



U.S. ENVIRONMENTAL PROTECTION AGENCY  
Office of Pesticide Programs  
Registration Division (7505P)  
Ariel Rios Building  
1200 Pennsylvania Ave., NW  
Washington, D.C. 20460

EPA Reg. Number:

66330-278

Date of Issuance:

JAN 08 2008

## NOTICE OF PESTICIDE:

☐ Registration  
☒ Reregistration  
(under FIFRA, as amended)

Term of Issuance: Unconditional

Name of Pesticide Product:

Chlorpyrifos 4# AG

Name and Address of Registrant (include ZIP Code):

Arysta LifeScience North America Corporation  
15401 Weston Parkway, Suite 150  
Cary, NC 27513

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act. Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

Based on your response to the Reregistration Eligibility Decision, EPA has reregistered the product listed above. This action is taken under the authority of section 4(g)(2)(C) of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended. Reregistration under this section does not eliminate the need for continual reassessment of pesticides. EPA may require submission of data at any time to maintain the registration of your product.

Generic data requirements that have been identified in the RED as confirmatory data for the active ingredient contained in the subject product will continue to be tracked and assessed in the Agency's continual reassessment of pesticides.

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

**Please see page 2 for label comments**

You must submit one (1) copy of the final printed label before you release the product for shipment. Products shipped after 12 months from the date of this Notice or the next printing of the label whichever occurs first, must bear the new revised label. A stamped copy of the label is enclosed for your records. Should you have any questions, please contact the Registration Review Manager, Julie Chao, at 703-308-8735 or [chao.julie@epa.gov](mailto:chao.julie@epa.gov).

Signature of Approving Official:

Meredith F. Laws, Chief  
Insecticide-Rodenticide Branch  
Registration Division (7505P)

Date:

JAN 08 2008

**Label Comments:**

- On pages 1 and 37, change the word "assorted" to "listed" so the phrase reads, "For control of listed pests..."
- On pages 1 and 37, delete the word "aromatic" so the phrase reads, "Contains petroleum distillates."
- On pages 1 and 37, revise the First Aid section text as follows:

**IF SWALLOWED:** Immediately call a poison control center or doctor. Do not induce vomiting unless told to by a poison control center or doctor. Do not give any liquid to the person. 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 center or doctor for treatment advice.

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

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**PHYSICIAN TREATMENT:** Current text is acceptable, but the following text must be added: "May pose an aspiration pneumonia hazard. Contains petroleum distillate."

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact:

**FOR 24 HOUR EMERGENCY MEDICAL ASSISTANCE CALL: 1-866-303-6952**

**FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident call CHEMTREC 1-800-424-4900**

(This above contact information appears on page 2, but should be moved to page 1 under the First Aid section.)

- On pages 1 and 37, reformat the First Aid section per PR Notice 2001-1.

- On pages 2 and 37, under the Hazard to Human and Domestic Animals section, revise the eye irritation statement so it reads, "Causes **moderate** eye irritation." Add the following statement at the end of the paragraph: "**Wear long-sleeved shirt and long pants, socks, shoes, and chemical resistant gloves (barrier laminate or viton, selection category G).**"
- On pages 2 and 37, delete the Emergency Telephone Numbers section. This information should be moved to page 1, as noted earlier.
- On page 2, under Personal Protective Equipment, change "category H" to "category G."
- On page 3, under User Safety Recommendations, modify the second statement so it reads, "Remove clothing **and/or PPE** immediately if pesticide gets inside..."
- On page 3, under Engineering Controls, the three statements after the first paragraph should be bulleted. For consistency, either all or none of the statements should be bolded.
- On page 4, revise the **PHI** table as indicated in red below:

| Crop   | PHI                             |
|--|---------------------------------|
| Field Corn, Sweet Corn (including corn grown for seed) | 21                              |
| Sorghum, Grain Sorghum                                 | 30 at rates $\leq 0.5$ lb. ai/A |
|  | 60 at rates $> 0.5$ lb. ai/A    |
| Tree Fruits (Apple, Cherry, Pear, Plum/Prune)          | 6 – cherry                      |
| Wheat  | 14 – forage and hay             |
|  | 28 – grain and straw            |

- On pages 5 and 37, under Storage and Disposal, delete the phrase "**Pesticide wastes are toxic.**"
- On pages 6 and 38, under Storage and Disposal, delete the phrase "...or, if allowed by state and local authorities, by burning. If burned, stay out of smoke."
- For consistency with other products, place the storage and disposal statements in a box of solid line to increase their prominence.
- On page 6, replace the heading "General Information" with "Use Information."
- On page 6, replace the heading "General Use Precautions" with "Use Restrictions."
- On page 7, change the heading "Sprinkler Irrigation" to "Chemigation (Sprinkler Irrigation)." The use directions for specified crops refer to this section by the latter heading.
- On page 7, under the Sprinkler Irrigation section, add "wheat" to the list of crops for which application by sprinkler irrigation is allowed.

- On page 7, under Sprinkler Irrigation, either delete "sod farm turf" from the list of crops for which application by sprinkler irrigation is allowed, or add appropriate application instructions for application by chemigation (sprinkler irrigation) on page 35 under the Sod Farm Turf section.
  - On page 7, change the heading "Special Use Directions" to "**Sprinkler Use Directions.**" Change the heading "Special Use Precautions" to "**Sprinkler Use Precautions.**" Be sure to change any subsequent references to these headings.
  - On page 11, under Christmas Trees, you may claim ants only if fire, carpenter, harvester, and pharaoh ants are excluded. These pests require additional efficacy data. Therefore, change the pest control claim to: "**Ants (excluding fire, carpenter, harvester, and pharaoh ants).**"
  - On page 15, under Cole Crops, change the directions in the table so the maximum application rate for cauliflower does not exceed **1.2 oz Chlorpyrifos 4# AG per 1000 ft. of row.** Adjust the number of pints listed under the restrictions column accordingly.
  - On page 16, under Cole Crops, change the restriction listed for Brussels sprouts so it reads, "**Apply no later than 30 days before harvest.**"
  - On page 16, under Cole Crops, change the directions in the table so the maximum application rate for radishes does not exceed **0.5 oz Chlorpyrifos 4# AG per 1000 ft. of row.** Also note that **the PHI for radishes is 7 days.**
  - On page 16, under Cole Crops, change the directions in the table so the maximum application rate for rutabaga does not exceed **1.6 oz Chlorpyrifos 4# AG per 1000 ft. of row.** Also note that **the PHI for rutabagas is 7 days.**
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- On page 17, under Cole Crops, revise the Preharvest Interval restriction so it reads, "**For all listed crops except radish and rutabaga, do not apply within 30 days before harvest. For radish and rutabaga, do not apply within 7 days before harvest.**"
  - On page 18, under Corn, revise the table so the application rate does not exceed **2 pints Chlorpyrifos 4# AG per acre.** The proposed rate of 2-3 pints/acre contradicts the required maximum single application rate of 2 pints (1 lb. ai chlorpyrifos) per acre.
  - On page 18, under Corn, correct the typos in the fifth bulleted statement under Specific Use Restrictions. The word "or" should be "of," and "I" should be a "1" so the statement reads, "Maximum single application rate is 2 pints of Chlorpyrifos 4# AG (1 lb ai chlorpyrifos) per acre."
  - On page 22, under Figs, list the PHI in terms of days so it reads, "Do not apply within 7 months (210 days) before harvest." This number is consistent with the value provided in the PHI table on page 4.

- On page 24, under Orchard Floors, the table for Orchard Floors must be broken down for almonds, pecans, and walnuts.
- On page 25, under Peanuts, **delete the phrase "in Mississippi"** in the aerial application restriction. Aerial application to peanuts is prohibited in all states.
- On page 26, under Sorghum, modify the third statement under the Specific Use Restrictions so it reads, **"Do not make more than 3 applications for a total of 3 pints of Chlorpyrifos 4# AG or other products containing chlorpyrifos per season. If the 2 pint per acre application rate is used, then only one application may be made per season, or the second application must not exceed 1 pint per acre, for a total of 3 pints per acre per season."**
- On page 28, under Strawberry, change the application directions in the table so the use rate is expressed in pints (for consistency with the rest of the label). The rate is 2-4 pints.
- On page 28, under Strawberry, revise the Specific Use Restrictions as indicated in red below:

Specific Use Restrictions:

- For pre-bloom use only. Do not apply after berries start to form or when berries are present.
  - Preharvest Interval: Do not apply within 21 days before harvest.
  - **The maximum single application rate for foliar applications is 2 pints Chlorpyrifos 4# AG per acre. Do not make more than 2 foliar applications for a total of 4 pints (2 lb. ai chlorpyrifos) per acre per season.**
  - **The maximum single application rate for preplant soil incorporation is 4 pints Chlorpyrifos 4#AG per acre. Do not make more than 1 preplant soil incorporation application for a total of 4 pints (2 lb. ai chlorpyrifos) per acre per season.**
  - Do not make a second application of Chlorpyrifos 4# AG or other product containing chlorpyrifos within 10 days of the first foliar application and within 14 days for postharvest application.
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- On page 30, under Sunflower, revise the Specific Use Restrictions as indicated in red below:

Specific Use Restrictions:

- Preharvest Interval: Do not apply within 42 days before harvest.
- Do not apply more than 6 pints of Chlorpyrifos 4# AG (3 lb. ai chlorpyrifos) per acre per season.
- Do not make more than 3 applications per season of Chlorpyrifos 4# AG or other products containing chlorpyrifos **for a total of 6 pints of Chlorpyrifos 4# AG (3 lb. ai chlorpyrifos) per acre per season.**

- The maximum single application rate for preplant soil incorporation applications is 4 pints Chlorpyrifos 4# AG (2 lb. ai chlorpyrifos) per acre. Do not make more than 1 application for a total of 4 pints (2 lb. ai chlorpyrifos) per acre per season.
  - The maximum single application rate for postemergence broadcast foliar treatment is 3 pints Chlorpyrifos 4#AG (1.5 lb. ai chlorpyrifos) per acre. Do not make more than 2 applications for a total of 6 pints (3 lb. ai chlorpyrifos) per acre per season.
  - Do not make a second application of Chlorpyrifos 4# AG or other products containing chlorpyrifos within 10 days of the first application.
  - Do not allow meat or dairy animals to graze in treated areas.
- On page 31, under Tobacco, delete the last following sentence: **"The application of Chlorpyrifos 4# AG insecticide will also suppress the movement of imported fire ants into treated fields."** This pest control claim requires efficacy data.
  - On page 32, under Tobacco, the maximum application rate is 2 pints Chlorpyrifos 4#AG (1 lb. ai chlorpyrifos) per acre per season. Therefore, **revise the application rate in the table and correct the first sentence of the paragraph under the table so the application directions do not exceed 2 pints per acre per season.**
  - On page 32, under Tree Fruits and Tree Nuts (Dormant/Delayed Dormant Sprays), **change the REI to 4 days.**
  - On page 32, under Tree Nuts (Foliar Sprays), **change the REI to 4 days.**
  - On page 32, under Tree Nuts (Foliar Sprays), revise the third bulleted statement under the Specific Use Restrictions section so it reads, **"Do not make more than 3 total applications per season of Chlorpyrifos 4# AG or other products containing chlorpyrifos to almonds, pecans, and filberts and no more than 2 applications per season on walnuts, for a maximum of 8 pints (4 lb. ai chlorpyrifos) per acre per season. If the 4 pint per acre application rate is used, then only a maximum of 2 applications may be made."**
  - On page 35, under Sod Farm Turf, the application rates listed in terms of fl. oz./1000 sq. ft. should be expressed as 0.5 – 0.75 (rather than ½ to ¾) for consistency with the rest of the label.
  - The Sod Farm Turf section should be moved so that all crops are listed alphabetically.
  - On page 36, under Wheat, revise the second bulleted statement under the Specific Use Restrictions section so it reads, **"Do not make more than 2 applications of Chlorpyrifos 4# AG or other products containing chlorpyrifos for a total of 1 lb. ai chlorpyrifos per acre per season."**

- On page 36, under the Conditions of Sale and Warranty, modify the second sentence so it reads, "The directions are believed to be reliable and **must** be followed carefully."
- On page 36, under the Conditions of Sale and Warranty, add the following bolded text so the first sentence of the third paragraph reads, "**To the extent consistent with applicable law**, Arysta makes no other express or implied warranty..."

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**Restricted Use Pesticide**

For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.

