

Code 1547

Net Contents



For Agricultural and Commercial Use Only

EPA Reg. No. 279-3141

EPA Est. 279-

<b>Active Ingredient:</b>	<b>By Wt.</b>
Permethrin** .....	36.8%
Inert Ingredients .....	63.2%
	<hr/> 100.0%

\*(3-Phenoxyphenyl) methyl (±) cis-trans 3-(2-2-dichloroethenyl)-2, 2-dimethylcyclopropanecarboxylate  
\*\*cis/trans ratio: Max 55% (±) cis and min. 45% (±) trans

Contains 3.2 pounds permethrin per gallon

U.S. Patent No. 4,024,163

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

**STATEMENT OF PRACTICAL TREATMENT**

If **swallowed**: Call a physician or Poison Control Center. Drink 1 or 2 glasses of water. Do not induce vomiting.

If on **skin**: Wash with plenty of soap and water. Get medical attention if irritation persists.

If in **eyes**: Flush with plenty of water. Call a physician if irritation persists.

For **Emergency Assistance** Call 1-800-331-3148.

**Note to Physician:**

This product contains aromatic hydrocarbons which can produce a severe pneumonitis if aspirated, consideration should be given to gastric lavage with an endotracheal tube in place. Treatment is controlled removal of exposure followed by symptomatic and supportive care.

**PRECAUTIONARY STATEMENTS**

**Hazards to Humans (and Domestic Animals)**

**Caution**

Harmful if swallowed, inhaled or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing.

See other panels for additional precautionary information.

**Personal Protective Equipment**

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

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, such as barrier laminate or butyl rubber.
- Shoes plus socks

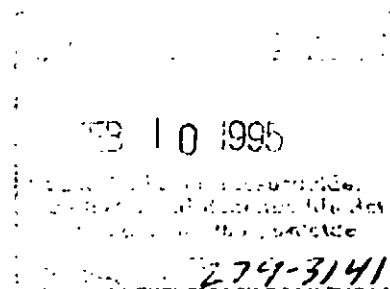
Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.



FMC Corporation  
Agricultural Chemical Group  
Philadelphia PA 19103

Draft

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**Engineering Controls Statement**

When handlers use closed systems, enclosed cabs, or aircraft 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.

**User Safety Recommendations**

**Users Should:**

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

**Environmental Hazards**

This pesticide is highly toxic to bees exposed to direct treatment or residues on crops or weeds. Do not apply this product or allow it to drift to crops or weeds on which bees are actively foraging. Additional information may be obtained from your Cooperative Extension Service.

This product is extremely toxic to fish and aquatic invertebrates. For terrestrial uses, do not apply directly to water, or 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.

**Physical and Chemical Hazards**

Do not use or store near heat or open flame

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

Shake well before using.

**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). The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

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.

Do not enter or allow worker entry to treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water, is

- Coveralls over long-sleeved shirt and long pants.
- Chemical resistant gloves, such as barrier laminate or butyl rubber
- Shoes plus socks.

## Storage and Disposal

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

**Storage:** Store at temperatures above 40°F (5°C)

If separation occurs during storage, and less than entire contents of container are to be used, remix by inverting and shaking the container several times until contents are homogeneous. For the 5 gallon U-Turn® container, grasp handle and rock container forward and backward vigorously until contents are homogeneous. For 10 gallon U-Turn container, remix with mechanical agitator by attaching a power drill with 1/4 inch chuck to agitator shaft and agitating by spinning shaft for 1 minute prior to dispensing.

If crystals have formed, warm to room temperature (70°F) (21°C) by room heating for 24-48 hours and shake occasionally until crystals dissolve and product appears uniform. Do not use external source of heat for warming container.

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

**In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. Confine spills. Call FMC: 1-800-331-3148.**

To confine spill: If liquid, dike surrounding area or absorb with sand, cat litter, or commercial clay or gel absorbents. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility. 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.

### Container Disposal:

**Plastic Containers**—Triple rinse (or equivalent). Then offer for recycling or reconditioning, 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.

**Metal 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. Do not cut or weld metal containers.

**Returnable/Refillable Sealed Container**—Do not rinse container. Do not empty remaining formulated product. Do not break seals. Return intact to point of purchase.

## Chemigation Use Directions

Apply this product only through sprinkler including center pivot, lateral pipe, 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 an 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, you should 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 adjustment 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 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.

Do not apply when wind speed favors drift beyond the area intended for treatment.

Astro™ insecticide should be applied continuously for the duration of the water application. Astro should be diluted in sufficient volume to ensure accurate application over the area to be treated. When using chemigation, a minimum of 0.5 inch per acre of irrigation water is recommended. Agitation generally is not required when a suitable carrier is used.

