

# **Ardent™ 0.15 EC**

## **Miticide/Insecticide**

*For control of leafminers and mites and suppression of aphids, whiteflies, and thrips on ornamental plants*

*Recommended for  
Agricultural/Commercial Use*

*Active Ingredients:*

Abamectin  
(CAS No. 65195-56-4  
and 65195-55-3) . . . . . 2.0%\*

*Other Ingredients:* 98.0%

*Total:* 100.0%

\*1 gal. contains 0.15 lb. abamectin

**KEEP OUT OF REACH OF  
CHILDREN.**

## **WARNING/AVISO**

*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 additional storage, disposal and precautionary statements and directions for use in booklet.*

EPA Reg. No. 100-896 EPA Est. 39578-TX-001

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U.S. Patent No. 4,310,519

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Syngenta Crop Protection, Inc.  
Greensboro, North Carolina 27409  
www.syngenta-us.com

**SCP 896B-L3F 1105  
204908**

**1 quart**

Net Contents

**syngenta**

# **Ardent<sup>TM</sup> 0.15 EC**

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EPA Reg. No. 100-896  
EPA Est. 39578-TX-001

**SCP 896B-L1K 1105**

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## Ardent™ 0.15EC

FIRST AID	
<b>If swallowed</b>	<ul style="list-style-type: none"><li>• Call poison control center or doctor immediately for treatment advice.</li><li>• Do not give any liquid to the person.</li><li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li><li>• Do not give anything by mouth to an unconscious person.</li></ul>
<b>If in eyes</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li><li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li><li>• Call a poison control center or doctor for treatment advice.</li></ul>
<b>If on skin or clothing</b>	<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>
<b>If inhaled</b>	<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>
<b>NOTE TO PHYSICIAN</b> <p>Early signs of intoxication include dilation of pupils, muscular incoordination, and muscular tremors. Toxicity following accidental ingestion of this product can be minimized by early administration of chemical adsorbents (e.g., activated charcoal).</p> <p>If toxicity from exposure has progressed to cause severe vomiting, the extent of resultant fluid and electrolyte imbalance should be gauged. Appropriate supportive parenteral fluid replacement therapy should be given, along with other required supportive measures (such as maintenance of blood pressure levels and proper respiratory functionality) as indicated by clinical signs, symptoms, and measurements.</p> <p>In severe cases, observations should continue for at least several days until clinical condition is stable and normal. Since abamectin is believed to enhance GABA activity in animals, it is probably wise to avoid drugs that enhance GABA activity (barbiturates, benzodiazepines, valproic acid) in patients with potentially toxic abamectin exposure.</p>	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
<b>HOT LINE NUMBER</b> <p>For 24-Hour Medical Emergency Assistance (Human or Animal) Or Chemical Emergency Assistance (Spill, Leak, Fire or Accident) Call <b>1-800-888-8372</b></p>	

### PRECAUTIONARY STATEMENTS

#### Hazards to Humans and Domestic Animals

##### WARNING/AVISO

May be fatal if swallowed. Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear such as goggles, face shield or safety glasses. Harmful if inhaled or absorbed through the skin. Avoid contact with skin. Prolonged or frequently repeated exposure may cause allergic skin reactions in some individuals. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Remove and wash contaminated clothing before reuse.

#### Personal Protective Equipment

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for Category B on an EPA chemical-resistance category selection chart.

##### Applicators and other handlers must wear:

- Coveralls over short-sleeved shirt and short pants
- Chemical-resistant gloves – EPA chemical-resistance category B (e.g., barrier laminate or butyl rubber >14 mils)
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure.
- Chemical-resistant apron when cleaning equipment, mixing, or loading.
- For shadehouse and greenhouse uses, applicators and other handlers must wear a dust/mist filtering NIOSH approved respirator with any R, P, or HE filter.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow 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.

# Ardent™ 0.15EC

## User Safety Recommendations

### Users 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.

## Environmental Hazards

This pesticide is toxic to fish and wildlife. Do not apply directly to water, 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 wash water or rinsate.

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

## Physical or Chemical Hazards

Do not use or store near heat or open flame.

## ATTENTION

This product contains a chemical (N-methyl pyrrolidone) known to the state of California to cause birth defects or other reproductive harm.

## CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

The Directions for Use of this product should be followed carefully. 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 manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, Inc. or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. This warranty does not extend to the use of the product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and Buyer and User assume the risk of any such use. SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.