**CHLORPYRIFOS 4# AG**

For the control of assorted pests infesting particular field, fruit, nut, and vegetable crops

**ACTIVE INGREDIENT:**

Chlorpyrifos O,O-diethyl- O-(3,5,6-trichloro-2-pyridinyl) phosphorothioate ..... 44.7%

**INERT INGREDIENTS\*:** ..... 55.3%

**TOTAL** ..... 100.0%

Contains 4 pounds of chlorpyrifos per gallon.

\*Contains aromatic petroleum distillates

**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 this label, find someone to explain it to you in detail.)

**FIRST AID**

**Organophosphate**

If Swallowed: Do not induce vomiting. Contains aromatic petroleum solvent. Call a physician or Poison Control Center immediately.

If In Eyes: Flush with plenty of water for at least 15 minutes. Get medical attention.

If On Skin: Wash with plenty of soap and water. Get medical attention.

If Inhaled: Remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

**PHYSICIAN TREATMENT:** Chlorpyrifos is a cholinesterase inhibitor. Treat poisoning symptomatically. Baseline data are useful in detecting the level of exposure. Certain tests, such as plasma and red blood cell cholinesterase, may detect exposure level. Preferred antidote post exposure is Atropine, by injection only. If detected early, treat with 2 PAM/protopam or other Oximes in conjunction with atropine. Use recommended antidote immediately after establishing an open airway and respiration in the event of serious acute poisoning.

**EPA Reg. No. 66330-278**

**EPA Est. No. 51036-GA-01**

**AD 062906**

**NET CONTENTS: \_\_\_\_\_**

**Manufactured By:**

**ARYSTA LIFESCIENCE NA CORP.**

**15401 Weston Parkway, Ste. 150**

**Cary, NC 27513**

**ACCEPTED  
with COMMENTS  
In EPA Letter Dated:**

**JAN 08 2008**

**Under the Federal Insecticide,  
Fungicide, and Rodenticide Act,  
as amended, for the pesticide  
registered under EPA Reg. No.  
66330-278**



9 7 45

**PRECAUTIONARY STATEMENTS**  
**Hazard to Humans and Domestic Animals**

**WARNING**

May be fatal if swallowed. Harmful if absorbed through skin or inhaled. Causes eye irritation. Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

**EMERGENCY TELEPHONE NUMBERS:** Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact:  
**FOR 24 HOUR EMERGENCY MEDICAL ASSISTANCE CALL: 1-866-303-6952**  
**FOR CHEMICAL EMERGENCY:** Spill, leak, fire, exposure, or accident call CHEMTREC 1-800-424-4900

**PERSONAL PROTECTIVE EQUIPMENT**

Some materials that are chemical-resistant to this product are barrier laminates and Viton. If you want more options, follow the instructions for category H on an EPA chemical resistance category selection chart.

Mixers and loaders using a mechanical transfer loading system and applicators using aerial application equipment must wear:

- long sleeved shirt and long pants;
- socks and shoes

In addition to the above, mixers and loaders using a mechanical transfer loading system must wear:

- chemical resistant gloves;
- chemical resistant apron;
- a NIOSH-approved dust mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator any R, P, or HE filter.

See engineering controls for additional requirements.

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All mixers, loaders, other applicators and other handlers must wear:

1. Coveralls over long sleeved shirt and long pants
2. Chemical-resistant gloves
3. Chemical-resistant apron when mixing or loading or exposed to the concentrate.
4. Chemical-resistant footwear plus socks
5. Chemical-resistant headgear for overhead exposure
6. A NIOSH-approved dust mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator 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 and 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:

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 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**

Mixers and loaders supporting aerial applications must use a mechanical transfer system that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4)] for dermal protection, and must:

**wear the personal protective equipment required above for mixers/loaders,**

wear protective eyewear if the system operates under pressure, and

-be provided and have immediately available for use in an emergency, such as a broken package, spill, or equipment breakdown: coveralls, chemical resistant footwear and chemical resistant headgear if overhead exposure.

Pilots must use an enclosed cockpit in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(6)].

Use of human flaggers is prohibited. Instead, use mechanical flagging equipment.

When handlers use closed cab motorized ground application equipment in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

**ENVIRONMENTAL HAZARDS**

This pesticide is toxic to fish, aquatic invertebrates, small mammals, and birds. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. 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 weed is bees are visiting the treatment area.

**PHYSICAL OR CHEMICAL HAZARDS**

Combustible. Do not use or store near heat or open flame.

**DIRECTIONS FOR USE****RESTRICTED USE PESTICIDE**

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.

**Preharvest interval restrictions:**

| Crop   | PHI*                             |
|--|----------------------------------|
| Alfalfa  | 7 at rates $\leq$ 0.25 lb. ai/A  |
|  | 14 at rates $\leq$ 0.50 lb. ai/A |
|  | 21 at rates $>$ 0.50 lb. ai/A    |
| Asparagus  | 1                                |
| Broccoli   | 30                               |
| Brussels Sprouts                                       | 21                               |
| Cabbage  | 30                               |
| Cauliflower  | 30                               |
| Cherries   | 6                                |
| Chinese Cabbage  | 30                               |
| Citrus Fruits  | 21 at rates $\leq$ 3.5 lb. ai/A  |
|  | 35 at rates $>$ 3.5 lb. ai/A     |
| Collards   | 30                               |
| Cotton   | 14                               |
| Cranberries  | 60                               |
| Field Corn, Sweet Corn (including corn grown for seed) | 14 - corn silage                 |
|  | 35 - corn grain and corn fodder  |
| Figs   | 210                              |
| Grapes   | 35                               |
| Kale   | 30                               |
| Kohlrabi   | 30                               |
| Mint   | 90                               |
| Nectarines, Peaches                                    | 14                               |
| Peanuts  | 21                               |
| Sorghum, Grain Sorghum                                 | 30 at rates $\leq$ 0.25 lb. ai/A |
|  | 60 at rates $>$ 0.25 lb. ai/A    |
| Soybeans   | 28                               |
| Strawberries   | 21                               |
| Sugar Beets  | 30                               |
| Sunflowers   | 42                               |
| Sweet Corn (grown only in Florida and Georgia)         | 21                               |
| Sweet Potatoes   | 125                              |
| Tree Fruits  |                                  |
| Tree Nuts (Almonds, Filberts, Walnuts)                 | 14                               |
| Tree Nuts (Pecans)                                     | 28                               |
| Turnips  | 30                               |
| Wheat  | 28                               |

\*PHI = Pre-Harvest Interval or the number of days to wait between the last application and harvest.

Aerial application to peanuts is prohibited.

Read all Directions for Use carefully before applying.

#### 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 intervals. 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). The REI for each crop is listed in the direction for use associated with each crop. REIs for all crops except those listed below is 24 hours:

Cauliflower: 3 days

Citrus trees: 5 days

Fruit trees: 4 days

Certified crop advisors or persons entering fields under their direct supervision under certain circumstances may be exempt from the early reentry requirement pursuant to 40 CFR Part 170.

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:

1. Coveralls over short sleeved shirt and short pants
2. Chemical-resistant gloves made out of any waterproof material
3. Chemical-resistant footwear plus socks
4. Chemical-resistant headgear for overhead exposure

Notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas.

#### STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

**Storage:** Keep in original container in dry secured storage space. Do not permit contact with other pesticides and fertilizers. Do not store above 100°F for long periods of time. Crystals may form if stored below 20°F. If crystals form, store at 50° - 70°F and agitate to allow crystals to redissolve. Use product immediately, or dispose of it with the container in the manner prescribed below in the event that the container is damaged or a spill occurs.

**Pesticide Disposal:** Open dumping is prohibited. 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.

#### Disposal of Refillable Containers:

Change the dry disconnect cap, if applicable, and close every opening which has been opened during use. Return the empty container to a Arysta designated repository site. For proper handling instructions in the event that the container has been damaged and cannot be returned safely in accordance to the advised procedures, call the Arysta Customer Service Center at 1-800-451-8461.

**Container Disposal for Non-Refillable Containers:** 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.

or

Triple rinse (or equivalent). Then puncture and dispose in a sanitary landfill, or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### GENERAL INFORMATION

Chlorpyrifos 4# AG insecticide forms an emulsion when diluted with water and is suitable for use in all conventional spray equipment. Consult your state experiment station or state extension service for proper timing of applications.

### GENERAL USE PRECAUTIONS

Do not use on turf (other than sod farms) or for structural pest control. Do not formulate this product into other end use products.

Attention: Do Not Cut or Weld Container.

### SPRAY DRIFT RESTRICTIONS

Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, nontarget crops, aquatic and wetland areas, woodlands, pastures, rangelands, or animals.

For ground boom applications, do not apply within 25 feet of rivers, natural ponds, lakes, streams, reservoirs, marshes, estuaries and commercial fishponds. Apply with nozzle height no more than 4 feet above the ground or crop canopy and when wind speed is 10 mph or less at the application site as measured by an anemometer. Use fine or coarser spray according to ASAE 572 definition for standard nozzles or VMD for spinning atomizer nozzles.

For orchard/vineyard airblast applications, do not apply within 50 feet of rivers, natural ponds, lakes, streams, reservoirs, marshes, estuaries and commercial fishponds. Direct spray above trees/vines and turn off outward pointing nozzles at row ends and outer rows. Apply only when wind speed is 3-10 mph at the application site as measured by an anemometer outside of the orchard/vineyard on the upwind side.

For aerial applications, do not apply within 150 feet of rivers, natural ponds, lakes, streams, reservoirs, marshes, estuaries and commercial fishponds. The boom width must not exceed 75% of the wingspan or 90% of the rotary blade. Use upwind swath displacement and apply only when wind speed is 3-10 mph as measured by an anemometer. Use fine or coarser spray according to ASAE 572 definition for standard nozzles or VMD for spinning atomizer nozzles. If application includes a no-spray zone do not release spray at a height greater than 10 feet above the ground or the crop canopy.

For overhead chemigation, do not apply within 25 feet of rivers, natural ponds, lakes, streams, reservoirs, marshes, estuaries and commercial fishponds. Apply only when wind speed is 10 mph or less.

The applicator also must use all other measures necessary to control drift.

### MIXING DIRECTIONS

To prepare the spray, add some of the required water to the spray tank, agitate, and then add the Chlorpyrifos 4# AG. Continue to fill the tank with the remaining water needed. Continue with enough

agitation during mixing and application to ensure consistency of the spray mixture.

Chlorpyrifos 4# AG may also be used in tank mixtures with certain herbicides and/or with non-pressure fertilizer solutions as recommended under specific crop use directions. To prepare tank mixtures, mix in the same way as if preparing just the Chlorpyrifos 4# AG, as described above. If using tank mixtures of Chlorpyrifos 4# AG and herbicides, add the following products in this order: wettable powders, flowables and emulsifiable concentrates. If using a fertilizer solution, a fertilizer pesticide compatibility agent, like Unite or Compex, is highly recommended. Continue with enough agitation during mixing and application to ensure consistency of the spray mixture. Do not let the spray mixtures stand overnight.

Note: Before adding Chlorpyrifos 4# AG to the spray or mix tank, test its compatibility with the designated tank mixture. Add equal amounts of each product to a pint or quart jar, then cap, shake, and allow it to stand for 15 minutes. Do not use if precipitates form and do not readily redisperse. This is an indication that the mixture is not compatible and therefore should not be used.

### SPRINKLER IRRIGATION

Chlorpyrifos 4# AG may be applied by sprinkler irrigation for the following crop uses: alfalfa, citrus orchard floors, field corn, mint, sweet corn, cotton, cranberries, sorghum, soybeans, and sod farm turf.

See the use sections for the individual crops for further application information. Do not apply this product to the above listed crops through any other type of irrigation system. Do not apply this product by chemigation to any other crop.

### SPECIAL USE DIRECTIONS

If using Chlorpyrifos 4# AG through sprinkler irrigation systems, first clean the injection system and tank of all fertilizer or chemical residue. Dispose of the residue in accordance with applicable state and federal laws. Next, thoroughly wash out the injector with soap and water. Determine how much insecticide is needed to cover the desired acreage. Pump the required Chlorpyrifos 4# AG into a steel tank, start mechanical or hydraulic agitation, and add in order the non-emulsifiable oil and/or water. Continually agitate the mixture containing Chlorpyrifos 4# AG. Position the sprinkler system to disperse the desired amount of water per acre. Turn on the water pump and sprinkler, allowing the system to reach the desired pressure and speed before starting the injector. Start the injector and calibrate the injector system following the instructions in #14 in the "Special Use Precautions" section. While the sprinkler is moving, inject the Chlorpyrifos 4# AG mixture continuously and uniformly into the irrigation water line. This procedure is necessary to deliver the desired rate per acre in a uniform manner. When the application is finished, allow the entire irrigation and injector system to be thoroughly flushed clean before stopping the system.

