

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460



OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

July 2, 2014

Mr. Andy Eimanis  
FMC Corporation  
1735 Market Street  
Philadelphia, PA 19103

Subject: Label Notification per PRN 98-10 – Adding mode of action/resistance categories  
Product Name: F9047-2 EC Insecticide  
EPA Registration Number: 279-9545  
Application Date: May 30, 2014  
Decision Number: 491904

Dear Mr. Eimanis:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 for the above referenced product. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action requested falls within the scope of PRN 98-10.

The label submitted with the application has been stamped "Notification" and will be placed in our records. If you have any questions, you may contact Julie Chao at (703) 308-8735 or via email at [chao.julie@epa.gov](mailto:chao.julie@epa.gov).

Sincerely,

A handwritten signature in black ink that reads "Venus Eagle".

Venus Eagle, Product Manager 01  
Insecticide-Rodenticide Branch  
Registration Division  
Office of Pesticide Programs  
Date: July 2, 2014

# RESTRICTED USE PESTICIDE

Toxic to fish and aquatic organisms

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.

## F9047-2 EC Insecticide

Group	3A	1B	Insecticide
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Alternate Brand Name: Stallion Insecticide  
(Not for use on horses)

Alternate Brand Name: Chariot Insecticide  
Alternate Brand Name: Stallion Brand Insecticide

EPA Reg. No. 279-9545

EPA Est. 279-

**NOTIFICATION**

07/02/2014

Active Ingredients:	By Wt.
Zeta-Cypermethrin* .....	3.08%
Chlorpyrifos .....	30.8%
Other Ingredients**:	66.12%
<b>TOTAL:</b>	<b>100.0%</b>

F9047-2 EC Insecticide contains 2.75 pounds chlorpyrifos and 0.275 pounds zeta-cypermethrin per gallon.

\* *Cis/trans* isomer ratio: Max 75% ( $\pm$ ) *cis* and Min. 25% ( $\pm$ ) *trans*

\*\*Contains 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 the label, find someone to explain it to you in detail.)

FIRST AID	
<b>IF SWALLOWED</b>	Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give <b>any</b> liquid to the person. Do not give anything by mouth to an unconscious person.
<b>IF IN EYES</b>	Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center for treatment advice.
<b>IF ON SKIN OR CLOTHING</b>	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.
<b>IF INHALED</b>	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth to mouth if possible. Call a poison control center or doctor for further treatment advice.
NOTE TO PHYSICIAN	
Chlorpyrifos is a cholinesterase inhibitor. Treat symptomatically. If exposed, plasma and red blood cell cholinesterase tests may indicate significance of exposure (baseline data are useful). Atropine, only by injection, is the preferable antidote. Oximes, such as 2-PAM/protopam, may be therapeutic if used early; however, use only in conjunction with atropine. In case of severe acute poisoning, use antidote immediately after establishing an open airway and respiration. Contains petroleum distillates. Vomiting may cause aspiration pneumonia.	
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-(800)-331-3148 for Emergency Assistance.	



FMC Corporation, Agricultural Products Group, 1735 Market Street Philadelphia PA 19103

## PRECAUTIONARY STATEMENTS

### Hazards to Humans (and Domestic Animals)

#### Warning

May be fatal if swallowed. Causes substantial but temporary eye injury. Causes skin irritation. Harmful if inhaled. Do not get in eyes, on skin, or on clothing. Avoid breathing vapor or spray mist. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

#### Personal Protective Equipment (PPE):

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category F or G 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
- Shoes and socks
- Protective eyewear

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 with any R, P, or HE filter

See **Engineering Controls** for additional requirements.

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

- Coveralls over long-sleeved shirt and long pants
- Chemical-resistant gloves
- Chemical-resistant apron when mixing or loading or exposed to the concentrate
- Chemical-resistant footwear plus socks
- Chemical-resistant headgear for overhead exposure
- A NIOSH-approved dust mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator with any R, P, or HE filter.

#### User Safety Requirements

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate.

Do not reuse them.

#### User Safety Recommendations

Wash thoroughly with soap and water after handling. 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

Pilots must use an enclosed cockpit in a manner that meets the requirements listed in the WPS for agricultural pesticides [40 CFR 170.240(d)(6)]. Use of human flaggers is prohibited. Mechanical flagging equipment must be used. When handlers use closed cab motorized ground application equipment in a manner that meets the requirements listed in the 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 extremely toxic to fish, aquatic invertebrates, oysters and shrimp and toxic to small mammals and birds. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

The use of F9047-2 EC Insecticide is prohibited in areas where its application may result in exposure to endangered species. Prior to use in a particular county contact the local extension service for procedures and precautions to use to protect endangered species

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 if 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.

**Resistance.** Some insects are known to develop resistance to products used repeatedly for control. Because the development of resistance cannot be predicted, the use of this product should conform to resistance management strategies established for the use area. Consult your local or state agricultural authorities for details.

If resistance to this product develops in your area, this product, or other products with a similar mode of action, may not provide adequate control. If poor performance cannot be attributed to improper application or extreme weather conditions, a resistant strain of insect may be present. If you experience difficulty with control and resistance is a reasonable cause, immediately consult your local company representative or agricultural advisor for the best alternative method of control for your area.

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.

## AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) as follows:

24 hours for all crops except citrus;  
5 days for citrus.

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: Coverall over short sleeved shirt and short pants, chemical resistant gloves (such as barrier laminate or Viton), chemical resistant footwear plus socks, chemical resistant headgear for over head exposures, and protective eyewear.

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, or other pesticides or fertilizers by storage and disposal.

### Pesticide Storage

Do not freeze. Keep out of reach of children and animals. Store in original containers only. Store in a cool, dry place and avoid excess heat. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers.

In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. Call CHEMTREC (Transportation and Spills): (800) 424-9300.

To confine spill: Dike surrounding area or absorb with sand, cat litter,

or commercial clay. Place damaged package in a holding container. Identify contents.

### **Pesticide Disposal**

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

### **Container Handling**

#### **Nonrefillable Container.**

Do not reuse or refill this container.

Triple rinse container (or equivalent) promptly after emptying.

Triple rinse as follows:

**For containers equal to 5 gallons or less:** Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal.

Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

**For containers greater than 5 gallons:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Then offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

#### **Refillable/Returnable Container.**

Refill this container with pesticide only. Do not reuse this container for any other purpose.

Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

Then offer for recycling if available or reconditioning if appropriate, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

## **Chemigation Use Directions**

Chemigation application can be used in alfalfa, corn, cotton, sorghum, soybeans, wheat, or other crops as specified in FMC state specific 24 (c) Special Local need labeling. Do not apply this product by chemigation unless specified in crop-specific directions in this label or FMC supplemental labeling.

Apply this product only through sprinkler including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move irrigation systems. Do not apply this product through any other type of irrigation system. Do not connect any irrigation system (including greenhouse systems) used for pesticide application to a public water system.