In no event shall SYNGENTA or Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

## 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 agency responsible for pesticide regulation.

## Ardent™ 0.15EC

### 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 entry into treated areas during the restricted-entry interval (REI) of 12 hours.**

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 over short-sleeved shirt and short pants
- Chemical-resistant gloves – EPA chemical-resistance category B (e.g., barrier laminate or butyl rubber >14 mils)
- Chemical-resistant footwear plus socks
- Protective eyewear
- Chemical-resistant headgear for overhead exposure

**FAILURE TO FOLLOW DIRECTIONS AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY, POOR INSECT CONTROL, AND/OR ILLEGAL RESIDUES.**

### 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.

**Do not reenter treated areas until sprays have dried.**

## GENERAL INFORMATION

Ardent 0.15EC is an emulsifiable concentrate containing 0.15 lb. abamectin per gallon. which when mixed with water according to the directions for use will control leafminers and mites and suppress whiteflies, thrips, and aphids on ornamentals.

Mix with sufficient water and apply as a foliar spray to obtain uniform coverage. For mites, apply when mites first appear and repeat as necessary to maintain control. For leafminers, apply as needed and repeat at 7-day intervals or as necessary to maintain control.

For suppression of aphids, thrips, and whiteflies apply when young, immature stages of these pests are first observed and repeat every 7 days for 2 or 3 weeks. After which time, rotate to other products that have different modes of action than Ardent 0.15EC for at least 2-3 weeks. Refer to the **Resistance Management** section for additional comments on rotation. Aphids, thrips, and whiteflies are killed by direct contact with the Ardent 0.15EC spray.

Residual control of pests may be enhanced with the addition of a horticultural spray oil at 0.5 to 1.0% of the spray volume on field-grown woody ornamentals, landscape plants, and Christmas trees. Repeat application as necessary, but no sooner than 7 days to maintain control. Some plants are sensitive to oils and so without prior experience the user should spray a small number of plants and observe plants for 2 weeks before spraying the remaining plants. Excessive cold or warm temperatures may increase the chance of plant damage following application with oils. Carefully read and follow directions on the oil label and do not exceed maximum rates listed on either label.

### Resistance Management

Treatment may not be effective against these pests if Ardent 0.15EC tolerant strains develop. Therefore, when applying Ardent 0.15EC to plants that are hosts of labeled pests with multiple generations per crop or year, resistance management strategies must be used. Such strategies may include, but are not limited to, rotation of products with different modes of action, avoid treatment of successive generations with the same product, use of labeled rates at specified spray intervals, non-chemical alternatives such as beneficial arthropods, rotation of susceptible to non-susceptible plants, and various cultural practices. For additional information on the implementation of these or other resistance management strategies, consult with your State Cooperative Extension Service.

To manage susceptibility in *Liriomyza* leafminer species, apply a maximum of 3 applications of Ardent 0.15EC and then rotate to Citation® for a maximum of 3 applications, before rotating back to Ardent 0.15EC or using another product. The rotation between these 2 products with different modes of action should be based on the generation time of *Liriomyza* specie to avoid applying Ardent 0.15EC to successive generations.

# Ardent™ 0.15EC

## Restrictions

Do not use Ardent 0.15EC for suppression of aphids, whiteflies, and thrips on roses, chrysanthemums, and gerbera. These ornamentals are primary hosts of mites and Liriomyza leafminers for which Ardent 0.15EC applications should be targeted. Additional applications of Ardent 0.15EC to suppress aphids, thrips, and whiteflies on these plants will increase the selection pressure on mites and Liriomyza leafminers which may result in greater tolerance to Ardent 0.15EC among these pests.

Do not apply this product through any type of irrigation system.

Not for aerial application.

Do not use in citrus nurseries.

Ardent 0.15EC has been evaluated for phytotoxicity on a wide range of ornamental plants. However, since all combinations or sequences of pesticide sprays including surfactants and adjuvants have not been tested, it is recommended that a small area be sprayed first to make certain that no phytotoxicity occurs. Phytotoxicity has been observed following the use of Ardent 0.15EC on certain species of ferns (e.g., *Adiantum* spp.) and Shasta Daisy (*L. eucanthemum* spp.). It is therefore recommended that Ardent 0.15EC not be used on ferns or Shasta Daisy.