### SPECIAL USE PRECAUTIONS

Follow the precautions below in order to apply Chlorpyrifos 4# AG mixtures safely and effectively:

1. Apply this product only through sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, micro sprinkler, or hand move. Do not apply this product through any other type of irrigation system.
2. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
3. If you have questions about calibration, you should contact state extension service specialists, equipment manufacturers or other experts.
4. Do not connect an irrigation system (including greenhouse systems) used for pesticide

application to a public water system.

5. A person knowledgeable of the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.

6. The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. Refer to the American Society of Agricultural Engineer's Engineering Practice 409 for more information.

7. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.

8. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.

9. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

10. The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

11. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock. The metering pump must provide a greater pressure than that of the irrigation system at the point of injection. The pump must meet Section 675 for "Electrically Driven or Controlled Irrigation Machines" NEC 70 and must contain Viton or Teflon seals.

12. To make sure that the insecticide is mixed uniformly into the water line, inject the mixture either (a) through a nozzle place in the fertilizer injection port or (b) just in front of an elbow or tee in the irrigation line so that the turbulence created at those points will aid in mixing. Prevent siphoning by selecting an injection point that is higher than the insecticide tank.

13. Make sure the steel tank containing the insecticide mixture is large enough for the system to complete a revolution in a single filling. Keep the tank free of rust, fertilizer, sediment and foreign material, and outfitted with an in-line strainer positioned between the tank and the injector pump.

14. To calibrate the irrigation system and injector for application of the Chlorpyrifos 4# AG mixture:

(1) calculate the number of acres irrigated by the system

(2) set the rate of irrigation and determine the amount of minutes for the system to cover the

desired area to be treated

(3) determine the total gallons of insecticide mixture needed to cover the desired acreage. To do this, divide the total gallons of insecticide mixture needed by the number of minutes required to cover the treatment area. This figure is equivalent to the gallons per minute output that the injector must deliver. Convert the gallons per minute to milliliters or ounces per minute. Calibrate the injector pump with the system in operation at the desired irrigation rate. Calibrating the injector pump at least twice before operation and monitoring the system during operation are recommended.

15. Do not apply when wind speed favors drift beyond the area intended for treatment. Turn off end guns during application if they irritate nontarget areas.

16. Keep irrigation water from accumulating or running-off and posing danger to livestock, wells, or adjoining crops.

17. Allow foliage to dry before reentering the field.

18. Because sprinkler systems such as certain water drive units deliver a low coefficient of uniformity, do not apply through such systems.

**APPROVED CROPS****Uses****Alfalfa****(Not for use in Mississippi)**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Apply as a broadcast foliar spray using aircraft or ground spray equipment. Use a higher rate in the rate range for increased pest pressure. Use a minimum spray volume of 2 gpa for aerial (fixed wing or helicopter) or 10 gpa for ground equipment. Use a spray volume of 5 gpa or more by air or up to 20 gpa by ground when foliage is dense and/or pest population is high and/or under high temperature and wind conditions. Some reduction in insect control may occur under unusually cool conditions.

**Chemigation:** Chlorpyrifos 4# AG may be applied through sprinkler irrigation systems to control listed foliar pests. Use recommended broadcast application rates. See Chemigation (Sprinkler Irrigation) section for application instructions.

| <b>PESTS</b>  | <b>Chlorpyrifos 4# AG</b> |
|---|---------------------------|
| Aphids (suppression)  | 1/2 pint/acre             |
| Corn rootworm adults (spotted cucumber beetle)<br>Grasshoppers  | 1/2 - 1 pint/acre         |
| Alfalfa blotch leafminer<br>Alfalfa caterpillar<br>Alfalfa weevil larvae and adults<br>Armyworms<br>Blue alfalfa aphid<br>Cutworms<br>Egyptian alfalfa weevil larvae and adults | 1 - 2 pints/acre          |
| Pea aphid<br>Plant Bugs<br>Leafhoppers<br>Spittlebugs   |                           |

**Specific Use Precautions:**

- Chlorpyrifos 4# AG should not be tank mixed with other pesticides, surfactants, or fertilizer formulations unless proper use has shown the combination to be non-injurious to alfalfa under current conditions of use. Some phytotoxic symptoms may be observed on young, tender, rapidly growing alfalfa treated with Lroban-4E. Alfalfa will outgrow these symptoms and no yield loss should be expected.
- This product is highly toxic to bees exposed to direct treatment on alfalfa. Do not apply if nearby bees are clustered outside of hives and bees are actively foraging in the treated area. Protective information may be obtained from your Agricultural Extension Service.
- To avoid contamination of irrigation tail waters, do not flood irrigate within 24 hours following and application of Chlorpyrifos 4# AG.



**Specific Use Restrictions:**

- **Preharvest Interval:** Do not cut or graze treated alfalfa within 7 days after application of ½ pint per acre of Chlorpyrifos 4# AG, within 14 days after application of 1 pint per acre, or within 21 days after application of rates above 1 pint per acre.
- Do not make more than 4 applications per season of Chlorpyrifos 4# AG or other product containing chlorpyrifos or apply any product containing chlorpyrifos more than once per alfalfa cutting.
- Do not make a second application of Chlorpyrifos 4# AG or other product containing chlorpyrifos within 10 days of the first application.
- Maximum single application rate is 1 lb ai chlorpyrifos per acre.

**Asparagus**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) or 24 hours unless PPE required for early entry is worn.

Apply as a ground broadcast foliar spray. Use sufficient volume of finished spray to ensure thorough coverage of crop foliage. **Note:** Chlorpyrifos 4# AG insecticide may be applied aerially or with ground equipment for control of armyworms and grasshoppers.

| Pests  | Chlorpyrifos 4# AG |
|--|--------------------|
| Asparagus aphids <sup>1</sup><br>Asparagus beetles <sup>1</sup><br>Cutworms <sup>2</sup> | 2 pints / acre     |

**Pest-Specific Use Directions:**

1. For **asparagus beetles** and **asparagus aphids** apply during the fern stage when field counts or crop injury indicates that damaging pest populations are developing or present.
2. For **cutworms**, it is preferable to apply when the soil is moist and worms are active on or near the soil surface.

**Specific Use Restrictions:**

- Do not make more than 1 preharvest application per season or apply within 1 day or harvest.
- Do not make more than 2 postharvest applications during the fern stage.
- Do not make a second application of Chlorpyrifos 4# AG or other product containing chlorpyrifos within 10 days of the first application.
- For use only in the Midwest and Pacific northwest states.
- Maximum single application rate preharvest or postharvest is 1 lb ai chlorpyrifos per acre.

**Christmas Trees (Nurseries and Plantations)  
(Not for Use in Mississippi)**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Unless otherwise indicated, apply as a foliar spray using power-operated ground equipment. Thorough

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coverage of foliage is essential. Use a minimum of 10 gpa of finished spray with ground equipment. Use higher volume of finished spray, 20 gpa or more, when foliage is dense and/or pest density is high and/or under high temperature and wind conditions.

| TREE VARIETY  | INSECTS CONTROLLED   | CHLORPYRIFOS 4# AG |
|---|--|--------------------|
| Balsam fir<br>Blue spruce<br>Concolor fir<br>Douglas fir<br>Eastern white pine<br>Fraser fir<br>Grand fir<br>Noble fir<br>Scotch pine<br>White spruce | Adegids (Cooley)<br>(Eastern spruce gall)<br>Ants<br>Aphids<br>European pine sawfly<br>European pine shoot moth<br>Grasshopper<br>Gypsy moth<br>Mites <sup>1</sup><br>(European red spider)<br>(Two spotted spider)<br>[except in WA & OR]<br>Pales weevils (adult)<br>Pine needle midges<br>Pine spittlebugs<br>Plant bugs<br>Spittlebugs<br>Spruce budworms<br>Spruce needleminers<br>Scale <sup>2</sup><br>(Black pine)<br>(pine needle)<br>(pine tortoise)<br>(Spruce bud)<br>(Striped pine) | 1 qt/acre          |
|   | Pales weevil <sup>3</sup>  | 3 qt/100 gal       |

#### Pest-Specific Use Directions:

1. When large numbers of **spider mite** eggs are present at the first application, a second application after 7 to 10 days may be required to control newly hatched nymphs and maintain effective control. **Not for control of mites in Washington and Oregon.**
2. For **scale control**, apply when scale crawlers are active.
3. Apply as a cut stump drench.

#### Specific Use Precautions:

**Phytotoxicity:** Do not apply under conditions of extreme heat or drought stress. Environmental factors and varietal differences significantly influence potential phytotoxic expression. **Testing has shown that Chlorpyrifos 4# AG may be used at recommended rates on the following conifer species without serious phytotoxicity: balsam fir, concolor fir, Douglas fir, eastern white pine, Fraser fir, grand fir, noble fir, Scotch pine, white spruce.** Before treating large numbers or other conifer species, it is recommended that a small block of plants be treated and observed 7 to 10 days for symptoms of phytotoxicity. **Note:** The user assumes responsibility for determining if it is safe to treat other conifer species with Chlorpyrifos 4# AG under commercial growing conditions.

**Specific Use Restrictions:**

- Do not make more than 3 applications of Chlorpyrifos 4# AG or other product containing chlorpyrifos per season.
- Do not make a second application of Chlorpyrifos 4# AG or other product containing chlorpyrifos within 7 days of the first application.
- Do not allow mea or dairy animals to graze in the treated areas.

**Citrus Fruits**

**(Not for Use in Mississippi)**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 5 days unless PPE required for early entry is worn.

Apply as a concentrate or dilute spray using conventional, power-operated spray equipment. Use a higher rate in rate range when there is increased pest pressure. Use sufficient water to ensure thorough and complete coverage of the foliage and fruit. For dilute sprays (greater than 200 gpa), use a spray concentration of at least 0.5 pints of Chlorpyrifos 4# AG per 100 gallons of finished spray. Complete coverage is not necessary for outside canopy sprays targeting certain pests such as Lepidoptera insects and katydids. Treat when pests become a problem or in accordance with the local spray schedule as recommended by your State Agricultural Extension Station, certified Pest Control Advisor, or Extension Service Specialist. To avoid excessive ridging, do not apply Chlorpyrifos 4# AG to citrus from December up to the initiation of bloom.

**Use of Spray Oils:** To improve control of aphids, mealybugs, scale insects, and thrips, a petroleum spray oil recommended for use on citrus trees may be added to spray mixtures at up to 1.8 gallons per 100 gallons of spray.

| CROP  | GEOGRAPHIC LOCATION   | PEST  | DOSAGE OF Chlorpyrifos 4# AG (pint/acre) | SPRAY VOLUME GAL ACRE                       | REMARKS   |
|---|-----------------------|---|--|---|---|
| Grapefruit<br>Lemons<br>Oranges<br>and Other<br>Citrus<br>Fruit | California<br>Arizona | Aphids<br>Avocado leafroller<br>Cutworms<br>Fruit tree leafroller<br>Katydids<br>Lepidopterous larvae<br>Orange tortrix<br>Western tussock moth | 2-7                                      | ground:<br>100-750<br><br>aerial:<br>min 15 | Do not use a spray concentration of Chlorpyrifos 4# AG of less than 1/2 pt/100 gal of total volume. |
|   |                       | Scale insects<br>Black scale<br>Brown soft scale<br>California red scale  | 8-12                                     | 100-2400                                    |   |
|   |                       | Thrips (suppression)<br>Mealy bugs  | 6-8                                      | 100-750                                     |   |

| CROP   | GEOGRAPHIC LOCATION | PEST   | DOSAGE OF Chlorpyrifos 4# AG (pint/acre) | SPRAY VOLUME GAL ACRE                        | REMARKS  |
|--|---------------------|--|--|--|--|
|  | Florida             | Aphids<br>Grasshoppers<br>Mealy bugs<br>Orange dogs<br>Scale insects:<br>Black scale<br>Brown soft scale<br>Chaff scale<br>Florida red scale<br>Long scale<br>Purple scale<br>Snow scale | 2-7                                      | ground:<br>100-1400<br><br>aerial:<br>min 20 | Do not use a spray concentrate of Chlorpyrifos 4# AG of less than 1/2 pt/100 gal of water per acre.    |
|  |                     | Citrus rust mites  | 4-7                                      | 100-700                                      | Do not use a spray concentration of Chlorpyrifos 4# AG of less than 1 pt/100 gal of water per acre.    |
| Grapefruit<br>Lemons<br>Oranges<br>and Other<br>Citrus<br>Fruit,<br>cont'd | Texas               | Aphids<br>Cutworms<br>Katydid<br>Mealy bugs<br>Scale insects:<br>Brown soft scale<br>California red scale<br>Chaff scale   | 4-7                                      | 200-700                                      | Do not use less than 1/2 pt of Chlorpyrifos 4# AG per 100 gallons of water in dilute applications      |
|  |                     | Citrus rust mites (suppression)  | 4-7                                      | 200-700                                      |  |
| Small Trans-planted Grapefruit, Orange and other Citrus Trees              | Texas               | Aphids<br>Cutworms<br>Katydid<br>Mealy bugs<br>Scale Insects:<br>Brown soft scale<br>California red scale<br>Chaff scale   | Max. of 7                                |  | Apply Chlorpyrifos 4# AG at a rate of 1 fl oz/1 gal of water with a backpack sprayer. Apply to runoff. |

**Specific Use Precautions:**

- Observe local recommendations for tank mix combinations especially with regards to use of Chlorpyrifos 4# AG with spray oil. Consult with a county farm advisor, county agent, extension service personnel, agricultural commissioner, pest control advisor, or local Dow AgroSciences representative for local recommendation.
- Do not apply when trees are stressed by drought or high temperatures.