Crop injury, lack of effectiveness, or illegal residues in the crop can result from nonuniform distribution of treated water. If you have questions about calibration, contact State Extension Service specialists, equipment manufacturers, or other experts. 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.

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.

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

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.

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

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.

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.

Apply F9047-2 EC insecticide continuously for the duration of the water application. Dilute F9047-2 EC Insecticide in sufficient volume to insure accurate application over the area to be treated. Use the appropriate amount of water to carry the product to the target pest. Agitation is not required when a suitable diluent is used.

## SPRAY DRIFT MANAGEMENT

**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.**

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determines the potential for spray drift. The applicator is responsible for considering all of these factors when making the decision to apply this product.

## BUFFER ZONES

### Buffers for Sensitive Sites

The setbacks specified in the table below are the distances in feet that must exist in order to separate sited from the target application site from the targeted application site.

Sensitive sites are areas frequented by non-occupational bystanders (especially children). These include residential lawns, pedestrian sidewalks, outdoor recreational areas such as school grounds, athletic fields, parks and all property associated with buildings occupied by humans for residential or commercial purposes. Sensitive sites include homes, farmworker housing or other residential buildings schools, daycare centers, nursing homes and hospitals. Non-residential agricultural buildings including barns, livestock facilities, and sheds are not included in this prohibition.

Application rate (lb ai/A)	Nozzle Droplet Type	Required Setback (Buffer Zones) (feet)		
		Aerial	Airblast	Ground
>0.5 – 0.75	coarse or very coarse	10	10	10
>0.5 – 0.75	medium	25	10	10
>0.75	Not permitted	Not permitted	Not permitted	Not permitted

Only pesticide handlers are permitted in the setback area during application of this product. Do not apply this product if anyone other than a mixer, loader, or applicator, is in the setback area. Exception: Vehicles and persons riding bicycles that are passing through the setback area on public or private roadways are permitted.

All setbacks from aquatic habitats described below must be observed

### Vegetative Buffer Zones

Construct and maintain a minimum 10-foot-wide vegetative filter strip of grass or other permanent vegetation between the field edge and down gradient aquatic habitat (such as, but not limited to, lakes; reservoirs; rivers; permanent streams; marshes or natural ponds; estuaries; and commercial fish farm ponds).

Only apply products containing zeta-cypermethrin onto fields where a maintained vegetative buffer strip of at least 10 feet exists between the field and down gradient aquatic habitat.

For guidance, refer to the following publication for information on constructing and maintaining effective buffers: *Conservation Buffers to Reduce Pesticide Losses. Natural Resources Conservation Services. USDA, NRCS. 2000. Fort Worth, Texas. 21pp.* <http://www.in.nrcs.usda.gov/technical/agronomy/newconbuf.pdf>.

**Buffer Zone for Ground Application (groundboom, overhead chemigation, or airblast)** – Do not apply within 25 feet of sensitive areas (see above), or aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).

**Buffer Zone for Orchard Airblast** - Do not apply within 50 feet of sensitive areas or aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).

**Buffer Zone for ULV Aerial Application** - Do not apply within 450 feet of sensitive areas or aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).

**Buffer Zone for Non-ULV Aerial Application** – Do not apply within 150 feet of sensitive areas or aquatic habitats (such as, but not limited to, lakes, reservoirs, rivers, permanent streams, marshes, natural ponds, estuaries, and commercial fish ponds).

## Aerial Application

The following mandatory spray drift best management practices are required to reduce the likelihood of off-target drift movement from aerial applications to agricultural field crops.

1. The distance of the outermost nozzles on the boom must not exceed 3/4 the length of the wingspan or 90% of the rotor blade.
2. Nozzles must always point backward parallel with the air stream and never be pointed downward more than 45 degrees.
3. Nozzles must produce a medium or coarser droplet size (255 to 340 microns volume median diameter) per ASABE Standard 572 under application conditions. Airspeed, pressure, and nozzle angle can all effect droplet size. See manufacturer's catalog or USDA/NAAA Applicator's Guide for spray size quality ratings.
4. Applications must not be made at a height greater than 10 feet above the top of the target plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.
5. Use upwind swath displacement and apply only when wind speed is 3 to 10 mph as measured by an anemometer. Do not apply product when wind speed exceeds 10 mph.
6. If application includes a no-spray zone, do not release spray at a height greater than 10 feet above the ground or crop canopy.

## Ground Boom Application

The following mandatory spray drift best management practices are required to reduce the likelihood of off-target drift movement from ground applications.

1. Choose only nozzles and pressures that produce a medium or coarse droplet size (255 to 400 microns volume median diameter), per ASABE Standard 572. See manufacturer's catalog or USDA/NAA Applicator's Guide for spray size quality ratings.
2. Apply with nozzle height no more than 4 feet above the ground or crop canopy.
3. Do not apply product when wind speed exceeds 10mph as measured by an anemometer.

## Orchard Airblast Application

The following mandatory spray drift best management practices are required to reduce the likelihood of off-target drift movement from airblast applications.

1. Nozzles must be directed so spray is not projected above the canopies.
2. Apply only when wind speed is 3 to 10 mph at the application site as measured by an anemometer outside of the orchard on the upwind side.
3. Outward pointing nozzles must be shut off when turning corners at row ends.

Where states have more stringent regulations, they must be observed. The applicator also must be familiar with and take in to account the information covered in the Aerial Drift Reduction Advisory Information section.

## Spray Drift Requirements

### Wind Direction and Speed

Only apply this product if the wind direction favors on-target deposition. Do not apply when the wind velocity exceeds 15 mph.

### Temperature Inversion

Do not make aerial or ground applications into temperature inversions. Inversions are characterized by stable air and increasing temperatures with height above the ground. Mist or fog may indicate the presence of an inversion in humid areas. The applicator may detect the presence of an inversion by producing smoke and observing a smoke layer near the ground surface.

### Droplet Size

#### Information on Droplet Size

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential but will not prevent drift if applications are made improperly, or under unfavorable environmental conditions (see Wind, Temperature and Humidity, and Temperature Inversions).

#### Controlling Droplet Size

- Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of Nozzles - Use the minimum number of nozzles that provide uniform coverage.
- Nozzle Orientation - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift.

Use only Medium or coarser spray nozzles (for ground and non-ULV aerial application) according to ASAE (S572) definition for standard nozzles. In conditions of low humidity and high temperatures, use a coarser droplet size.

#### Additional Requirements for Ground Applications

Wind speed must be adjacent to the application site on the upwind side, immediately prior to application.

For ground boom applications, apply using a nozzle height of no more than 4 feet above the ground or crop canopy.

For airblast applications, turn off outward pointing nozzles at row ends and when spraying the outer two rows. To minimize spray loss over the top in orchard applications, spray must be directed into the canopy.

### **Additional Requirements for Aerial Applications**

Mount the spray boom on the aircraft as to minimize drift caused by wingtip or rotor vortices. Use the minimum practical boom length, which must not exceed 75% of the wing span or 80% rotor diameter.