## CROP USE DIRECTIONS

### Shadehouse, Greenhouse, Field-Grown Ornamentals, Foliage Plants, Christmas Trees, and Other Woody Ornamentals

Pests	fl. oz./100 gal.	Comments
Mites: <sup>1</sup> European Red Mite Twospotted Spider Mite Carmine Spider Mite Southern Red Mite Spruce Spider Mite Tarsonemid Mites <sup>3</sup> : Cyclamen and Broad Mites Eriophyid Mites: Rust Bud Mites	4	<sup>3</sup> For tarsonemid mites, repeat applications to newly developing tissue may be necessary to maintain control.
<i>Liriomyza</i> Leafminers <sup>2</sup>	8	Repeat at 7-day intervals or as necessary to maintain control.
Boxwood Leafminer	8	For control of mining larvae, make the application when adults are beginning to lay eggs in the new foliage.
Aphids, Thrips Whiteflies	8	For suppression of pest populations, young immatures must be contacted by the spray.

**General Information Per Application:** Do not apply less than 8 fl. oz. or more than 16 fl. oz./A. Use sufficient water to obtain uniform plant coverage. Refer to the **Resistance Management** section and the **Restrictions** section for additional information.

<sup>1</sup> Apply, for example, in 200-400 gals. of water per acre. In volumes of water below 200 gals., use a minimum of 8 fl. oz./A. If more than 400 gals. of water/A are required for good plant coverage, apply a maximum rate of 16 fl. oz./A. For example, if 650 gals. of water are required, use 2.5 fl. oz./100 gals.

<sup>2</sup> Apply, for example, in 100-200 gals. of water/A. In water volumes below 100 gals., use a minimum of 8 fl. oz./A. If more than 200 gals. of water/A are required for good plant coverage, apply the maximum rate of 16 fl. oz./A. For example, if 400 gals. of water are required, use 4 fl. oz./100 gals.

## STORAGE AND DISPOSAL

### Storage

Store in a tightly closed container in a cool, dry place.

### Prohibitions

Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container.

### Pesticide Disposal

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

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### Container Disposal

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes.

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Ardent™ and Citation® are trademarks of a Syngenta Group Company  
U.S. Patent No. 4,310,519

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For non-emergency (e.g. current product information) call Syngenta Crop Protection at 1-800-334-9481.
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Syngenta Crop Protection, Inc.  
Greensboro, North Carolina 27409  
[www.syngenta-us.com](http://www.syngenta-us.com)

**SCP 896B-L1K 1105**

# Ardent™ 0.15EC

## Ardent™ 0.15 EC

See additional precautionary statements and directions for use in booklet.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. Refer to supplemental labeling under "Agricultural Use Requirements" in the Directions for Use section for information about this standard.

### Precautionary Statements

#### Hazards to Humans and Domestic Animals

##### WARNING/AVISO

May be fatal if swallowed. Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear protective eyewear such as goggles, face shield or safety glasses. Harmful if inhaled or absorbed through the skin. Avoid contact with skin. Prolonged or frequently repeated exposure may cause allergic skin reactions in some individuals. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco. Remove and wash contaminated clothing before reuse.

#### First Aid

**If swallowed:** Call poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

**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 center or doctor for treatment advice.

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

**NOTE TO PHYSICIAN:** Early signs of intoxication include dilation of pupils, muscular incoordination, and muscular tremors. Toxicity following accidental ingestion of this product can be minimized by early administration of chemical adsorbents (e.g., activated charcoal).

If toxicity from exposure has progressed to cause severe vomiting, the extent of resultant fluid and electrolyte imbalance should be gauged. Appropriate supportive parenteral fluid replacement therapy should be given, along with other required supportive measures (such as maintenance of blood pressure levels) as indicated by clinical signs, symptoms, and measurements.

In severe cases, observations should continue for at least several days until clinical condition is stable and normal. Since abamectin is believed to enhance GABA activity in animals, it is probably wise to avoid drugs that enhance GABA activity (barbiturates, benzodiazepines, valproic acid) in patients with potentially toxic abamectin exposure.

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**HOT LINE NUMBER:** For 24 Hour Medical Emergency Assistance (Human or Animal) Or Chemical Emergency Assistance (Spill, Leak, Fire or Accident) Call 1-800-888-8372.

**ATTENTION:** This product contains a chemical (N-methyl pyrrolidone) known to the state of California to cause birth defects or other reproductive harm. Refer to booklet for **Physical and Chemical Hazards, and Storage and Disposal.**

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes.

Do not apply this product through any type of irrigation system.

SCP 896B-L4E 1105 204909

BAR CODE # IS  
**(01) 0 07 02941 26782**  
LAST DIGIT IS CHECK DIGIT