- Chlorpyrifos 4# AG is highly toxic to bees exposed to direct treatment and should not be applied when bees are actively visiting the area. During the citrus bloom period in California, apply from 1 hour after sunset until 2 hours before sunrise.
- **Additional Precautions for California and Arizona:** Chlorpyrifos 4# AG should not be used in combination with spray oil when temperatures are expected to exceed 95° F the day of application or for several consecutive days thereafter.

**Specific Use Restrictions:**

- **Preharvest Interval:** Do not apply within 21 days of harvest for applications or up to 7 pints of Chlorpyrifos 4# AG per acre or within 35 days for application of rates above 7 pints per acre.
- The use of application rates greater than 8 pints of Chlorpyrifos 4# AG (4 lb ai chlorpyrifos) per acre are allowed only in the following counties in California: Fresno, Tulare, Kern, Kings, and Madera.
- Do not apply more than 15 pints of Chlorpyrifos 4# AG (7.5 lb ai chlorpyrifos) per acre per year.
- Do not make more than 2 applications of Chlorpyrifos 4# AG or other products containing chlorpyrifos per year (does not include citrus orchard floors).
- Do not make second foliar application of Chlorpyrifos 4# AG or other product containing chlorpyrifos within 30 days of the first application.
- Do not allow meat or dairy animals to graze in treated areas.

**Citrus Orchard Floors (Control of Ants (excluding fire, harvester. Pharaoh and carpenter) (Not for Use in Mississippi)**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 5 days unless PPE required for early entry is worn.

Apply as ground broadcast spray directed to the orchard floor to control foraging ants and suppress mounds. Do not apply spray to contact foliage or fruit. Apply in a total spray volume of 25 gpa or more using equipment that will apply the spray uniformly to the soil surface. Use a higher rate in the rate range for increased pest pressure. For best results, remove weed growth or other obstructions that might prevent the spray from reaching the soil surface. Foliar applications of Chlorpyrifos 4# AG or other products containing chlorpyrifos may be made in addition to the orchard floor treatments but must comply with the 10-day re-treatment interval) see Specific Use Restrictions).

**Chemigation:** Chlorpyrifos 4# AG may be applied to citrus orchard floors through sprinkler irrigation systems only if the system uniformly covers the soil surface at the base of the tree. Apply at recommended broadcast application rates to control listed pests. See Chemigation (Sprinkler Irrigation) section for application instructions.

**Note:** Do not apply in tank mixture with Evik herbicide.

| Pests   | Chlorpyrifos 4# AG |
|---|--------------------|
| Ants (excluding fire, harvester, pharaoh and carpenter) | ¾ - 1 quart/acre   |

**Application with Dry Bulk Fertilizer:** Most dry fertilizers can be used for impregnation with Chlorpyrifos 4# AG. Apply Chlorpyrifos 4# AG at the equivalent broadcast rate using a minimum of 200 lb per acre of dry bulk fertilizer.

**Impregnation of Dry Bulk Fertilizer:** Use a closed rotary drum mixer suitable for blending of dry bulk fertilizer equipped with an internal spray nozzle. Add the dry fertilizer to the mixer followed by the appropriate amount of Chlorpyrifos 4# AG. After mixing the dry ingredients to ensure uniformity, add water through the spray nozzle in an amount sufficient to just dampen the mixture (4 to 8 pints of water per ton of fertilizer). The spray nozzle should be positioned within the mixer to provide uniform coverage of the tumbling mixture of fertilizer and Chlorpyrifos 4# AG. Addition of water will cause Chlorpyrifos 4# AG to uniformly adhere to the dry bulk fertilizer. Bulk fertilizers impregnated with Chlorpyrifos 4# AG should be applied immediately, **not stored**. Foliar applications of Chlorpyrifos 4# AG may be made in addition to the orchard floor treatments.

Compliance with any and all federal and state laws and regulations relating to the Chlorpyrifos 4# AG and fertilizer mixture is the responsibility of the person offering such mixture for sale or distribution.

**Specific Use Restrictions:**

- **Preharvest Interval:** Do not apply within 28 days before harvest.
- Do not apply more than 3 quarts of Chlorpyrifos 4# AG (3 lb ai chlorpyrifos) per acre per year.
- Do not make more than 3 applications of Chlorpyrifos 4# AG or other products containing chlorpyrifos per year (does not include foliar applications to citrus trees).
- Do not make a second application of Chlorpyrifos 4# AG or other product containing chlorpyrifos within 10 days of the first application.
- Do not allow meat or dairy animals to graze in treated areas.
- Maximum single application rate is 2 lb ai chlorpyrifos per acre.

**Cole Crop (Brassica) Leafy Vegetables and Radish, Rutabaga, and Turnip**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours (3 days for cauliflower) unless PPE required for early entry is worn.

**Soil Application**

Apply as indicated in Pest-Specific Use Directions. Use a higher rate range when there is increased pest pressure.

| CROP         | INSECTS CONTROLLED | DOSAGE<br>Chlorpyrifos 4#<br>AG           | USE DIRECTIONS   | RESTRICTIONS   |
|--------------|--------------------|---|--|--|
| Cauliflower* | Root maggot        | 1.6-2.4 fl<br>oz/1000 linear ft<br>or row | For direct seeded crops use the specified application amount in a water-based spray as a band 4 inches wide over the row at planting time. Shallow incorporation is necessary. Placement behind the planter shoe and in front of the press wheel is recommended. | Apply a maximum 2 pints of Chlorpyrifos 4# AG to cauliflower planted in 40 inch rows.<br><br>Use proportional amounts for other row spacings, but do not use more than 4 pints of Chlorpyrifos 4# AG per acre. |

| CROP  | INSECTS CONTROLLED  | DOSAGE<br>Chlorpyrifos 4# AG   | USE DIRECTIONS   | RESTRICTIONS   |
|---|---|--|--|--|
| Broccoli<br>Brussels sprouts<br>Cabbage<br>Chinese cabbage<br>Collards<br>Kale<br>Kohlrabi<br>Turnips | Root maggot   | 1.6 - 2.75 fl oz/1000 linear ft of row   | For transplanted crops, use Chlorpyrifos 4# AG as a water-based spray directed to the base of the plants right after setting. Use at least 40 gallons of total spray per acre. Do not add any additional adjuvants, surfactants or spreader stickers. Do not use as a foliage application. | Do not apply more than 2.6 pints of Chlorpyrifos 4# AG per acre to broccoli, brussel sprouts, cabbage, Chinese cabbage, collards, kale, kohlrabi, and turnips planted in 40-inch rows.<br><br>Use a maximum of 4.5 pints of Chlorpyrifos 4# AG per acre to these crops in 20 inch rows (or two rows per bed).<br><br>Use proportional amounts for other row spacings, but do not use more than 4.5 pints of Chlorpyrifos 4# AG per acre. |
| Broccoli<br>Cabbage   | Root aphid  | 1.2 fl oz/1000 ft of row for single row plantings, and<br>2.4 fl oz/1000 ft of row for double row plantings. | After plants are established, apply product either in a water emulsion or with liquid fertilizer injected as a sidedress on each side of the row. Prevent mechanical damage to crop roots. Use at least 15 gallons of total spray volume per acre.   | Do not make more than one application per season or apply within 30 days before harvest.   |
| Brussels sprouts  | Armyworms<br>Cabbage aphid<br>Cutworms<br>Imported cabbageworm<br>Striped flea beetle (adult) | 1 - 2 pints/acre   | Using conventional power-operated spray equipment, apply Chlorpyrifos 4# AG in 20 to 150 gallons of water per acre. Use when insects are present on foliage and at 7 to 14 day intervals thereafter as necessary.  | Apply a maximum of 6 times per season.<br><br>Apply no later than 21 days before harvest.  |
|   |   |  | To determine the proper timing for treatment, contact local agricultural experiment station, extension service specialist, or integrated pest control advisor.   |  |
| Radishes  | Root maggot   | 1.0 fl oz/1000 linear ft of row  | Apply the specified application amount as a water-based drench in the seed furrows with the seed at planting time. Use at least 40 gallons of total drench per acre.   | Apply no more than 5.5 pints of Chlorpyrifos 4# AG per acre. Apply only once per season.   |
| Rutabagas   | Root maggot   | 1.6-3.3 fl oz/1000 linear ft of row  | Apply the specified application amount in a water-based spray as a band 4 inches wide over the row at planting time, in back of the planter shoe and in front of the press wheel for shallow incorporation.<br><br>Use at least 40 gallons of total spray volume per acre.                 | Apply a maximum of 4.5 pints of Chlorpyrifos 4# AG per acre. Apply only once per season.<br><br>Rutabaga tops should not be used for food or feed purposes.  |

**Specific Use Restrictions:**

- **Preharvest Interval:** Do not apply within 21 days before harvest.
- Do not make more than 3 applications of products containing chlorpyrifos per crop.
- Do not make a second application of Chlorpyrifos 4# AG or other product containing chlorpyrifos within 10 days of the first application.

**Corn (Field Corn and Sweet Corn, Including Corn Grown for Seed)**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

**Conservation Tillage: Preplant, At-Plant, or Preemergence Applications**

Apply as a broadcast spray to surface trash and exposed soil using power-operated ground spray equipment. Use a total spray volume of 20 gpa or more. Use a higher rate in the rate range to extend residual control.

**Tank Mixing:** Chlorpyrifos 4# AG may also be applied in tank mixtures with paraquat or glyphosate and/or liquid fertilizer solutions. See Mixing Directions section for tank mixing instructions. Read and carefully follow all applicable directions, restrictions, and precautions on labeling for each product used in combination with Chlorpyrifos 4# AG.

| PESTS     | Chlorpyrifos 4# AG |
|-----------|--------------------|
| Armyworms | 1-2 pints/acre     |
| Cutworms  |                    |

**Postemergence Application**

Apply as a postemergence broadcast spray using sufficient spray volume to ensure thorough coverage of treated plants, but no less than 15 gpa for ground spray equipment or 2 to 5 gpa for aircraft equipment. Control may be reduced at low spray volumes under high temperature and wind conditions. Chlorpyrifos 4# AG may be tank mixed with glyphosate products such as Glyphomax® XRT herbicide or Durango™ herbicide when application is to be made to glyphosate-tolerant corn. **Note:** Do not apply aurally in Mississippi.