Flight speed and nozzle orientation must be considered in determining droplet size.

Spray must be released at the lowest height consistent with pest control and flight safety. Do not release spray at a height greater than 10 feet above the crop canopy unless a greater height is required for aircraft safety.

When applications are made with a cross-wind, the swath will be displaced downwind. The applicator must compensate for this displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind.

### **Boom Length**

For some use patterns, reducing the effective boom length to less than 3/4 of the wingspan or rotor length may further reduce drift without reducing swath width.

### **Application Height**

Applications should not be made at a height greater than 10 feet above the top of the largest plants unless a greater height is required for aircraft safety. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.

### **Swath Adjustment**

When applications are made with a crosswind, the swath will be displaced downward. Therefore, on the up and downwind edges of the field, the applicator must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distance should increase, with increasing drift potential (higher wind, smaller drops, etc.).

### **Wind**

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type, determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

### **Temperature and Humidity**

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

### **Temperature Inversions**

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

### **Sensitive Areas**

The pesticide should only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitats for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

## **APPLICATION INSTRUCTIONS**

Use low rate under light to moderate infestation. Use higher rates under heavy insect pressure. The rate of application is variable according to insect pressure, timing of spray and field scouting.

### **Preventive Use**

For cutworm, armyworm, or stalk borer control, Z-Cyfe 0.8EC insecticide may be applied before, during, or after planting. For soil-incorporated applications, use higher rates for improved control. Do not exceed maximum allowable rate.

### **Rotational Crops**

With the exception of the crops listed below, do not plant rotational crops within 30 days of last application.

### **Tank-Mixture**

F9047-2 EC Insecticide may be applied in tank mixtures with other products approved for those crops as listed on this label. Observe all restrictions and precautions which appear on the labels of these products. Test for compatibility of products before mixing.

**F9047-2 EC Insecticide contains the pyrethroid zeta-cypermethrin and the organophosphate chlorpyrifos.**



**MAXIMUM SEASONAL USAGE:** Maximum Usage When Applying Zeta-Cypermethrin and Cypermethrin Products to the Same Crop Within the Same Season.

Crop	Maximum Seasonal Total (pounds active per acre)					
	Zeta-cypermethrin *			Cypermethrin**	When Applying Cypermethrin** and Zeta-cypermethrin * Products to the Same Crop	When Applying Zeta- cypermethrin * Products to the Same Crop
	Mustang	Mustang Max	F9047-2 EC			
Alfalfa	0.15	0.075	0.075	NA	NA	0.15
Sugar Beets, root & tops	.05	0.025	0.075	NA	NA	0.15
Brussels Sprouts	0.3	0.15	0.075	0.6	0.6	0.3
Citrus	0.2	0.1	0.05	NA	NA	0.2
Field Corn	0.2	0.1	0.10	NA	NA	0.2
Sweet Corn	0.3	0.15	0.075	NA	NA	0.3
Cotton	0.3	0.15	0.075	0.6	0.6	0.3
Sorghum	0.25	0.125	0.075	NA	NA	0.25
Soybean	0.3	0.15	0.075	NA	NA	0.3
Sunflower	0.25	0.125	0.075	NA	NA	0.25
Treenuts	0.3	0.15	0.075	0.6 (pecans only)	0.6	0.3
Wheat	0.25	0.125	0.05	NA	NA	0.25

\* *Mustang or Fury* (1.5 EW or 1.5 EC); *Mustang Max* (0.8 EC or 0.8 EW); *F9047-2 EC*; or any zeta-cypermethrin product approved for crop use.

\*\* Any cypermethrin product approved for crop use. NA = Not Applicable.

**MAXIMUM SEASONAL USAGE:** Maximum Usage When Applying Chlorpyrifos Products to the Same Crop Within the Same Season.

Crop	Maximum Seasonal Total (pounds active per acre)		
	F9047-2 EC	Chlorpyrifos	When Applying Chlorpyrifos Products Plus F9047-2 EC to the Same Crop
Alfalfa	0.75	4.0	4.0
Brussels Sprouts	0.75	3.0	3.0
Sugar Beet	0.75	3.0	3.0
Citrus	0.50	7.5	7.5
Field Corn	0.75	3.0	3.0
Sweet Corn	0.75	3.0	3.0
Cotton	0.75	3.0	3.0

Sorghum	0.75	1.5	1.5
Soybean	0.75	3.0	3.0
Sunflower	0.75	3.0	3.0
Treenuts	0.75	4.0	4.0
Wheat	0.50	1.0	1.0

### Alfalfa (7 day PHI)

(Not for use in Mississippi)

Pests Controlled	Rate of Application
Cutworm spp.	2.5 - 11.75 ounces per acre
Alfalfa caterpillar Alfalfa looper Cloverleaf weevil Flea beetle spp. Green cloverworm Hornworm spp. Leafhopper spp. Potato leafhopper Threecornered alfalfa hopper Velvetbean caterpillar Webworm spp.	5.0 – 11.75 ounces per acre
Alfalfa weevil Armyworm, fall* Armyworm, southern Armyworm, true Armyworm, yellowstriped Blue alfalfa aphid** Cereal leaf beetle Chinch bug Egyptian alfalfa weevil Grass mealybug Grasshopper spp. Green peach aphid** Meadow spittlebug Pea aphid** Spotted alfalfa aphid** Stinkbug spp.	9.25 – 11.75 ounces per acre
Hunting billbug Plant bug spp.	11.75 ounces per acre

#### Restrictions

**PHI:** Applications may be made up to 7 days of cutting, grazing or harvesting seed.

**Application Interval:** Do not make applications of F9047-2 EC or other products containing chlorpyrifos less than 10 days apart.

**Maximum Amount per Application:** A maximum of 11.75 ounces of product (0.025 lbs zeta-cypermethrin + 0.25 lbs chlorpyrifos) may be applied per cutting per acre.

**Maximum Amount per Season:** A maximum of 35.25 ounces of product per acre per season (0.075 lbs/acre zeta-cypermethrin + 0.75 lbs/acre chlorpyrifos). Do not make more than four applications of F9047-2 EC or other products containing chlorpyrifos per season or apply any product containing chlorpyrifos more than once per alfalfa cutting.

**Refer to the maximum usage tables when applying more than one product containing either zeta-cypermethrin or chlorpyrifos to this crop.**

**Application Method:** Apply by ground, aerial or chemigation application. ULV oil spray application is prohibited.

**Re-entry Interval:** 24 hours

Do not tank mix F9047-2 EC with other pesticides, surfactants, or fertilizer formulations unless prior 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 F9047-2 EC. 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 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 an application of F9047-2 EC.

Do not cut or graze treated alfalfa within 7 days after application of 11.75 ounces (0.025 lbs zeta-cypermethrin + 0.25 lbs chlorpyrifos) of F9047-2 EC per acre.

**Remarks**

Use higher listed dosage for increased pest pressure or for increased residual pest control. Do not exceed maximum allowable rate.