## Ornamental Use (Including Field and Container Grown Nursery Stock, Greenhouses, Interiorscapes and Plantscapes), Residential Lawns, Trees and Shrubs

### General Application Instructions

Astro is a 3.2 pounds per gallon formulation of the insecticide permethrin. Apply Astro when insects appear or feeding is noticed. The higher rate should be used as pest populations increase. Repeat the application as necessary to maintain control. Astro may be applied by both ground and aerial equipment. Use sufficient water to obtain full coverage.

Do not apply more than 2.0 lb. a.i./A/year.

Astro has demonstrated excellent plant safety; however, not all cultivars have been tested. Before treating large numbers of plants of a particular cultivar, treat a few plants and observe prior to full scale application.

### Spray Drift Precautions:

All aerial and ground application equipment must be properly maintained and calibrated using appropriate carriers.

Do not make aerial or ground applications during temperature inversions.

Make aerial or ground applications when the wind velocity favors on target product disposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 15 mph.

For aerial applications, the spray boom should be mounted on the aircraft so as to minimize drift caused by wingtip or rotor vortices. Boom length must not exceed 75% of wing span or rotor diameter.

Do not apply by ground equipment within 25 feet, or by air within 75 feet of lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries, and commercial fish farm ponds.

### Recommended Application Rates

CROP	PEST	RECOMMENDED RATE	SPECIFIC INSTRUCTIONS
Ornamentals (including greenhouse and interiorscapes), field and container grown foliage and flowering plants, woody and herbaceous non-edible ornamentals and non-bearing plants of fruiting species	Ants	4 to 8 Fl. Oz. per 100 Gals.	Apply sufficient volume of water to adequately cover foliage. Use higher rate for moderate to high infestations. Direct application to blooms may cause browning of petals. Marginal leaf burn may occur on Salvia, Dieffenbachia and Pteris Fern
	Aphids	— or —	
	Bagworm	Broadcast 4 to 8 Fl. Oz. per Acre	
	Beet Armyworm		
	Cabbage Looper		
	Citrus Thrips		
	Fungus Gnat		
	Heliothis spp		
	Japanese Beetles		
	Lace Bug		
	Leaf Feeding Caterpillars		
	Leafminers		
	Leafhoppers		
	Leafrollers		
	Lygus Bugs		
Mealybugs			
Root Weevils (Adult)			
Whiteflies			
Conifers (Field and Container Grown), Christmas trees and Pine Seed Orchards*	Nantucket Pine Tip Moth	4 to 8 Fl. Oz. per 100 Gals.	Begin application when adults appear. Repeat applications may be made on 5-7 day intervals as needed.
	Coneworms* Seed Bugs*	— or — Broadcast 4 to 8 Fl. Oz. per Acre	
Lawns Residential lawns and grass nurseries	Chinchbug Grubs Pill Bugs Sod Webworm (See also list of pests under Premises Applications)	0.4 to 0.8 Fl. Oz. per 1000 ft <sup>2</sup>	Apply using sufficient water to provide adequate coverage.

\*To control Coneworm Seed Bugs—Use Astro at the following rates:  
For high volume sprayers: Use 8 ounces in 100 gallons of water. Apply 5 to 10 gallons of finished spray per tree.  
For low volume sprayers: Use 42 ounces in 100 gallons of water. Apply 100 gallons per acre.  
For aerial application: Use 30 ounces in not less than 10 gallons of water per acre.  
To control Webbing Coneworm—make first application within 1 week of female flower closure or peak pollen flight.  
To control other coneworms and seed bugs—make first application within 30 days following flower closure.

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## Pest Control on Outside Surfaces and Buildings

Apply Astro using a 0.5% emulsion as a residual spray to outside surfaces of buildings including, but not limited to, exterior siding, foundations, porches, window frames, eaves, patios, garages, refuse dumps, residential lawns only such as grass areas adjacent or around private homes, duplexes, townhouses, condominiums, house trailers, apartment complexes, carports, garages, fence lines, storage sheds, barns, and other residential and non-commercial structures, soil, trunks of woody ornamentals and other areas where pests congregate or have been seen. Repeat treatment as necessary to maintain effectiveness.

**Perimeter Treatment:** Apply to a band of soil and vegetation 6 to 10 feet wide around and adjacent to the structure. Also, treat the foundation of the structure to a height of 2 to 3 feet. Use a spray volume of 2 to 10 gallons of emulsion per 1000 square feet. Higher volumes of water may be needed if mulch or leaf litter is present or foliage is dense. House siding may be treated if pests such as Gypsy moth adults and caterpillars, boxelder bugs, elm leaf beetles, earwigs or silverfish are present.