**Chemigation:** Chlorpyrifos 4# AG may be broadcast applied postemergence through sprinkler irrigation systems at recommended application rates to control listed foliar pests. For best results, tank mix Chlorpyrifos 4# AG with 2 pints of non- emulsifiable oil. See Chemigation (Sprinkler Irrigation) section for application instructions.

| PESTS                             | Chlorpyrifos 4# AG   |
|-----------------------------------|----------------------|
| Grasshoppers                      | 1/2 - 1 pint/acre    |
| Aphids                            | 1 - 2 pints/acre     |
| Armyworms                         |                      |
| Chinch bugs <sup>1</sup>          |                      |
| Corn rootworm adults <sup>2</sup> |                      |
| European corn borer <sup>5</sup>  |                      |
| Webworms <sup>4</sup>             |                      |
| Western bean cutworm              | 1 1/2 - 2 pints/acre |
| Corn earworm                      |                      |



| PESTS                                | Chlorpyrifos 4# AG |
|--------------------------------------|--------------------|
| Southwestern corn borer <sup>6</sup> |                    |
| Billbugs <sup>1</sup>                |                    |
| Common stalk borer <sup>7</sup>      |                    |
| Cutworms <sup>3</sup>                | 2 - 3 pints/acre   |
| Flea beetle adults <sup>1</sup>      |                    |
| Lesser cornstalk borer               |                    |

#### Pest-Specific Use Directions:

1. For best **billbug**, **chinch bug**, or **flea beetle** control, ground apply in a minimum spray volume of 20 to 40 gpa at 40 psi. If corn is less than 6 inches tall, apply in a 9- to 12- inch wide band over the row. For corn greater than 6 inches tall, apply using drop nozzles directed to the base of the plant. Do not reduce the application rate for banded or directed applications. Concentrate the full labeled dosage rate in the treated zone. When chinch bugs continue to immigrate to corn over a prolonged period or under extreme pest pressure, a second application may be needed.
2. The recommended dosage will control silk clipping by **corn rootworm adults**.
3. For **cutworms**, it is preferable to apply Chlorpyrifos 4# AG when soil is moist and worms are active on or near the soil surface. If ground is dry, cloddy, or crusted at time of treatment, worms may be protected from the spray and effectiveness will be reduced. Shallow incorporation using a rotary hoe or other suitable equipment immediately before or soon after treatment may improve control. A second application may be required if damage or density levels exceed economic thresholds established for your area.
4. For **webworm** control, shallow incorporation using a rotary hoe or other suitable equipment immediately before or soon after treatment is necessary.
5. For **European corn borer** control, use 1 ½ pints per acre when application is made with power-operated ground or aerial equipment or 1 to 2 pints per acre when application is made through a sprinkler irrigation system. University research indicates that achieving greater than 50% control of first-generation European borer with a single liquid insecticide treatment is highly dependent upon timing, insecticide placement, and weather conditions.
6. For **southwestern corn borer**, a second application may be applied 21 days later if needed due to reinfestation.
7. Do not use Chlorpyrifos 4# AG in combination with a burndown herbicide for control of common stalk borer. For **common stalk borer** control, treat approximately 11 days after application of glyphosate or after burndown with paraquat herbicide is complete (3 to 5 days).

#### Specific Use Restrictions:

- **Preharvest Interval:** Do not apply within 21 days before harvest of grain or ears.
- Do not apply more than 6 pints of Chlorpyrifos 4# AG (3 lb ai chlorpyrifos) per acre per season.
- Do not make more than 3 applications of any product containing chlorpyrifos per season, including the maximum allowed of 2 granular applications, at the 1 lb ai chlorpyrifos rate.
- Do not make a second application of Chlorpyrifos 4# AG or other product containing chlorpyrifos within 10 days of the first application.
- Maximum single application rate is 2 pints or Chlorpyrifos 4# AG (1 lb ai chlorpyrifos) per acre.
- Do not apply in tank mixes with Steadfast or Lightning herbicides.
- If more than 1 lb ai granular chlorpyrifos per acre is applied at-plant (for a maximum of 1.3 ai per acre per season), only 1 additional application of a liquid product containing chlorpyrifos at 1 lb per acre is allowed per season, for a total of 2.3 lb ai chlorpyrifos per acre per season.

**Cotton**  
(Not for Use in Mississippi)

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Apply as a broadcast foliar spray using aircraft or ground spray equipment in all states except Arizona and California. Use a higher rate in the rate range when there is increased pest pressure. Use sufficient spray volume to ensure thorough coverage of treated plants, but no less than 10 gpa for ground spray equipment or 2 gpa for aircraft equipment. Increase spray volume when foliage is dense and/or pest population is high and/or under high temperature and wind conditions. Treat when field counts indicate damaging insect populations are developing or present.

**Chemigation:** Chlorpyrifos 4# AG may be applied through sprinkler irrigation systems at recommended broadcast application rates to control listed foliar pests. See Chemigation (Sprinkler Irrigation) section for application instructions.

Proper application methods are necessary to ensure thorough spray coverage and correct rate, and minimize off-target drift. Follow Application Guidelines for ground and aerial application and Spray Drift Management recommendations in General Information section of this label.

**All State Except Arizona and California**

| PESTS                                   | Chlorpyrifos 4# AG   |
|---|----------------------|
| Cotton fleahopper <sup>1</sup>          | 3/8 - 1 pint/acre    |
| Plant bugs (Lygus, Mirids) <sup>1</sup> |                      |
| Fall armyworm                           | 1/2 - 1 pint/acre    |
| Grasshopper                             |                      |
| Thrips                                  |                      |
| Yellow-striped armyworm                 |                      |
| Cotton aphid                            | 1/2 - 2 pints/acre   |
| Spider mites <sup>2</sup>               | 1 pint/acre          |
| Beet armyworm                           | 1 1/2 - 2 pints/acre |
| Cotton bollworm <sup>3</sup>            |                      |
| Cutworms                                |                      |
| Pink bollworm <sup>3</sup>              |                      |
| Salt marsh caterpillar                  |                      |
| Tobacco budworm <sup>3</sup>            |                      |

**Pest-Specific Use Directions:**

1. The 3/8 pint per acre rate will not provide a high degree of control but, compared to the 1 pint per acre rate, will minimize the damage from **plant bugs** and **cotton fleahoppers** and allow increased survival and build-up of beneficial insects to aid in the control of **bollworms** infesting cotton.
2. **Spider mites:** When large numbers of eggs are present, scout the treated area in 3 to 5 days. If newly hatched nymphs are present, make a follow-up application of non-chlorpyrifos product that is effective against mites.
3. **Bollworms and budworms:** For best results, it is suggested that fields be scouted twice per week and applications made when worms are 1/4-inch or less in length.

## Arizona and California

| PESTS   | Chlorpyrifos 4# AG |
|---|--------------------|
| Armyworms<br>Cotton aphid<br>Cotton fleahopper<br><i>Lygus</i><br>Salt marsh caterpillar<br>Thrips                    | 1 - 2 pints/acre   |
| Boll weevil<br>Cotton bollworm <sup>1</sup><br>Cutworms<br>Pink bollworm <sup>1</sup><br>Tobacco budworm <sup>1</sup> | 2 pints/acre       |

**Pest-Specific Use Directions:**

1. **Bollworms and budworms:** For best results, it is suggested that fields be scouted twice per week and applications made when worms are ¼ inch or less in length.

**Specific Use Restrictions:**

- **Preharvest Interval:** Do not apply within 14 days before harvest.
- Do not apply more than 6 pints of Chlorpyrifos 4# AG (3 lb ai chlorpyrifos) per acre per season.
- Do not make more than 3 applications of Chlorpyrifos 4# AG or other products containing chlorpyrifos per crop season.
- Do not make a second application of Chlorpyrifos 4# AG or other product containing chlorpyrifos within 10 days of the first application.
- Do not allow meat or dairy animals to graze in treated areas.
- Do not feed gin trash or treated forage to meat or dairy animals.
- Maximum single application rate is 1 lb ai chlorpyrifos per acre.

The following table illustrates the size of worms in relation to age and stage of development (instar) as a guide to timing of treatments for best control.

~~From the table it can be seen that a scouting schedule of only once per week will not be satisfactory since the worms may be too big to control effectively by the seventh or eighth day.~~

| TIMING FOR THE BEST WORM CONTROL |                   |               |        |
|----------------------------------|-------------------|---------------|--------|
| Get the worms<br>at this stage   | Age (days)        | Size (inches) | Instar |
|                                  | Hatch             | 1/16          | Hatch  |
|                                  | 3                 | 3/32          | I      |
|                                  | 5                 | 9/32          | II     |
|                                  | 6                 | 7/16          | III    |
|                                  | 8                 | 11/16         | IV     |
| 1/16"                            | (insert graphics) |               |        |
| 3/32"                            |                   |               |        |
| 9/32"                            |                   |               |        |
| 7/16"                            |                   |               |        |
| 11/16"                           |                   |               |        |

**Cranberry**  
**(Not for Use in Mississippi)**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Apply as a broadcast foliar spray. Use sufficient spray volume to ensure thorough coverage, but no less than 15 gpa. Except for control of cranberry weevil, treat when field counts indicate damaging insect populations are developing or present.

| Pests   | Chlorpyrifos 4# AG |
|---|--------------------|
| Brown spanworm<br>Cranberry fruitworm<br>Cranberry weevil <sup>1</sup><br>Cutworms<br>Fireworms<br>Sparganothis fruitworm | 3 pints/acre       |

**Chemigation:** Chlorpyrifos 4# AG insecticide may be applied through sprinkler irrigation systems to control listed pests. Apply at recommended broadcast application rates. See Chemigation (Sprinkler Irrigation) section for application instructions.

**Pest-Specific Use Directions:**

1. For weevil control, apply once at flower bud development (late May, early June) and, if weevils are present, once after 100% bloom (early to mid-July)

**Specific Use Precautions:**

Apply only after the winter flood water has been removed. To avoid pesticide contamination of flood waters, do not apply when bogs are flooded.

**Specific Use Restrictions:**

- **Preharvest Interval:** Do not apply within 60 days before harvest.
- Do not make more than 2 applications of Chlorpyrifos 4# AG or other product chlorpyrifos within 10 days of the first application.
- Maximum single application rate is 1.5 lb ai chlorpyrifos per acre.

**Fig (California Only)**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 days unless PPE required for early entry is worn.

Apply Chlorpyrifos 4# AG as a dormant application in late winter prior to beetle emergency and prior to leaf formation. Use a spray volume of 10 gpa or more and apply as a broadcast spray to the soil surface using power-operated ground spray equipment. On the day of treatment, incorporate Chlorpyrifos 4# AG into the top 3 inches of soil using suitable equipment.

| Pest               | Chlorpyrifos 4# AG |
|--------------------|--------------------|
| Dried fruit beetle | 2 quarts / acre    |

**Specific Use Restrictions:**

- **Preharvest Interval:** Do not apply within 7 months before harvest.
- Make only 1 application per year of Chlorpyrifos 4# AG or other product containing chlorpyrifos.
- Maximum single application rate is 2 lb ai chlorpyrifos per acre.

**Grape (Areas East of the Continent Divide Only)  
(Not for Use in Mississippi)**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

**Soil Surface Application**

Apply Chlorpyrifos 4# AG just before the pest emerges from the soil. Apply 2 quarts of the diluted spray mixture to the soil surface on a 15-square foot area (4.4 ft. circle) around the base of each vine.

| Pest             | Chlorpyrifos 4# AG             |
|------------------|--------------------------------|
| Grape root borer | 4 ½ pints/100 gallons of water |

**Specific Use Precautions:**

- Do not allow spray to contact fruit or foliage.

**Specific Use Restrictions:**

- **Preharvest Interval:** Do not apply within 35 days before harvest.
- Do not make more than 1 application per season of Chlorpyrifos 4# AG in grapes or other product containing chlorpyrifos.
- Based upon available residue data, the use of Chlorpyrifos 4# AG in grapes is restricted to areas east of the Continental Divide only.
- Maximum single application rate for soil surface application is 2.25 lb ai chlorpyrifos per 100 gallons.

**Mint  
(Not for Use in Mississippi)**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Apply as a broadcast spray using a total spray volume of 10 gpa or more using ground equipment.

**Chemigation:** Chlorpyrifos 4# AG may be applied through sprinkler irrigation systems at recommended broadcast application rates to control listed foliar pests. See Chemigation (Sprinkler Irrigation) section for application instructions.

| Pests                        | Chlorpyrifos 4# AG |
|------------------------------|--------------------|
| Cutworm <sup>1</sup>         | 2 – 4 pints/acre   |
| Mint root borer <sup>2</sup> | 4 pints/acre       |

**Pest-Specific Use Directions:**

1. **Cutworms:** Apply during May and June when field counts indicate damaging insect populations are developing or present. When larvae are less than  $\frac{3}{4}$  inch in length, use the 2 pint rate; otherwise, use the higher rate.
2. **Mint borer:** Apply postharvest when field counts indicate damaging insect populations are developing or present. If ground applied, follow with approximately 1 acre inch of sprinkler irrigation immediately after application to incorporate the insecticide into the soil or apply by chemigation.