Apply in a minimum of 2 gallons of finished spray per acre by aerial equipment or 10 gallons per acre by ground equipment. Higher volumes of finished spray may improve insect control under high temperatures, when foliage is dense and/or when insect pressure is high.

\*Coverage is essential for control of this pest. Under heavy outbreaks tank mixing with another product that is labeled for this pest is recommended for control.

\*\*Aphid control may be variable depending on species present and host-plant relationships.

**Sugar Beet (50 Day PHI for tops or roots) Not for use in Mississippi**

Pests Controlled	Rate of Application
Cutworms Flea Beetle Adults Leaf Hopper Web worms	5.0-11.75 oz
Aphids Armyworm, Fall Click Beetle Woolly Bear Caterpillar Zebra Caterpillar	9.25-11.75 oz
Grasshopper False Chinch Bug Loopers Stink Bug Sugarbeet Root Maggot** Adult Tarnished Plant Bug (Lygus) Thistle Caterpillar	11.75 oz
<p><b>Post Emergence Application:</b> Apply specified rate as a broadcast or banded foliar spray. Treat when field counts indicate that damaging insect populations are developing or present.</p> <p><b>Broadcast Application:</b> Apply specific dosage in water using 2 to 5 gpa of finished spray when using aerial spray equipment or 10 to 30 gpa when using ground spray equipment. Chemigation: Stallion may be applied through sprinkler irrigation systems at specified broadcast application rates to control listed foliar pests. See Chemigation Application section for application instructions.</p> <p><b>Banded Foliar Spray:</b> Apply specified rate within the band using a minimum of 10 gallons of 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 in the treated zone. For best results, lightly incorporate band-applied treatments, either mechanically or with irrigation.</p> <p><b>**Pest-Specific use Directions:</b> Suppression of sugarbeet root maggot adults: Apply Stallion during peak adult emergence in order to target adults present at time of application based on local field trap monitoring. Sequential applications may be needed to suppress sugarbeet root maggots adult flies through emergence. To prevent development of insecticide resistance in sugarbeet root maggot, producers are encouraged to take the following steps: (1) avoid making more than two applications of Stallion per season when adults are active; (2) if an organophosphate insecticide was applied at planting, make no more than one post emergence application of Stallion when adults are active. <b>Specific Use Restrictions:</b></p> <ul style="list-style-type: none"> <li>• <b>Preharvest Interval:</b> Do not apply within 50 days before harvest of beet roots and tops.</li> <li>• Do not apply as an in furrow treatment.</li> <li>• Do not make more than three applications of Stallion or other products containing chlorpyrifos per season.</li> <li>• Do not apply more than 36 oz of Stallion per acre per season.</li> <li>• Maximum single application rate is 11.75 oz/acre.</li> </ul> <p>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 50 days of last treatment</p>	

## Brussels Sprouts (21 day PHI)

Pests Controlled	Rate of Application
Cucumber beetles Cutworm spp. Flea beetle Imported cabbageworm Leafhopper spp. Southern cabbageworm	6.5 – 11.75 ounces  per acre
Alfalfa looper Aphid spp.* Armyworm, fall** Armyworm, southern Armyworm, true Armyworm, yellowstriped Cabbage looper Cabbage webworm Click beetle (wireworm adults) Corn earworm Cricket spp. Grasshopper spp. Ground beetle spp. Leafminer (adult) Onion thrips*** Plant bug spp. Saltmarsh caterpillar Stinkbug spp. Western flower thrips**** Whitefly spp.****	9.5 – 11.75 ounces  per acre
<p><b>Restrictions</b></p> <p><b>PHI:</b> Do not apply within 21 days of harvest.</p> <p><b>Application Interval:</b> Do not make applications of F9047-2 EC or other products containing chlorpyrifos less than 10 days apart.</p> <p><b>Maximum Amount per Application:</b> A maximum of 11.75 ounces of product may be applied per acre (0.025 lbs/acre zeta-cypermethrin + 0.25 lbs/acre chlorpyrifos).</p> <p><b>Maximum Amount per Season:</b> A maximum of 35.25 ounces of product per acre per season (0.075 lbs/acre zeta-cypermethrin + 0.75 lbs/acre chlorpyrifos). Do not make more than three applications of products containing chlorpyrifos per crop.</p> <p><b>Refer to the maximum usage tables when applying more than one product containing either zeta-cypermethrin or chlorpyrifos to this crop.</b></p> <p><b>Application Method:</b> Apply by ground or aerial application. Do not apply using chemigation equipment. Do not aerially apply this product in Mississippi.</p> <p><b>Re-entry Interval:</b> 24 hours.</p>	
<p><b>Remarks</b></p> <p>Apply in water as necessary for insect control using a minimum of 20 gallons of finished spray per acre with ground equipment and 20 gallons per acre by air.</p> <p>Use lower rates of F9047-2 EC under light to moderate insect pressure. Use higher listed rates to control heavy to extremely heavy insect populations. In areas where arid climatic conditions persist, such as California and Arizona, higher than minimum specified rates may be required.</p> <p>*Aphid control may be variable depending on species present and host-plant relationships.</p> <p>**Coverage is essential for control of this pest. Under heavy outbreaks tank mixing with another product that is labeled for this pest is recommended for control.</p> <p>***Pyrethroid resistance is common for these pests. Please consult your local or state agricultural authority to determine if resistance pest populations are in your area. Also, refer the the “Resistance Management Statement” in the DIRECTION FOR USE section of this label.</p> <p>****Aids in control</p>	

**Citrus (21 day PHI) Not for use in Mississippi**

including: Calamondin (*Citrus mitis*; *Citrofortunella mitis*); Citrus citron (*Citrus medica*); Citrus hybrids (*Citrus* spp.) (includes chironja, tangelo, tangor); Grapefruit (*Citrus paradisi*); Kumquat (*Fortunella* spp.); Lemon (*Citrus jambhiri*, *Citrus limon*); Lime (*Citrus aurantiifolia*); Mandarin (tangerine) (*Citrus reticulata*); Orange, sour (*Citrus aurantium*); Orange, sweet (*Citrus sinensis*); Pummelo (*Citrus grandis*, *Citrus maxima*); and Satsuma mandarin (*Citrus unshiu*).

