

7 2992-1

1/7

Georgia Anastasiou  
Chrysal International B.V.  
c/o Lewis and Harrison, LLC  
122 C Street, NW, Suite 505  
Washington, DC 20001

JUL 29 2014

**Subject:** Chrysal International B.V.; Chrysal AVB, EPA Registration No. 72992-1; Amendment to Expand Silver Recovery Directions; D# 491359, Application Dated 5/13/14


Dear. Ms. Anastasiou:

The amendment referred to above, submitted in connection with registration under FIFRA section 3(c)(5), is acceptable provided that you:

1. Submit and/or cite all data required for registration/reregistration of your product under FIFRA section 3(c)(5) when the Agency requires all registrants of similar products to submit such data.
2. Submit two (2) copies of your final printed labeling before you release the product for shipment. Final printed labeling means the label or labeling of the product when distributed or sold. Clearly legible reproductions or photo reductions will be accepted for unusual labels, such as those silk-screened directly onto glass or metal containers or large bags or drum labels.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(b). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

If you have any questions contact Chris Pfeifer at 703-308-0031 or by email at: [pfeifer.chris@epa.gov](mailto:pfeifer.chris@epa.gov).

Sincerely,  


Sheryl K. Reilly, Associate Branch Chief  
Biochemical Pesticides Branch  
Biopesticides and Pollution  
Prevention Division (7511P)

Enclosure

CONCURRENCES								
SYMBOL	>	7511P						
SURNAME	>	Pfeifer						
DATE	>	7/23/14						

2/7

# CHRYSAI AVB

[Post harvest] Conditioner for ethylene sensitive cut flowers and potted plants  
Conditioner for carnation, lily and other ethylene sensitive cut flowers and potted plants  
Anti-Ethylene Treatment

This product is for preventing the formation of ethylene by cut flowers and potted plants to avoid premature shrinking or dropping of buds, blooms and leaves. It also protects cut flowers and potted plants from external ethylene gas. Cut flowers and potted plants treated with Chrysal AVB generally achieve a significantly longer shelf life.

[Flower graphic]



## ACCEPTED

JUL 29 2014

Under the Federal Insecticide, Fungicide,  
and Rodenticide Act, as amended, for  
the pesticide registered under  
EPA Reg. No. 72992-1

### ACTIVE INGREDIENT:

Silver Nitrate .....2.83%

INERT INGREDIENTS: .....97.17%

TOTAL .....100.00%

**KEEP OUT OF REACH OF CHILDREN**

### CAUTION

FIRST AID	
If swallowed	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• Do not give anything to an unconscious person.</li> </ul>
If on skin or clothing	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
If inhaled	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>

In case of an emergency call XXX-XXX-XXXX. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION:** Harmful if swallowed or absorbed through skin. 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.

# RE-SUBMISSION

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

To prevent contact, workers mixing solution and handling treated flowers and potted plants must wear waterproof gloves, covering hands, wrists and lower forearms, waterproof apron, long-sleeved shirt and long pants, socks and shoes. 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.

**ENVIRONMENTAL HAZARDS**

Do not contaminate water when disposing of equipment wash waters. This product is toxic to fish and aquatic invertebrates.

Chrysal AVB  
EPA Master Label 4/28/2014

4/7

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation. 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.

**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), restricted-entry interval, and notification to workers. The requirements in this box apply only to users of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours

For early entry into 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, wear:

- coveralls
- waterproof gloves
- shoes plus socks

**NON-AGRICULTURAL USE REQUIREMENTS**

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard 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.

Chrysal AVB is a cut flower and potted plant conditioner for use by the grower to avoid premature shrinking or dropping of buds or blooms and leaves. For use on standard spray carnation and other ethylene sensitive cut flowers such as Aconitum, Alstroemeria, Antirrhinum, Aquilegia, Asclepias, Bouvardia, Brodiaea, Campanula, Chaumelaucium, Cattleya hybride, Crocosmia, Delphinium, Dendrobium, Dianthus, Dicentra, Eremurus, Euphorbia fulgens, Freesia, Gladiolus, Gypsopila, Ixia, Kniphofia, Lathyrus, Lavatera, Lilium, Oncidium, Paphiopedilum, Phlox, Physostegia, Scabiosa, Silene, and Veronica. Also for use on ethylene sensitive potted plants like Campanula, Cyclamen, Dianthus, Ficus, Kalanchoe, Phalaenopsis, Rhipsalidopsis, Schlumbergera and Zygocactus.