**Specific Use Restrictions:**

- **Preharvest Interval:** Do not apply within 90 days before harvest.
- Make only 1 application of Chlorpyrifos 4# AG or other product containing chlorpyrifos during the growing season.
- Do not make more than 1 preplant incorporated application in the spring.
- Do not use in conjunction with a broadcast foliar application of Chlorpyrifos 4# AG for cutworm control.
- Make only 1 postharvest application per season of Chlorpyrifos 4# AG or other products containing chlorpyrifos.
- Maximum single application rate is 2 lb ai chlorpyrifos per acre.

**Onion (Dry Bulb)**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

**At-Plant Soil Drench Application**

For direct seeded onions to control onion maggot, apply Chlorpyrifos 4# AG in a water-based spray as 2- to 4- inch wide band over the row at planting time in a minimum of 40 gpa. Equivalent rates of insecticide spray required per 1000 feet of row for various row spacings are given in the accompanying table. Shallow incorporation is necessary. Placement behind the planter shoe and in front of the presswheel is recommended. Phytotoxicity may occur if Chlorpyrifos 4# AG is sprayed directly onto onion seeds. Do not mix Chlorpyrifos 4# AG with other pesticide products. **Note:** The user should exercise reasonable judgment and caution with this product. Until familiar with results under user planting and growing conditions, limit application of this product to a small area to determine plant tolerance and extent of injury if such occurs prior to initiating large scale applications.

| Row Spacing   | Chlorpyrifos 4# AG (fl. oz./1000 ft. of row) |         |         |         |
|---------------|--|---------|---------|---------|
|               | 6-inch                                       | 10-inch | 12-inch | 18-inch |
| 32 fl oz/acre | 0.37   | 0.61    | 0.73    | 1.1     |

**Specific Use Restrictions:**

- Do not make more than 1 application per year.
- Maximum single application rate is 0.03 lb ai chlorpyrifos per 1000 feet of row.

**Postplant Soil Drench Application**

Apply as an early season directed spray to the base of onion seedlings or transplants during peak egg laying. Use a minimum of 100 gpa for thorough wetting.

**Specific Use Restrictions:**

- **Preharvest Interval:** Do not apply within 60 days before harvest.
- Do not make more than 2 application (at plant plus postplant) per year.
- Maximum single application rate is 1 lb ai chlorpyrifos per acre.

**Orchard Floors (Ant Control in Almond, Pecan and Walnut)**  
**(Not for Use in Mississippi)**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Apply as a ground broadcast spray directed to the orchard floor using ground application equipment that will apply the spray uniformly. Do not allow spray to contact foliage or fruit. Treat when ant activity becomes evident in the orchard. Since worker ants cease most of their foraging activity at temperatures above 90°F, best results will be achieved if applied at a time of day when temperatures are above 90°F.

**Chemigation:** Chlorpyrifos 4# AG may be applied to almond, pecan and walnut orchard floors through sprinkler irrigation systems only if the system uniformly covers the soil surface at the base of the tree. Use recommended broadcast application rates to control listed pests. See Chemigation (Sprinkler Irrigation) section for application instructions.

| Pests  | Chlorpyrifos 4# AG |
|--|--------------------|
| Ants (excluding fire, harvester pharaoh and carpenter) | 4 – 8 pints/acre   |

Eliminate weed growth that would prevent uniform coverage of the orchard floor by mowing or herbicide treatment. Foliar applications of Chlorpyrifos 4# AG may be made in addition to the orchard floor treatment.

**Specific Use Precaution:**

- To avoid contamination of irrigation tail waters, do not flood irrigate within 24 hours of application of Chlorpyrifos 4# AG.

**Specific Use Restrictions:**

- **Preharvest Interval:** Do not apply within 14 days before harvest.
- Do not apply more than 8 pints of Chlorpyrifos 4# AG (4 lb ai chlorpyrifos) per acre per season to the orchard floor.
- Do not make more than 2 applications totaling 8 pints of Chlorpyrifos 4# AG or other products containing chlorpyrifos per acre per season to the orchard floor.
- Do not make a second application of Chlorpyrifos 4# AG or other product containing chlorpyrifos within 10 days of the first application.
- Do not allow meat or dairy animals to graze in treated orchards.

**Peanut**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Apply to the soil surface as a preplant broadcast spray followed by immediate soil incorporation to a

depth of 3 to 4 inches using a disc, field cultivator, or equivalent equipment. Use a minimum of 10 gpa total spray.

| Pest                    | Chlorpyrifos 4# AG |
|-------------------------|--------------------|
| Wireworms (suppression) | 4 pints/acre       |

**Specific Use Restrictions:**

- **Preharvest Interval:** Do not apply within 21 days before harvest.
- The combined total of preplant and postplant applications of Chlorpyrifos 4# AG, Chlorpyrifos 15G or other products containing chlorpyrifos must not exceed 4 lb ai chlorpyrifos per acre per season.
- Aerial application to peanuts is prohibited in Mississippi
- Do not make more than 1 preplant application of Chlorpyrifos 4# AG per season.
- Do not feed treated peanut forage or hay to meat or dairy animals.
- Maximum single application rate is 2 lb ai chlorpyrifos per acre.

**Sorghum – Grain Sorghum (Milo)**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Apply as a postemergence broadcast spray using sufficient spray volume to ensure thorough coverage of treated plants, but no less than 15 gpa for ground spray equipment or 2 to 5 gpa for aircraft equipment.

**Note:** Do not aerially apply in Mississippi. Control may be reduced at low spray volumes under high temperature and wind conditions.

**Chemigation:** Chlorpyrifos 4# AG insecticide may be applied through sprinkler irrigation systems at recommended broadcast application rates to control listed foliar pests. See Chemigation (Sprinkler Irrigation) section for application instructions.

| PESTS                                    | Chlorpyrifos 4# AG   |
|--|----------------------|
| Sorghum midge <sup>1</sup>               | 1/2 pint/acre        |
| Grasshoppers                             | 1/2 - 1 pint/acre    |
| Yellow sugar cane aphid and other aphids |                      |
| Greenbug <sup>2</sup>                    | 1/2 - 2 pints        |
| Armyworms                                | 1 - 2 pints/acre     |
| Cutworms                                 |                      |
| Chinch bugs <sup>3</sup>                 |                      |
| Lesser cornstalk borer <sup>3</sup>      |                      |
| Webworms                                 | 1 pint/acre          |
| European and Southwestern corn borer     | 1 1/2 - 2 pints/acre |
| Corn earworm                             | 2 pints/acre         |

**Pest-Specific Use Directions:**

1. **Sorghum midge:** Apply when 30% to 50% of the seed heads are in bloom.
2. **Greenbug:** Use a higher rate within the indicated rate range when pest populations are high.



3. **Chinch bugs and lesser cornstalk borer:** Apply as directed spray toward the base of the plant using power-operated ground spray equipment with sufficient water to ensure coverage of an 8- to 12-inch band centered in the row. For plants less than 6 inches high, apply an 8- to 12- inch band centered over the row. Do not reduce the dosage for banded or directed applications. Concentrate the full labeled dosage rate in the treated zone.

**Specific Use Precautions:**

- To minimize the potential for chemical injury, do not apply Chlorpyrifos 4# AG to drought stressed grain sorghum within 3 days following irrigation or rain except where the product is applied in irrigation water.
- Be aware that sorghum lines used in seed production fields may be more susceptible to chemical injury. Susceptible inbred lines or hybrids are likely to be at greater risk of yield-reducing chemical injury when treated at the higher application rates. Do not apply more than 1 pint of Chlorpyrifos 4# AG per acre to seed sorghum if the additional risk of crop injury is unacceptable.

**Specific Use Restrictions:**

- **Preharvest Interval:** Do not harvest for grain, forage, fodder, hay, or silage within 30 days after application of 1 pint of Chlorpyrifos 4# AG per acre or within 60 days after application or rates above 1 pint per acre.
- Do not apply more than 3 pints of Chlorpyrifos 4# AG (1.5 lb ai chlorpyrifos) per acre per season.
- Do not make more than 3 applications of Chlorpyrifos 4# AG or other products containing chlorpyrifos per use season.
- Do not make a second application of Chlorpyrifos 4# AG or other product containing chlorpyrifos within 10 days of the first application.
- Do not treat sweet varieties of sorghum.
- Maximum single application rate is 1 lb ai chlorpyrifos per acre.

**Soybean  
(Not for Use in Mississippi)**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

**Soil Application**

Apply as a broadcast treatment to soil surface in a minimum spray volume of 10 gpa using suitable ground spray equipment or as a band application. Use a higher rate in the rate when there is increased pest pressure. For band application, equivalent rates of insecticide spray required per 100 feet of row for various row spacing are given in the accompanying table. For at-plant treatments, apply in a 4- to 6-inch band centered over the row. Position the spray nozzle in front of the planter shoe or press wheel or after the press wheel followed by a drag chain for light incorporation. **Do not apply as an in-furrow treatment.** For a postemergence rescue treatment, apply as a directed spray in a 9- to 12-inch band at the base of the plant. For plants less than 6 inches tall, apply over-the-top in a 6- to 12-inch band.

| Pest                    | Chlorpyrifos 4# AG |
|-------------------------|--------------------|
| Cutworms                | 1 – 2 pints/acre   |
| Lesser cornstalk borers |                    |

**Amount of Spray Required, in Fluid Ounces Per 100 Feet of Row at Various Row Spacings**

| Amt of Spray Per Acre | Various Row Spacings Measured in Inches: |      |      |      |
|-----------------------|--|------|------|------|
|                       | 36"                                      | 32"  | 28"  | 24"  |
| 10 gallons            | 8.8                                      | 7.9  | 6.9  | 5.9  |
| 15 gallons            | 13.2                                     | 11.8 | 10.3 | 8.8  |
| 20 gallons            | 17.6                                     | 15.7 | 13.7 | 11.8 |

**Foliar Application**

Apply as a postemergence broadcast spray using sufficient spray volume to ensure thorough coverage of treated plants, but no less than 15 gpa for ground spray equipment or 2 to 5 gpa for aircraft equipment. Apply when field counts indicate damaging pest populations are developing or present. Chlorpyrifos 4# AG may be tank mixed with glyphosate products such as Glyphomax XRT or Durango when application is to be made to glyphosate-tolerance soybeans. Use a higher rate in the rate range when there is increased pest pressure.

**Chemigation:** Chlorpyrifos 4# AG may be applied through sprinkler irrigation systems at recommended broadcast application rates to control listed foliar pests. See Chemigation (Sprinkler Irrigation) section for application instructions.

| PESTS   | Chlorpyrifos 4# AG   |
|---|----------------------|
| European corn borers                          | 2 pints/acre         |
| Southern green stink bugs                     |                      |
| Aphids (including Chinese)                    | 1 - 2 pints/acre     |
| Bean leaf beetles                             |                      |
| Corn earworms                                 |                      |
| Cutworms                                      |                      |
| Saltmarsh caterpillars and other woolly bears |                      |
| Armyworms                                     | 1 - 1 1/2 pints/acre |
| Mexican bean beetles                          |                      |
| Grasshoppers                                  | 1/2 - 1 pint/acre    |
| Green cloverworm                              |                      |
| Spider mites <sup>1</sup>                     |                      |
| Velvetbean caterpillars                       |                      |

**Pest-Specific Use Directions:**

1. **Spider mites:** When large numbers of eggs are present, scout the treated area in 3 to 5 days. If newly hatched nymphs are present, make a follow-up application of a non-chlorpyrifos product that is effective against mites.

**Specific Use Precaution:**

- On determinate soybeans, do not make more than 1 application after pod set.

**Specific Use Restrictions:**

- **Preharvest Interval:** Do not apply within 28 days before harvest.
- Do not apply more than 6 pints of Chlorpyrifos 4# AG (3 lb ai chlorpyrifos) per acre per season.
- Do not make a second application of Chlorpyrifos 4# AG or other product containing chlorpyrifos within 14 days of the first application.
- Do not make more than 3 applications per year of Chlorpyrifos 4# AG or other products containing chlorpyrifos.

- Do not allow meat or dairy animals to graze in treated areas or otherwise feed treated soybean forage, hay, and straw to meat or dairy animals.
- Maximum single application rate is 1 lb ai chlorpyrifos per acre.