Pests Controlled	Rate of Application
Asian cockroach Blue-Green citrus root weevil Cutworm spp. Diaprepes root weevil (adult) Fire ant spp. Fuller rose beetle (adult) Glassy-Winged sharpshooter Grasshopper spp. Katydid Leafhopper spp. Leafminer (adult) Leafroller spp. Little leaf notcher Looper spp.* Plant bug spp. Orange tortrix Orangedog caterpillar Psyllid spp. Thrips spp.* Whitefly spp.*	11.75 ounces per acre
<p><b>Restrictions</b></p> <p><b>PHI:</b> Do not apply within 21 days of harvest.</p> <p><b>Application Interval:</b> Do not make applications of F9047-2 EC or any product containing chlorpyrifos less than 30 days apart.</p> <p><b>Maximum Amount per Application:</b> A maximum of 11.75 ounces of product may be applied per acre (0.025 lbs/acre zeta-cypermethrin + 0.25 lbs/acre chlorpyrifos).</p> <p><b>Maximum Amount per Season:</b> A maximum of 23.5 ounces of product per acre per season (0.05 lbs/acre zeta-cypermethrin + 0.50 lbs/acre chlorpyrifos). Do not make more than two applications of F9047-2 EC or other product containing chlorpyrifos per season (does not include citrus orchard floors).</p> <p><b>Refer to the maximum usage tables when applying more than one product containing either zeta-cypermethrin or chlorpyrifos to this crop.</b></p> <p><b>Application Method:</b> Apply by ground or aerial application. Do not apply using chemigation equipment.</p> <p><b>Re-entry Interval:</b> 5 days</p> <p><b>Grazing:</b> Do not allow meat or dairy animals to graze in treated areas.</p> <p>Do not apply when trees are stressed by drought or high temperatures.</p> <p>F9047-2 EC is highly toxic to bees exposed to direct treatment. Do not apply 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.</p> <p>Do not use F9047-2 EC in combination with spray oil when temperatures are expected to exceed 95°F the day of application or for several consecutive days thereafter.</p> <p><b>Remarks</b></p> <p>Apply by ground equipment using sufficient water to obtain full coverage of foliage in a minimum of 20 gallons for concentrate spray or a minimum of 100 gallons for dilute spray. Apply by air in a minimum of 10 gallons per acre. For effective control of Psyllid spp 2-10 gallons of spray is recommended.</p> <p>*Aids in control</p>	

**Corn (Field), and Field Corn Grown for Seed (At-Plant Use)**

Pests Controlled	Rate of Application		
Cutworm spp.	11.75 ounces per acre		
<b>Row Spacing (inches)</b>	<b>36</b>	<b>30</b>	<b>22</b>
<i>F9047-2 EC</i> in ounces per 1000 feet	0.81	0.68	0.51
<p><b>Restrictions</b></p> <p><b>PHI:</b> Do not apply within 30 days of harvest for grain and stover and 60 days of harvest for forage.</p> <p><b>Application Interval:</b> Apply only 1 at-plant application. May be followed by foliar applications.</p> <p><b>Maximum Amount per Application:</b> A maximum of 11.75 ounces of product may be applied per acre (0.025 lbs/acre zeta-cypermethrin + 0.25 lbs/acre chlorpyrifos).</p> <p><b>Maximum Amount per Season:</b> A maximum of 35.25 ounces of product per acre per season including at-plant plus foliar applications (0.075 lbs/acre zeta-cypermethrin + 0.75 lbs/acre chlorpyrifos). Do not make more than three applications of any product containing chlorpyrifos per season, including the maximum allowed of two granular applications, at the 1 pound chlorpyrifos rate. If more than 1 pound granular chlorpyrifos per acre is applied at-plant (for a maximum of 1.3 pound active ingredient per acre per season), only one additional application of a liquid product containing chlorpyrifos at 1 pound active ingredient per acre is allowed per season, for a total of 2.3 pounds chlorpyrifos per acre per season.</p> <p><b>Refer to the maximum usage tables when applying more than one product containing either zeta-cypermethrin or chlorpyrifos to this crop.</b></p> <p><b>Application Method:</b> Apply by ground, aerial or chemigation application. Do not aerially apply this product in Mississippi.</p> <p><b>Re-entry Interval:</b> 24 hours</p> <p>Do not apply in tank mixes with Steadfast or Lightning herbicides.</p> <p><b>Remarks</b></p> <p>Apply in water as necessary for insect control using a minimum of 20 gallons of finished spray per acre with ground equipment and 20 gallons per acre by air.</p> <p><b>For pre-emergent applications:</b> Apply as pre-emerge broadcast within 7 days of planting</p> <p><b>For PPI applications:</b> Thoroughly incorporate in up to 2 inches of soil using field cultivator, field finisher, or tandem disc. Do not incorporate deeper than 2 inches.</p> <p><b>For in-furrow applications:</b> Apply as an in-furrow, band or T-band treatment using a minimum 4" band.</p>			

### Corn (Field) and Field Corn Grown for Seed (30 day PHI grain and stover; 60 day PHI forage) (Foliar Use)

Pests Controlled	Rate of Application
Cutworm spp. (other than Western bean cutworm)	3.75 – 11.75 ounces per acre
Green cloverworm Meadow spittlebug Western bean cutworm*	5.0 – 11.75 ounces per acre
Aphid spp.** Armyworm, fall*** Armyworm, true Armyworm, yellowstriped Bean leaf beetle Bird cherry oat aphid Cereal leaf beetle Chinch bug**** Common stalkborer* Corn borer, European* Corn borer, southwestern* Corn earworm * Corn leaf aphid Corn leafhopper Corn rootworm beetle False chinch bug Flea beetle Grasshopper spp. Hop vine borer Hornworm spp. Japanese beetle (adult) Sap beetle (adult)	9.25 – 11.75 ounces per acre

Southern corn leaf beetle Stalk borer Stinkbug spp. Tobacco budworm*** Webworm spp.	
<p><b>Restrictions</b></p> <p><b>PHI:</b> Do not apply within 30 days of harvest for grain and stover and 60 days of harvest for forage.</p> <p><b>Application Interval:</b> Do not make a second application of F9047-2 EC or other product containing chlorpyrifos within 10 days of the first application.</p> <p><b>Maximum Amount per Application:</b> A maximum of 11.75 ounces of product may be applied per acre (0.025 lbs/acre zeta-cypermethrin + 0.25 lbs/acre chlorpyrifos).</p> <p><b>Maximum Amount per Season:</b> A maximum of 35.25 ounces of product per acre per season including at-plant plus foliar applications (0.075 lbs/acre zeta-cypermethrin + 0.75 lbs/acre chlorpyrifos). Do not make more than three applications of any product containing chlorpyrifos per season, including the maximum allowed of two granular applications, at the 1 pound chlorpyrifos rate. If more than 1 pound active ingredient granular chlorpyrifos per acre is applied at-plant (for a maximum of 1.3 pound active ingredient per acre per season), only one additional application of a liquid product containing chlorpyrifos at 1 pound active ingredient per acre is allowed per season, for a total of 2.3 pounds chlorpyrifos per acre per season.</p> <p><b>Refer to the maximum usage tables when applying more than one product containing either zeta-cypermethrin or chlorpyrifos to this crop.</b></p> <p><b>Application Method:</b> Apply by ground, aerial or chemigation application. Do not aerially apply this product in Mississippi.</p> <p><b>Re-entry Interval:</b> 24 hours</p> <p>Do not apply in tank mixes with Steadfast or Lightning herbicides.</p>	
<p><b>Remarks</b></p> <p>Make applications when insect populations reach economic thresholds. Refer to local Cooperative Extension Pest Management Guidelines and/or scouting results.</p> <p>Apply by air or by ground equipment using sufficient water to obtain full coverage of foliage (minimum of 2 gallons per acre by air and 15 gallons per acre by ground).</p> <p>Follow appropriate spray drift precautions on this label.</p> <p>* For control before the larva bores into the plant stalk or ear.</p> <p>** Aphid control may be variable depending on species present and host-plant relationships.</p> <p>***Pyrethroid resistance is common for these pests. Please consult your local or state agricultural authority to determine if resistance pest populations are in your area. Also, refer the the "Resistance Management Statement" in the DIRECTION FOR USE section of this label.</p> <p>**** For chinch bug control, scout corn fields and make applications when bugs migrate from small grains or wild grasses to small corn.</p> <p>Direct spray to the base of plant. F9047-2 -EC may only suppress heavy infestations and/or subsequent migrations.</p>	