The following directions must always be followed:

*[For 1 Liter containers use the following directions:]*

1. Mix 0.5 ml (Alstroemeria, Euphorbia fulgens) or 1 ml (other cut flowers and potted plants) of solution per quart of water in a non-metallic container or mix and dispense Chrysal AVB using dosing system (CDU). When dosing 1 ml per liter, set CDU at 1000 to 1 setting. Dispense into a non-metallic container. The contents of the screw cap are 1.2 US fl. oz. (35 ml).
2. **Cut Flowers:** Place cut flowers in prepared solution immediately after cutting for a minimum of 4 hours and a maximum of 72 hours. Lilies must be treated for a minimum of 4 hours and a maximum of 36 hours. Collect excess and spilled Chrysal AVB solution in a container and follow the disposal directions or the procedure to recover the silver from the solution.  
**Potted Plants:** Spray potted plants until run-off just prior to shipment. For optimal results an additional spray may be applied 8 to 14 days prior to shipment. It is advised to perform the treatment at the end of the day while avoiding direct sunlight. Spray directly on the leaves, buds and flowers of potted plants. Avoid excess spray and spraying onto soils or other substrates. Collect excess spray and spilled Chrysal AVB solution in a container and follow the disposal directions or the procedure to recover the silver from the solution.
3. Prepare use-solution as needed. This solution may be used for up to one week.

*[For 25 Liter containers use the following directions:]*

1. Mix and dispense Chrysal AVB using dosing system (CDU). When dosing is 1 ml per liter, set CDU at 1000 to 1 setting. Dispense into non-metallic container.
2. **Cut Flowers:** Place cut flowers in prepared solution immediately after cutting for a minimum of 4 hours and a maximum of 72 hours. Lilies must be treated for a minimum of 4 hours and a maximum of 36 hours. Collect excess and spilled Chrysal AVB solution in a container and follow the disposal directions or the procedure to recover the silver from the solution.

**Potted Plants:** Spray potted plants until run-off just prior to shipment. For optimal results an additional spray may be applied 8 to 14 days prior to shipment. It is advised to perform the treatment at the end of the day while avoiding direct sunlight. Spray directly on the leaves, buds and flowers of potted plants. Avoid excess spray and spraying onto soils or other substrates. Collect excess spray and spilled Chrysal AVB solution in a container and follow the disposal directions or the procedure to recover the silver from the solution.  
Prepare use-solution as needed. This solution may be used for up to one week.

[CDU Graphic]

- Place tube (1) from bottom of CDU\* (a) into liquid Chrysal concentrate.
- Thread black hose (2) onto water supply with standard threaded hose rib.
- Turn on water supply.
- Utilize hose and gun (3) for dispensing solutions.
- When finished turn-off water supply.

\*CDU = Chrysal Dosing Unit

## STORAGE AND DISPOSAL

Do not contaminate water, soil, food, or fed by storage and disposal.

**Storage:** Store in a cool, dark, frost-free place in the original tightly closed container away from children and pets.

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

*(For containers equal to or less than 5 gallons)*

**Container Handling:** Non-refillable 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 ¼ 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 or reconditioning, or puncture and dispose of empty bottle in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

*(For containers greater than 5 gallons)*

**Container Handling:** Non-refillable 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 ¼ 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. Then offer for recycling or reconditioning, or puncture and dispose of empty bottle in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### Procedure to Recover Silver from Solution

Excess Chrysal AVB solution and rinsate can be treated to recover residual silver, when done in accordance with Federal, State and local requirements. Treatment can be accomplished with the enclosed neutralization material using the following procedure:

1. Put the residual Chrysal AVB solution in a container used exclusively for the treatment process (see pictures 1 and 2 below). The drain cock and new drain pipe should be positioned in such a way that the contents of the container can be removed without disturbing the deposit (=silver);
2. Add the contents of one sachet of Chrysal Tecitine and one sachet of Chrysal Flocculine to each 150 liters/159 quarts of residual solution and stir (see picture 3 below);
3. Leave the residual solution react with the neutralizing powder for 120 hours. A grey-black deposit will be formed at the bottom (see picture 4 below);
4. Drain off the water above the drainpipe level (see picture 5 below). Contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance on disposing of this drainage water;
5. Do not drain off the remainder of the water and silt. Send the remaining water and silt to a facility that is authorized to recycle silver (see picture 6 below).

[Pesticide Disposal Graphics]

7/7

**Warranty Statement**

**IMPORTANT: WARRANTY AND DISCLAIMER INFORMATION**

Chrysal International BV warrants that the product conforms to its chemical description and is reasonably fit for the purposes stated in this label when used in accordance with directions under normal conditions of use; but to the extent consistent with applicable law this warranty of fitness for a particular purpose does not extend to the use of this product contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

CHRYSAL INTERNATIONAL BV SPECIFICALLY DISCLAIMS ANY OTHER EXPRESS OR IMPLIED WARRANTY, INCLUDING THE WARRANTY OF MERCHANTABILITY.

**[MADE] [SOLD] BY Chrysal International BV**  
Gooimeer 7, 1411 DD Naarden, The Netherlands

[www.chrysal.com](http://www.chrysal.com)  
[Product of Colombia]

EPA Registration No.: 72992-1  
EPA Establishment No.:

**Net Contents: (1 LITER/33.8 fl oz)**  
(For 1000 – 2000 liters/264-528 gal of [ready-to-use] solution)  
**(20 LITERS / 5.28 GALLONS)**  
(For 20,000 – 40,000-liters/5,280-10,560 gal of [ready-to-use] solution)  
**(25 LITERS/ 6.6 GALLONS)**  
(For 25,000 liters/6,600 gallons of [ready-to-use] solution)