**Strawberry**  
(Not for Use in Mississippi)

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

**Foliar Application**

Apply as a broadcast foliar spray when buds first appear and repeat application 10 to 14 days later. Use a minimum spray volume of 40 gpa.

| Pest                  | Chlorpyrifos 4# AG |
|-----------------------|--------------------|
| Strawberry bud weevil | 1 quart/acre       |

**Specific Use Precautions:**

- Chlorpyrifos 4# AG should not be tank mixed with pesticides, surfactants, or fertilizer formulations unless prior use has shown the combination non-injurious under your current conditions of use.
- Phototoxicity may occur when Chlorpyrifos 4# AG is applied to strawberries under conditions of high temperature and drought stress.

**Specific Use Restrictions:**

- **For pre-bloom use only.** Do not apply after berries start to form or when berries are present.
- **Preharvest Interval:** Do not apply within 21 days before harvest.
- **Foliar Applications:** Do not make more than 2 applications per year of Chlorpyrifos 4# AG or other products containing chlorpyrifos.
- Do not make a second application of Chlorpyrifos 4# AG or other product containing chlorpyrifos within 10 days of the first foliar application and within 14 days for postharvest application.
- Maximum single application rate is 2 lb ai chlorpyrifos per acre for preplant incorporation and 1 lb ai chlorpyrifos per acre for foliar and postharvest application.

**Sugarbeet**  
(Not for Use in Mississippi)

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

**Soil Application (At Planting or Preplant Incorporated)**

To reduce feeding damage from early season insects such as cutworms, apply at planting or as a preplant treatment and incorporate to a depth of 1 to 2 inches. Do not apply as an in-furrow treatment. Apply 1 pint of Chlorpyrifos 4# AG insecticide per planted acre to a 10-inch wide band centered over the row for furrows 30 inches apart. (For rows 30 inches apart, this is equivalent to 9.2 fl oz of Chlorpyrifos 4# AG per 10,000 feet of row). For other row widths, adjust the spray volume per planted acre in proportion to the length of row actually treated.

**Postemergence Application**

Apply specified rate as a broadcast or banded foliar spray. Treat when field counts indicate that damaging insect populations are developing or present.

**Broadcast Application:** Apply the specified dosage in water using a minimum of 7 gallons or spray volume in a 5- to 7-inch wide band centered over the row. Do not reduce the rate for band applications. Concentrate the full labeled dosage rate (see band rates in table below) in the treated zone. For best results, band-applied treatments should be lightly incorporated, either mechanically or with irrigation.

| Pests                                       | Chlorpyrifos 4# AG |                    |
|---|--------------------|--------------------|
|   | Broadcast          | Band               |
| Grasshoppers <sup>1</sup>                   | ½ - 1 pint/acre    | -                  |
| Beet armyworms                              | 1 ½ - 2 pint/acre  | 1 - 1 ½ pint/acre  |
| Cutworms                                    | 2 pints/acre       | 1 ½ pints/acre     |
| Sugarbeet root maggot adults <sup>2,5</sup> | ½ - 1 pint/acre    | -                  |
| Sugarbeet root maggot larvae <sup>3,5</sup> | -                  | 1 ½ - 2 pints/acre |
| Sugarbeet root maggot larvae <sup>4,5</sup> | 2 pints/acre       | 1 ½ - 2 pints/acre |

Band application to control Sugar Beet Root Maggot: Apply 2 pints of Chlorpyrifos 4# AG per acre on a broadcast basis, e.g., 2/3 pints/acre in a 7.5 inch band based on a 22-inch row spacing. For rows 22 inches apart, this is equivalent to 13.5 fluid ounces of Chlorpyrifos 4# AG per 10,000 feet of row. For band application, do not apply less than 20 gallons of water per acre on a broadcast basis.

**Pest-Specific Use Directions:**

1. **Grasshoppers:** The low rate will control small nymphs (1<sup>st</sup> through 3<sup>rd</sup> instar).
2. **Sugarbeet root maggot adults:** Apply anytime from 7 days until 3 days after peak adult emergence in order to target adults present at time of application based on local field trap monitoring.
3. **Sugarbeet root maggot larvae:** Use as primary treatment to control root maggot larvae. Base application timing on local field trap monitoring. Apply anytime from 7 days before until 3 days after peak adult emergence.
4. **Sugarbeet root maggot larvae:** Use as supplemental postemergence treatment following an at-plant insecticide application for control of root maggot larvae. Base application timing on local field trap monitoring. Apply anytime from 7 days before until 3 days after peak adult emergence.
5. To prevent potential development of insecticide resistance in **sugarbeet root maggot**, producers are encouraged to take the following steps: (1) avoid making more than 2 applications of Chlorpyrifos 4# AG per season when adults are active; (2) if an organophosphate insecticide was applied at planting, make no more than 1 postemergence application of Chlorpyrifos 4# AG when adults are active.

**Specific Use Restrictions:**

- **Preharvest Interval:** Do not apply within 30 days before harvest of beet roots and tops.
- Do not apply more than 6 pints of Chlorpyrifos 4# AG (3 lb ai chlorpyrifos) per acre per season.
- Do not make more than 3 applications of Chlorpyrifos 4# AG or other products containing chlorpyrifos per season.
- Do not make a second application of Chlorpyrifos 4# AG or other product containing chlorpyrifos within 10 days of the first application.
- Do not allow meat or dairy animals to graze in treated areas or harvest treated beet tops as feed for meat or dairy animals within 30 days of last treatment.

- Maximum single application rate is 1 lb ai chlorpyrifos per acre.
- To avoid unacceptable crop injury, do not tank mix Chlorpyrifos 4# AG with Quadris or Headline. Quadris or Headline should not be tank mixed with any EC formulation or any tank mix containing an oil adjuvant.

**Sunflower**  
(Not for Use in Mississippi)

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

**Preplant Incorporation Application**

Broadcast apply to soil surface in a minimum spray volume of 10 gpa using suitable ground spray equipment. On the same day of treatment, incorporate the insecticide into the top 2 to 4 inches of soil using a disc, field cultivator, or equivalent equipment. Use a higher rate in the rate range when there is increased pest pressure.

| PESTS    | Chlorpyrifos 4# AG |
|----------|--------------------|
| Cutworms | 2 - 4 pints/acre   |

**Postemergence Broadcast Application**

Apply as a postemergence broadcast spray using sufficient spray volume to ensure thorough coverage of treated plants, but no less than 15 gpa for ground spray equipment or 2 to 5 gpa for aircraft equipment. Use a higher rate in the rate range when there is increased pest pressure.

| PESTS   | Chlorpyrifos 4# AG   |
|---|----------------------|
| Grasshoppers                                    | 1 pint/acre          |
| Banded sunflower moth                           | 1 - 1 1/2 pints/acre |
| Seed weevil <sup>4</sup>                        |                      |
| Stem weevil <sup>2</sup>                        |                      |
| Sunflower beetle larvae and adults <sup>1</sup> |                      |
| Sunflower moth <sup>3</sup>                     | 2 - 3 pints/acre     |
| Woolly bears                                    |                      |
| Cutworms  |                      |

**Pest-Specific Use Directions:**

1. **Sunflower beetle:** For control of larvae or adults, treat when field counts indicate 10 larvae or 1 to 2 adults per seedling.
2. **Stem weevil:** Optimal treatment time is within 5 to 7 days after adult weevils begin to appear.
3. **Sunflower moth:** To control, make first application during early 1% to 5% bloom stage.
4. **Seed weevil:** To control, apply when field counts indicate 10 to 20 adults per plant for oil crop varieties and 1 to 3 adults per plant on confectionery crop varieties.

**Specific Use Restrictions:**

- **Preharvest Interval:** Do not apply within 42 days before harvest.
- Do not apply more than 6 pints of Chlorpyrifos 4# AG (3 lb ai chlorpyrifos) per acre per season.
- Do not make more than 3 applications per season of Chlorpyrifos 4# AG or other products containing chlorpyrifos.

- Do not make a second application of Chlorpyrifos 4# AG or other product containing chlorpyrifos within 10 days of the first application.
- Do not allow meat or dairy animals to graze in the treated areas.
- Maximum single application rate is 2 lb ai chlorpyrifos per acre for preplant incorporation and 1.5 lb ai chlorpyrifos per acre for postemergence broadcast treatment.

### Sweet Potato

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Apply to the soil surface as a preplant broadcast spray to reduce the feeding damage caused by listed pests. Use a spray volume of 10 gpa or more. Incorporate immediately after application to a depth of 4 to 6 inches using a rotary hoe, disc cultivator, or other suitable incorporation equipment. Plant sweet potatoes in the usual manner no more than 14 days after treatment. Delaying planting more than 14 days after application will reduce the time interval of protection against feeding damage.

| Pests  | Chlorpyrifos 4# AG |
|--|--------------------|
| <i>Conderus</i> (wireworm)<br>Sweet potato flea beetle<br><i>Systema</i> (flea beetle) | 4 pints/acre       |

### Specific Use Precaution:

- Chlorpyrifos 4# AG will not control false wireworms, white fringe beetle or other grubs that attack sweet potatoes.

### Specific Use Restrictions:

- **Preharvest Interval:** Do not apply within 125 days before harvest
- Do not make more than 1 application of Chlorpyrifos 4# AG or other product containing chlorpyrifos per season.
- Maximum single application rate is 2 lb ai chlorpyrifos per acre.

### Tobacco

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Apply as a preplant broadcast spray to reduce the feeding damage caused by listed pests. Apply 24 to 48 hours before bedding and transplanting using a spray volume of 10 gpa or more. Incorporate immediately after application to a depth of 2 to 4 inches using suitable incorporation equipment. The application of Chlorpyrifos 4# AG insecticide will also suppress the movement of imported fire ants into treated fields.

Before broadcast application of Chlorpyrifos 4# AG onto existing beds, knock down beds to final shape for transplanting. Use of PTO-driven implements that will incorporate Chlorpyrifos 4# AG to a depth of 4 inches is recommended.

| Pests  | Chlorpyrifos 4# AG |
|--|--------------------|
| Cutworms<br>Flea beetles<br>Mole crickets<br>Root maggots<br>Wireworms | 2 quarts / acre    |

To control the above listed pests and suppress populations of rootknot nematodes in all tobacco growing regions, use Chlorpyrifos 4# AG in a tank mix with Nemacur 3 at the rate of 2 quarts of Chlorpyrifos 4# AG plus 4 quarts of Nemacur 3 nematicide per acre. Read and carefully follow all applicable directions, restrictions, and precautions on labeling for Nemacur 3 used in combination with Chlorpyrifos 4# AG. Apply the specified rate(s) to the soil surface in a spray volume of 10 gpa or more 24 to 48 hours before bedding and transplanting. Immediately following application, incorporate into the soil to a depth of at least 4 inches using suitable equipment. Where the nematode species *Meloidogyne arenaria* or *M. javanica* are present or high populations of *M. incognita*, apply Telone® II soil fumigant at the rate recommended label rate.

**Specific Use Restrictions:**

- Do not make more than 1 application of Chlorpyrifos 4# AG or other product containing chlorpyrifos per season.
- Maximum single application rate is 2 lb ai chlorpyrifos per acre.

**Tree Fruits and Tree Nuts (Dormant/Delayed Dormant Sprays)  
(Not for use in Mississippi)**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Apply as a dormant or delayed dormant spray. While Chlorpyrifos 4# AG may be used without oil, oil is recommended to control additional pests such as European red mite. See precautions for use of oil below. Apply as a concentrate or dilute spray using conventional, power-operated spray equipment. For dilute sprays (greater than 200 gpa), use sufficient spray volume to completely wet tree foliage, but not to point of runoff. For concentrate sprays (less than 200 gpa), uniformly apply an equivalent amount of Chlorpyrifos 4# AG per acre.

Use a higher rate in the rate range when there is increased pest pressure.

| CROP   | INSECT  | Chlorpyrifos 4# AG |
|--------|---|--------------------|
| Apples | Climbing cutworms<br><i>Lygus</i><br>Oblique banded leafroller<br>Pandemis leafroller<br>Rosy apple aphid<br>San Jose scale | ½ - 4 pints/acre   |

|           |                    |  |
|-----------|--------------------|--|
| Almonds   | Climbing cutworms  |  |
| Cherry    | Pear psylla adults |  |
| Nectarine | San Jose scale     |  |
| Peach     | Mealy plum aphid   |  |
| Pear      | Peach twig borer   |  |
| Plum      |                    |  |
| Prune     |                    |  |
| Peaches   |                    |  |

**Specific Use Precautions:**

- Cold or dry conditions may cause Chlorpyrifos 4# AG plus oil sprays to infuse into trees, resulting in bud damage or bud drop. Do not apply until winter rains or irrigation has replenished soil moisture such that bark and twigs are not desiccated.
- To avoid contamination of irrigation tail waters, do not flood irrigate within 24 hours of application of Chlorpyrifos 4# AG.
- Avoid contact with foliage in sweet cherries as premature leaf drop may result.