### Corn, Sweet (21 day PHI)(Foliar Use)

Pests Controlled	Rate of Application
Cutworm spp. (other than Western bean cutworm)	3.75 – 11.75 ounces per acre
Green cloverworm Meadow spittlebug Western bean cutworm*	5.0 – 11.75 ounces per acre
Aphid spp.** Armyworm, fall*** Armyworm, true Armyworm, yellowstriped Bean leaf beetle Bird cherry oat aphid Cereal leaf beetle Chinch bug**** Common stalkborer* Corn borer, European* Corn borer, southwestern* Corn earworm * Corn leaf aphid Corn leafhopper Corn rootworm beetle	9.25 – 11.75 ounces per acre

<p>False chinch bug  Flea beetle  Grasshopper spp.  Hop vine borer  Hornworm spp.  Japanese beetle (adult)  Sap beetle (adult)  Southern corn leaf beetle  Stalk borer  Stinkbug spp.  Tobacco budworm***  Webworm spp.</p>	
<p><b>Restrictions</b>  <b>PHI:</b> Do not apply within 21 day of harvest.  <b>Application Interval:</b> Do not make a second application of F9047-2 EC or other product containing chlorpyrifos within 10 days of the first application.  <b>Maximum Amount per Application:</b> A maximum of 11.75 ounces of product may be applied per acre (0.025 lbs/acre zeta-cypermethrin + 0.25 lbs/acre chlorpyrifos).  <b>Maximum Amount per Season:</b> A maximum of 35.25 ounces of product per acre per season including at-plant plus foliar applications (0.075 lbs/acre zeta-cypermethrin + 0.75 lbs/acre chlorpyrifos). Do not make more than three applications of any product containing chlorpyrifos per season, including the maximum allowed of two granular applications, at the 1 pound active ingredient chlorpyrifos rate. If more than 1 pound active ingredient granular chlorpyrifos per acre is applied at-plant (for a maximum of 1.3 pound active ingredient per acre per season), only one additional application of a liquid product containing chlorpyrifos at 1 pound active ingredient per acre is allowed per season, for a total of 2.3 pounds active ingredient chlorpyrifos per acre per season.</p> <p><b>Refer to the maximum usage tables when applying more than one product containing either zeta-cypermethrin or chlorpyrifos to this crop.</b></p> <p><b>Application Method:</b> Apply by ground, aerial or chemigation application. Do not aerially apply this product in Mississippi.  <b>Re-entry Interval:</b> 24 hours</p> <p>Do not apply in tank mixes with Steadfast or Lightning herbicides.</p>	
<p><b>Remarks</b>  Make applications when insect populations reach economic thresholds. Refer to local Cooperative Extension Pest Management Guidelines and/or scouting results.  Apply by air or by ground equipment using sufficient water to obtain full coverage of foliage (minimum of 2 gallons per acre by air and 15 gallons per acre by ground).  Follow appropriate spray drift precautions on this label.  * For control before the larva bores into the plant stalk or ear.  ** Aphid control may be variable depending on species present and host-plant relationships.  ***Pyrethroid resistance is common for these pests. Please consult your local or state agricultural authority to determine if resistance pest populations are in your area. Also, refer the the "Resistance Management Statement" in the DIRECTION FOR USE section of this label.  **** For chinch bug control, scout corn fields and make applications when bugs migrate from small grains or wild grasses to small corn. Direct spray to the base of plant. F9047-2 EC may only suppress heavy infestations and/or subsequent migrations.</p>	

**Cotton (14 day PHI)  
(Not for use in Mississippi)**

Pests Controlled	Rate of Application
Cutworms Tobacco Thrips Soybean (banded) Thrips	3.75 – 11.75 ounces per acre
Armyworm, Fall*** Armyworm, Yellow Striped Boll Weevil Cabbage Looper*** Corn Borer, European Cotton Aphid** Cotton Bollworm	9.25 – 11.75 ounces per acre



Cotton Fleahopper Cotton Leaf Perforator Grasshoppers Pink Bollworm Plant Bug spp. Saltmarsh Caterpillar Stink Bugs Tarnished Plant Bug Tobacco Budworm* Whiteflies***	
<b>Restrictions:</b> <b>PHI:</b> Do not apply within 14 days of harvest. <b>Application Interval:</b> Do not make applications of F9047-2 EC or any product containing chlorpyrifos less than 10 days apart. <b>Maximum Amount per Application:</b> A maximum of 11.75 ounces of product may be applied per acre (0.025 lbs/acre zeta-cypermethrin + 0.25 lbs/acre chlorpyrifos). <b>Maximum Amount per Season:</b> A maximum of 35.25 ounces of product per acre per season (0.075 lbs/acre zeta-cypermethrin + 0.75 lbs/acre chlorpyrifos). Do not make more than three applications of F9047-2 EC or other product containing chlorpyrifos per crop season.  <b>Refer to the maximum usage tables when applying more than one product containing either zeta-cypermethrin or chlorpyrifos to this crop.</b>  <b>Application Method:</b> Apply by ground, aerial or chemigation application. <b>Re-entry Interval:</b> 24 hours  <b>Grazing:</b> 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.	
<b>Remarks:</b> Apply F9047-2 EC in a minimum of 2 gallons of finished spray per acre by air or 10 gallons of finished spray with ground equipment. When applying in water by air, one quart of emulsified oil may be substituted for one quart of water in the finished spray. Control of lepidopteran eggs may be achieved with proper timing of applications. *Pyrethroid resistance is common for these pests. Please consult your local or state agricultural authority to determine if resistance pest populations are in your area. Also, refer the the "Resistance Management Statement" in the DIRECTION FOR USE section of this label. ** Aphid control may be variable depending on species present and host-plant relationships. *** Aids in control.	

