34 Biocontrol has not been fully investigated. Some pesticides, particularly fungicides, may reduce effectiveness of ASPERELLO T34 Biocontrol. Contact your Biobest advisor or consult the Biobest website at www.biobestgroup.com for more information.

Restrictions

It is not possible to evaluate the efficacy and possible phytotoxic effect of ASPERELLO T34 Biocontrol on all ornamental plant species and varieties. It is recommended to conduct a small scale test by treating a limited number of plants, at recommended use rates, prior to initiating large scale use. Contact your Biobest advisor or consult Biobest website www.biobestgroup.com for more information.

Effectiveness of ASPERELLO T34 Biocontrol has been demonstrated in a range of growing media types including peat, coir and rockwool.

PRECAUTIONS:

KEEP OUT OF REACH OF CHILDREN. May cause sensitization. Avoid contact with skin, eyes and clothing. Avoid breathing dust. Workers and handlers (including mixer/loader, applicators, and early entry workers) must wear long sleeved shirt, long pants, shoes plus socks, waterproof gloves and eye goggles as well as NIOSH approved mist filtering mask or respirator when mixing/loading or applying the product and during all cleanup/repair activities. Wash thoroughly with soap and water after handling. Remove contaminated clothing and follow manufacturer's directions for cleaning/maintaining PPE before re-use. If no such instructions are available, use clothing detergent and hot water for cleaning all washable PPE. Keep and wash PPE separately from other laundry. Wash hands before eating, drinking, chewing gum, using tobacco or using toilet. DO NOT store product near food or feed. DO NOT apply this product through any other type of irrigation system.

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 centre or doctor for 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.

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 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.

General: Seek medical attention or contact a poison control centre IMMEDIATELY if irritation occurs and persists or is severe. Take the container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION: Treat symptomatically.

STORAGE: ASPERELLO T34 Biocontrol should be stored in a cool dry place (4 °C). At this temperature, the viability of the product provides effective doses for two years. Do not contaminate water, food, or feed during storage. Keep product in original container during storage and keep container lid tightly closed when not in use.

DISPOSAL:

1. Triple- or pressure-rinse the empty container. Add the rinsing to the spray mixture in the tank.
2. Follow provincial instruction 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 requirements.
5. For information on disposal of unused, unwanted product, contact the manufacturer or provincial regulatory agency. Contact the manufacturer and the provincial regulatory agency in case of a spill, and for clean-up of spills.

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