**Specific Use Restrictions:**

- Do not use more than 4 pints of Chlorpyrifos 4# AG (2 lb ai chlorpyrifos) per acre per season as a dormant/delayed dormant application.
- Post-bloom application to apples is prohibited.
- Do not make a soil or foliar application of Chlorpyrifos 4# AG or products containing chlorpyrifos within 10 days of a dormant/delayed dormant application of chlorpyrifos to the orchard.
- Make only 1 application of chlorpyrifos during the dormant season.
- Do not allow meat or dairy animals to graze in treated orchards.

**Additional Restrictions Specific to California:**

- Do not use more than 1% dormant oil in almond orchards less than 4 years old.
- Use a minimum of 250 gpa of total spray volume.
- Use of to 2% supreme oil with no more than 4 gpa on almonds.
- Use up to 2% supreme oil with no more than 6 gpa on peaches and nectarines.
- Refer to the University of California pest management guide for apples, pears, plums, and prunes.
- In orchards with high over wintering populations of European red mite or brown almond mite, use higher spray volumes that allow for the use of higher per acre rates of oil
- Do not use any adjuvants or surfactants in addition to, or as a substitute for, a petroleum spray oil in a tank mix with Chlorpyrifos 4# AG.
- Do not apply on almonds in the following counties in California: Butte, Colusa, Glenn, Solano, Sutter, Tehama, Yolo, and Yuba.

**Tree Nuts (Foliar Sprays)**

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Apply Chlorpyrifos 4# AG as a foliar spray at the dosages indicated to control pests listed in the following table. Mix the required dosage in sufficient water to ensure thorough and complete coverage of the foliage and crop and apply as a concentrate or dilute spray using conventional, power-operated spray equipment. For dilute sprays applied to tree nut crops, mix the required dosage in sufficient water to allow for spray to runoff. For concentrate sprays, apply an equivalent amount of Chlorpyrifos 4# AG per



acre. Treat when pests appear or in accordance with local conditions. Aerial application may result in less effective insect control because of reduced coverage. **Note:** Do not aerially apply in Mississippi. Consult your State agricultural experiment station, certified pest control advisor, or extension service specialist for specific use information in your area.

| CROP     | INSECTS CONTROLLED   | Chlorpyrifos 4# AG |
|----------|--|--------------------|
| Almonds  | Navel orangeworm<br>Peach twig borer<br>San Jose scale   | 4 pints/acre       |
| Filberts | Eye-spotted bud moth<br>Filbert aphid<br>Filbert leafroller<br>Filbert worm<br>Obliquebanded leafroller<br>Omnivorous leaftier<br>Winter moth  | 3 - 4 pints/acre   |
| Pecans   | Black margined aphid <sup>1</sup><br>Yellow pecan aphid <sup>1</sup>   | 1 - 4 pints/acre   |
|          | Fall webworm<br>Pecan nut casebearer   | 1 ½ - 1 pints/acre |
|          | Black pecan aphid<br>Hickory shuckworm <sup>2</sup><br>Pecan leaf scorch mite(suppression) <sup>4</sup><br><i>Phylloxera</i> spp. <sup>3</sup> | 2 - 4 pints/acre   |
|          |  |                    |
| Walnuts  | Codling moth<br>Walnut scale   | 4 pints/acre       |

#### Pest-Specific Use Directions:

1. For control of **yellow pecan aphid** and **black margined aphid**, apply in tank mix combination with the recommended rate of a pyrethroid insecticide labeled for control or suppression of these aphids.
2. For best results against **hickory shuckworm**, make 2 applications, 10 to 14 days apart.
3. For best control of **Phylloxera spp.**, make 2 applications at a 10-day interval using a minimum of 1 pint of Chlorpyrifos 4# AG per acre starting at bud swell.
4. For suppression of **pecan leaf scorch mite**, use a preventive program.

#### Specific Use Precautions:

- Chlorpyrifos 4# AG is highly toxic to bees exposed to direct treatment and should not be applied when bees are actively foraging in the treated area.
- To avoid contamination of irrigation tail waters, do not flood irrigate within 24 hours of application of Chlorpyrifos 4# AG

#### Specific Use Restrictions:

- **Preharvest Interval:** Do not apply within 14 days before harvest of almonds, filberts and walnuts, or 28 days before harvest of pecans.
- Do not apply more than 8 pints of Chlorpyrifos 4# AG (4 lb ai chlorpyrifos) per acre per season as a foliar spray.
- Do not make more than 3 total applications per season of Chlorpyrifos 4# AG or other products containing chlorpyrifos to almonds, pecans, and filberts and no more than 2 applications per season on walnuts.

- Do not make a second application of Chlorpyrifos 4# AG or other product containing chlorpyrifos within 10 days of the first application.
- Do not allow meat or dairy animals to graze in treated orchards.

## SOD FARM TURF

Apply to turfgrass grown for sod. Dilute Chlorpyrifos 4# AG in water and apply using suitable application equipment. For best results, turf should be moist at time of treatment.

| PEST   | Chlorpyrifos 4# AG   |            |
|--|----------------------|------------|
|  | Fl. Oz./ 1000 sq. ft | Pint/ ACRE |
| Armyworms<br>Chinch Bugs<br>Cutworms<br>Pillbugs<br>Sod Webworms <sup>1</sup><br>Turfgrass weevils<br>Mole Crickets <sup>2</sup> | 1/2- 3/4             | 1 1/2 -2   |

### Specific Use Directions:

1. For **sod webworms**, watering or mowing of the treated area should be delayed for 12 to 24 hours after treatment.
2. To control **mole crickets** in turfgrass, apply Chlorpyrifos 4# AG through high-pressure injection or other suitable subsurface placement application equipment. Depending on the application equipment used, follow the manufacturer's recommendation for calibration and the volume of spray per acre needed to provide control or as recommended by your Agricultural Extension Service Specialist. For best results, apply when young nymphs are active.

## Wheat

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

(For use only in Arizona, California, Colorado, Idaho, Kansas, Minnesota, Montana, Nebraska, New Mexico, Nevada, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington and Wyoming)

### Foliar Application

Mix the required dosage with water and apply in a minimum of 2 gpa finished spray volume. Apply using aerial (fixed wing or helicopter) or power-operated ground spray equipment.

**Chemigation:** Chlorpyrifos 4# AG insecticide may be applied through sprinkler irrigation systems at recommended broadcast application rates to control listed foliar pests. See Chemigation (Sprinkler Irrigation) section for application instructions.

| INSECTS CONTROLLED                                     | Chlorpyrifos 4# AG   |
|--|----------------------|
| Aphids <sup>1</sup><br>Grasshoppers                    | ½ to 1 pint per acre |
| Army cutworms <sup>2</sup><br>Wheat midge <sup>3</sup> | 1 pint per acre      |

#### Pest-Specific Use Directions:

1. Consult university extension bulletins for local treatment recommendations.
2. Control may be reduced under high temperature conditions (greater than 80°F), under dry soil conditions, or if larvae are more than ½ inch long.
3. For control of **wheat midge**, treatment is recommended when 75% of the wheat heads have emerged from the boot and when midge adults are found in the crop (1 midge per 4-5 heads). If possible, apply in the late afternoon or early evening when temperatures exceed 50°F and wind speed is less than 7 mph.

#### Specific Use Restrictions:

- **Preharvest Interval:** Do not apply within 14 days before harvest forage and hay and within 28 days before harvest for grain and straw.
- Do not make more than 2 applications of Chlorpyrifos 4# AG or products containing chlorpyrifos per season.
- Maximum single application rate is 0.5 lb ai chlorpyrifos per acre.
- Do not allow meat or dairy animals to graze or otherwise feed on treated forage within 14 days of application.
- Do not feed straw from treated wheat within 28 days of application.

### CONDITIONS OF SALE AND WARRANTY

The **Directions For Use** of this product reflects the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or use of the product in a manner inconsistent with its labeling, all of which are beyond the control of ARYSTA or the Seller. All such risks shall be assumed by the Buyer.

ARYSTA 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.

ARYSTA MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY OR ANY OTHER EXPRESS OR IMPLIED WARRANTY. TO THE EXTENT PERMITTED BY LAW, ARYSTA AND THE SELLER DISCLAIM ANY LIABILITY FOR CONSEQUENTIAL, SPECIAL OR INDIRECT DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT. ARYSTA and the Seller offer this product, and the Buyer and User accept it, subject to the foregoing **Conditions of Sale and Warranty** which may be varied only by agreement in writing signed by a duly authorized representative of ARYSTA.

**Restricted Use Pesticide**

For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.

**CHLORPYRIFOS 4# AG**

[Alternate Brand Name: CHLORPYRIFOS 4# AG]

For the control of assorted pests infesting particular field, fruit, nut, and vegetable crops

**ACTIVE INGREDIENT:**

Chlorpyrifos O,O-diethyl- O-(3,5,6-trichloro-2-pyridinyl) phosphorothioate ..... 44.7%

INERT INGREDIENTS\*: ..... 55.3%

TOTAL ..... 100.0%

Contains 4 pounds of chlorpyrifos per gallon.

\*Contains aromatic petroleum distillates

**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 this label, find someone to explain it to you in detail.)

**FIRST AID**

Organophosphate

If Swallowed: Do not induce vomiting. Contains aromatic petroleum solvent. Call a physician or Poison Control Center immediately.

If In Eyes: Flush with plenty of water for at least 15 minutes. Get medical attention.

If On Skin: Wash with plenty of soap and water. Get medical attention.

If Inhaled: Remove to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

**PHYSICIAN TREATMENT:** Chlorpyrifos is a cholinesterase inhibitor. Treat poisoning symptomatically. Baseline data are useful in detecting the level of exposure. Certain tests, such as plasma and red blood cell cholinesterase, may detect exposure level. Preferred antidote post exposure is Atropine, by injection only. If detected early, treat with 2 PAM/protopam or other Oximes in conjunction with atropine. Use recommended antidote immediately after establishing an open airway and respiration in the event of serious acute poisoning.

Filename: Chlorpyrifos 4# AG (278-121707)Red Revisions.doc  
066330-278.20071220.red revisions.pdf

**PRECAUTIONARY STATEMENTS**  
**Hazard to Humans and Domestic Animals****WARNING**

May be fatal if swallowed. Harmful if absorbed through skin or inhaled. Causes eye irritation. Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco.

**EMERGENCY TELEPHONE NUMBERS:** Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact:

FOR 24 HOUR EMERGENCY MEDICAL ASSISTANCE CALL: 1-866-303-6952

FOR CHEMICAL EMERGENCY: Spill, leak, fire, exposure, or accident call  
CHEMTREC 1-800-424-4900

**ENVIRONMENTAL HAZARDS**

This pesticide is toxic to fish, aquatic invertebrates, small mammals, and birds. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas. 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 weed is bees are visiting the treatment area.

**PHYSICAL OR CHEMICAL HAZARDS**

Combustible. Do not use or store near heat or open flame.

**STORAGE AND DISPOSAL**

Do not contaminate water, food or feed by storage or disposal.

**Storage:** Keep in original container in dry secured storage space. Do not permit contact with other pesticides and fertilizers. Do not store above 100°F for long periods of time. Crystals may form if stored below 20°F. If crystals form, store at 50° - 70°F and agitate to allow crystals to redissolve. Use product immediately, or dispose of it with the container in the manner prescribed below in the event that the container is damaged or a spill occurs.

**Pesticide Disposal:** Open dumping is prohibited. 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.

**Disposal of Refillable Containers:**

Change the dry disconnect cap, if applicable, and close every opening which has been opened during use. Return the empty container to a Arysta designated repository site.

For proper handling instructions in the event that the container has been damaged and cannot be returned safely in accordance to the advised procedures, call the Arysta Customer Service Center at 1-800-451-8461.

**Container Disposal for Non-Refillable Containers:** 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.

or

Triple rinse (or equivalent). Then puncture and dispose in a sanitary landfill, or by incineration or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

EPA Reg. No. 66330-278

EPA Est. No. 51036-GA-01

AD xxxxx

NET CONTENTS: \_\_\_\_\_

Manufactured By:

Arysta Lifescience NA Corp.

15401 Weston Parkway Ste 150

Cary, NC 27513

**BASE LABEL**

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