### Sorghum (30 day PHI for grain and stover; 45 day PHI for forage)

Pests Controlled	Rate of Application
Cutworm spp. Sorghum Midge*	3.75 – 11.75 ounces per acre
Armyworm, Southern Armyworm, True Armyworm, Yellow-Striped Corn Borer, European** Corn Borer, Southwestern** Corn Earworm (Headworm) Flea Beetle spp. Hornworms Stink Bug spp. Webworm spp.****	5.0 – 11.75 ounces per acre
Aphid spp. *** Chinch Bug**** False Chinch Bug***** Fall Armyworm***** Grasshopper spp. Lesser Cornstalk Borer** Thrips spp.***** Whitefly spp.*****	9.25 – 11.75 ounces per acre
<b>Restrictions:</b> <b>PHI:</b> Do not apply within 30 days for grain and stover and 45 day PHI for forage <b>Application Interval:</b> Do not make applications of F9047-2 EC or any product containing chlorpyrifos less than 10 days apart.	

**Maximum Amount per Application:** A maximum of 11.75 ounces of product may be applied per acre (0.025 lbs/acre zeta-cypermethrin + 0.25 lbs/acre chlorpyrifos).

**Maximum Amount per Season:** A maximum of 35.25 ounces of product per acre per season (0.075 lbs/acre zeta-cypermethrin + 0.75 lbs/acre chlorpyrifos). Do not make more than three applications of F9047-2 EC or other product containing chlorpyrifos per crop season.

**Refer to the maximum usage tables when applying more than one product containing either zeta-cypermethrin or chlorpyrifos to this crop.**

Do not treat sweet varieties of sorghum.

**Application Method:** Apply by ground, aerial or chemigation application. Do not aerially apply this product in Mississippi.

**Re-entry Interval:** 24 hours

**Remarks:**

Apply by ground or air equipment using sufficient water to obtain full coverage of foliage (minimum of 15 gallons by ground and 2 gallons by air).

\*For sorghum midge control, begin applications when 25% of the sorghum heads have emerged and are in tip bloom. Repeat applications at 10-day intervals if needed

\*\*For control before the larva bores into the plant stalk.

\*\*\*Aphid control may be variable depending on spp. present and host-plant relationships.

\*\*\*\*For chinch bug control, begin applications when bugs migrate from small grains or grass weeds to small sorghum. Direct spray to the base of plants with sufficient spray volume to penetrate the soil/stem interface, leaf collars, and sheaths.

\*\*\*\*\*Aids in Control

**Soybeans (28 day PHI) Not for use in Mississippi**

Pests Controlled	Rate of Application
Cutworm spp. Painted Lady (Thistle) Caterpillar Saltmarsh Caterpillar Silverspotted Skipper	3.75 – 11.75 ounces per acre
Alfalfa Caterpillar Bean Leaf Beetle* Blister Beetle spp. Corn Borer, European Corn Rootworm Beetle (adult) Cucumber Beetle Dectes Stemborer (adults) Flea Beetle Grasshopper spp. Green Cloverworm Hornworms Imported Cabbageworm Japanese Beetle Leafhopper spp. Mexican Bean Beetle Potato Leafhopper Seedcorn Maggot (adult) Soybean Aphid Spittlebug Velvetbean Caterpillar Webworm spp. Woolly Bear Caterpillar	5.0 – 11.75 ounces per acre
Armyworm, Fall*** Armyworm, Southern Armyworm, True Armyworm, Yellowstriped Colorado Potato Beetle	9.25 – 11.75 ounces per acre

<p>Corn Earworm  Cowpea Curculio  Leaf Skeletonizer spp.  Leafminers (adults)  Lesser Cornstalk Borer***  Looper spp.** , ***  Pea Leaf Weevil  Plant Bug spp.  Stink Bug spp.  Three-Cornered Alfalfa Hopper  Thrips spp.** , ***  Tobacco Budworm**  Whitefly spp. ** , ***</p>	
<p><b>Restrictions</b>  <b>PHI:</b> Do not apply within 28 days of harvest.  <b>Application Interval:</b> Do not make applications of F9047-2 EC or any product containing chlorpyrifos less than 14 days apart.  <b>Maximum Amount per Application:</b> A maximum of 11.75 ounces of product may be applied per acre (0.025 lbs/acre zeta-cypermethrin + 0.25 lbs/acre chlorpyrifos).  <b>Maximum Amount per Season:</b> A maximum of 35.25 ounces of product per acre per season (0.075 lbs/acre zeta-cypermethrin + 0.75 lbs/acre chlorpyrifos). Do not make more than three applications of F9047-2 EC or other product containing chlorpyrifos per crop season.</p> <p><b>Refer to the maximum usage tables when applying more than one product containing either zeta-cypermethrin or chlorpyrifos to this crop.</b></p> <p><b>Application Method:</b> Apply by ground, aerial or chemigation application.  <b>Re-entry Interval:</b> 24 hours</p> <p><b>Grazing:</b> 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.</p>	
<p><b>Remarks:</b>  Apply as required by scouting. Timing and frequency of applications should be based upon insect populations reaching locally determined economic thresholds. Do not exceed maximum allowable rate.</p> <p>F9047-2 EC may be tank mixed with glyphosate products when the tank mix is applied to glyphosate tolerant soybeans.</p> <p>Apply with either aerial or ground equipment using sufficient spray volume to obtain full coverage of the plant and foliage. Use a minimum of 2 gallons of finished spray per acre by air or 15 gallons of finished spray per acre by ground.</p> <p>Do not make more than one application after pod set on determinate soybeans.</p> <p>*Use higher listed dosage for increased pest pressure, increased residual pest control, or later-season applications. Do not exceed maximum allowable rate.  **See resistance statement under "Directions For Use" section  ***Aids in control</p>	

**Sunflowers (42 day PHI) Not for use in Mississippi**

Pests Controlled	Rate of Application
Thistle Caterpillar (Painted Lady) Saltmarsh Caterpillar Cutworm spp.	3.75 – 11.75 ounces per acre
Banded Sunflower Moth Dectes stemborer (adults)* Flea Beetle spp. Grasshopper spp. Grey Sunflower Seed Weevil (adult) Japanese Beetle Leafhopper spp. Pale striped Flea Beetle Red Sunflower Seed Weevil (adult)	5.0 – 11.75 ounces per acre

Stem Weevil (adult) Sunflower Beetle Sunflower Butterfly Sunflower Maggot (adult) Sunflower Moth (Head moth) Webworm spp. Woolly Bear Caterpillar	
Armyworm spp. Head-Clipper Weevil (adult) Stink Bug spp.	9.25 – 11.75 ounces per acre
<p><b>Restrictions</b></p> <p><b>PHI:</b> Do not apply within 42 days of harvest.</p> <p><b>Application Interval:</b> Do not make applications of F9047-2 EC or any product containing chlorpyrifos less than 10 days apart.</p> <p><b>Maximum Amount per Application:</b> A maximum of 11.75 ounces of product may be applied per acre (0.025 lbs/acre zeta-cypermethrin + 0.25 lbs/acre chlorpyrifos).</p> <p><b>Maximum Amount per Season:</b> A maximum of 35.25 ounces of product per acre per season (0.075 lbs/acre zeta-cypermethrin + 0.75 lbs/acre chlorpyrifos). Do not make more than three applications of F9047-2 EC or other product containing chlorpyrifos per crop season.</p> <p><b>Refer to the maximum usage tables when applying more than one product containing either zeta-cypermethrin or chlorpyrifos to this crop.</b></p> <p><b>Application Method:</b> Apply by ground or aerial application. Do not apply using chemigation equipment.</p> <p><b>Re-entry Interval:</b> 24 hours</p> <p><b>Grazing:</b> Do not graze livestock in treated areas or cut treated crops for feed.</p> <p>Do not apply when honey bees are actively foraging by applying during the early morning or evening hours.</p> <p><b>Remarks</b></p> <p>Apply with ground or air equipment using sufficient water and application methods to insure thorough coverage of foliage. Apply in a minimum of 2 gallons of finished spray per acre by aerial equipment or 15 gallons per acre by ground equipment. . Begin applications when pest appears and repeat as necessary to maintain control.</p> <p>* Multiple applications may be needed for extended adult emergence.</p>	

**Tree Nuts: Almond, Filbert, Pecan and Walnut. (14 day PHI for almond, filbert, and walnut; 28 day PHI for pecan)**

Pests Controlled	Rate of Application
Black Pecan Aphid* Codling Moth Filbert Worm Hickory Shuckworm Leaftooted Bugs Navel Orangeworm Oblique-banded Leafroller Peach Twig Borer Pecan Leaf Casebearer Pecan Nut Casebearer Pecan Phylloxera Pecan Weevil Plant Bugs Stink Bugs Walnut Aphid Walnut Husk Fly Yellow Pecan Aphid	11.75 ounces per acre
<p><b>Restrictions</b></p> <p><b>PHI:</b> Do not apply within 14 days of harvest for almond, filbert, and walnut; do not apply within 28 days of harvest for pecans.</p> <p><b>Application Interval:</b> Do not make applications of F9047-2 EC or any product containing chlorpyrifos less than 10 days apart.</p> <p><b>Maximum Amount per Application:</b> A maximum of 11.75 ounces of product may be applied per acre (0.025 lbs/acre zeta-cypermethrin + 0.25 lbs/acre chlorpyrifos).</p>	

**Maximum Amount per Season:****Almonds, Pecans, and Filberts:**

A maximum of 0 35.25 ounces of product per acre per season (0.075 lbs/acre zeta-cypermethrin + 0.75 lbs/acre chlorpyrifos). Do not make more than three total applications of F9047-2 EC or other product containing chlorpyrifos per season.

**Walnuts:**

A maximum of 23.5 ounces of product per acre per season (0.05 lbs/acre zeta-cypermethrin + 0.50 lbs/acre chlorpyrifos). Do not make more than two total applications of F9047-2 EC or other products containing chlorpyrifos per season.

**Refer to the maximum usage tables when applying more than one product containing either zeta-cypermethrin or chlorpyrifos to this crop.**

**Application Method:** Apply by ground or aerial application. Do not apply using chemigation equipment.

**Re-entry Interval:** 24 hours

**Grazing:** Do not allow meat or dairy animals to graze in treated areas.

This product is highly toxic to bees exposed to direct treatment. Do not apply if 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 an application of F9047-2 EC.

**Remarks**

Apply by ground or air equipment using sufficient water to obtain full coverage of foliage (minimum of 10 gallons by ground and 2 gallons by air).

\*Pyrethroid resistance is common for these pests. Please consult your local or state agricultural authority to determine if resistance pest populations are in your area. Also, refer the the "Resistance Management Statement" in the DIRECTION FOR USE section of this label.

**Wheat (14 day PHI for forage and hay; 28 day PHI for grain and straw).**

**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.**

Pests Controlled	Rate of Application
Cutworm spp., including Army Cutworm Painted Lady (Thistle) Caterpillar	3.75 – 11.75 ounces per acre
Bird Cherry Oat Aphid Cereal Leaf Beetle Flea Beetle spp. Grass Sawfly Grasshopper spp. Spittlebug Webworm spp. Wheat Stem Maggot (adult)*** Wheat Stem Sawfly (adult)***	5.0 – 11.75 ounces per acre
Armyworm, Fall Armyworm, Southern Armyworm, True Armyworm, Yellowstriped Chinch Bug** Greenbug *** Plant Bug spp. Russian Wheat Aphid Stink Bug spp. Thrips spp. ***	9.25 – 11.75 ounces per acre
<b>Restrictions</b> <b>PHI:</b> Do not apply within 14 days of harvest for forage and hay and within 28 of harvest for grain and straw <b>Application Interval:</b> Do not make applications of F9047-2 EC or any product containing chlorpyrifos less than 14 days apart. <b>Maximum Amount per Application:</b> Do not apply more than 11.75 ounces of product per application (0.025 lbs/acre zeta-cypermethrin + 0.25 lbs/acre chlorpyrifos). <b>Maximum Amount per Season:</b> A maximum of 23.5 ounces of product per acre per season (0.05 lbs/acre zeta-cypermethrin + 0.50 lbs/acre chlorpyrifos). Do not make more than two applications of F9047-2 EC or other products containing chlorpyrifos per season.	

**Refer to the maximum usage tables when applying more than one product containing either zeta-cypermethrin or chlorpyrifos to this crop.**

**Application Method:** Apply by ground, aerial or chemigation application.

**Re-entry Interval:** 24 hours

**Grazing:** Do not allow meat or dairy animals to graze in treated areas on forage within 14 days of an application. Do no feed straw within 28 days of application

**Remarks**

Apply by ground or air equipment using sufficient water to obtain full coverage of foliage (minimum of 15 gallons by ground and 2 gallons by air).

\* Aphid control may be variable depending on species present and host-plant relationships.

\*\* For chinch bug control, begin applications when bugs migrate from small grains or grass weeds. Apply sufficient spray volume to penetrate the soil/stem interface, leaf collars, and sheaths.

\*\*\* Aids in Control

## Dealers Must Sell in Original Packages Only.

Conditions of Sale and Limitation of Warranty and Liability:

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

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions beyond the control of FMC or Seller. All such risks shall be assumed by Buyer and User, and Buyer and User agree to hold FMC and Seller harmless for any claims relating to such factors.

**Seller warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the Directions for Use when used in accordance with the directions under normal conditions of use. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, FMC MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, NOR ANY OTHER EXPRESS OR IMPLIED WARRANTIES WITH RESPECT TO THE SELECTION, PURCHASE, OR USE OF THIS PRODUCT. Any warranties, express or implied, having been made are inapplicable if this product has been used contrary to label instructions, or under abnormal conditions, or under conditions not reasonably foreseeable to (or beyond the control of) seller or FMC, and buyer assumes the risk of any such use.**

To the extent consistent with applicable law FMC or seller shall not be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF FMC AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF FMC OR SELLER, THE REPLACEMENT OF THE PRODUCT.

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