## Applications to Outside Surfaces

Pest	Specific Instructions
Ants	Apply as a pinstream, as a fine/coarse, low pressure spray (20 psi or less), as a spot treatment or with a paintbrush. Treat where pests are found or entry points of the structure such as window and door frames and along the foundation.
Ant Mounds <sup>1</sup>	
Armyworm	
Fire Ants	
Bees	
Carpenter Bees	
Bark Beetles <sup>3</sup>	
Borers <sup>3</sup>	
Boxelder Bugs <sup>2</sup>	
Centipedes	
Cockroaches	<sup>1</sup> Drench Method: Apply 1-2 gallons of emulsion to each mound area by sprinkling the mound until it is wet and treat a 4 foot diameter circle around the mound. Use the higher volume for mounds larger than 12". For best results, apply in cool weather, such as in early morning or late evening hours, but not in the heat of the day.
Asian Cockroaches	
Crickets	
Mole Crickets	
Earwigs	
Elm Leaf Beetles <sup>2</sup>	
Firebrats	
Fleas <sup>4</sup>	
Ground Beetles	
Gypsy Moths (adults & Caterpillars) <sup>2</sup>	
Millipedes	<sup>2</sup> Boxelder Bugs, Elm Leaf Beetles, Gypsy Moth Caterpillars: Spray tree trunks, building siding or wherever pests congregate, to the point of runoff
Scorpions	
Silverfish	
Sowbugs	
Spiders	
Wasps	
Ticks <sup>4</sup>	
Flies	
Carpenter Ants	
Chinchbugs <sup>4</sup>	
Pill Bugs	<sup>3</sup> Borers and Bark Beetles: To prevent infestation of trees and woody ornaments, spray the bark to the point of runoff
Sod Webworm	
	<sup>4</sup> Fleas: Mix 1.6-3.2 oz. of Astro in 16 to 100 gallons of water and apply to 4000 square feet of lawn. Use the lower rate to knock down existing fleas and the higher rate where faster knockdown or greater residual is desired. For example:
	Lawn should not be longer than 3 inches at the time of application. Repeat application if necessary. Application in combination with compatible surfactants may enhance penetration. And climates generally require the higher volumes

## Applications to Agricultural Structures For Agricultural use only

### General Application Instructions

Astro™ can be used for residual pest control in and on buildings and structures used for agricultural purpose, their immediate surroundings.

Astro is an emulsifiable concentrate to be diluted with water and applied as an emulsion to control pests in and around agricultural structures. Pests controlled are listed in the accompanying tables. Astro may be applied directly as a spray or spot treatment to walls and ceiling as a residual surface treatment. Do not treat manure or litter. Avoid contamination of feed and water. Do not apply directly to livestock or poultry.

### Agricultural Structures

Spray directly to walls and ceiling as residual surface treatment only. Do not treat manure or litter. Avoid contamination of feed and water. Do not apply directly to livestock or poultry.

For Application in	Target Insects	Method of Applic.	Dilute	Applic. Rate
Dairies, Barns, feedlots, stables, poultry houses, swine and livestock houses	House flies, stable flies and other manure breeding flies Also aids in the reduction of cockroaches, mosquitoes and spiders.	Sprayer	4 ounces to 12.5 gallons water	1 gallon per 750 square feet of surface

### Attention

Do not apply to pets, crops, or sources of electricity

Do not allow people or pets on treated surfaces until the spray has dried  
Firewood is not to be treated.

Use only in well ventilated areas.

Do not allow spray to contact food, foodstuffs, food contacting surfaces, food utensils or water supplies.

Do not touch treated surface until dry

### Dealers Should Sell in Original Packages Only.

**Terms of Sale or Use:** On purchase of this product buyer and user agree to the following conditions

**Warranty:** FMC makes no warranty, expressed or implied, concerning the use of this product other than indicated on the label. Except as so warranted, the product is sold as is. Buyer and user assume all risk of use and/or handling and/or storage of this material when such use and/or handling and/or storage is contrary to label instructions

**Use of Product:** FMC's recommendations for the use of this product are based upon tests believed to be reliable. The use of this product being beyond the control of the manufacturer, no guarantee, expressed or implied, is made as to the effects of such or the results to be obtained if not used in accordance with directions or established safe practice.

**Damages:** Buyer's or user's exclusive remedy for damages for breach of warranty or negligence shall be limited to direct damages not exceeding the purchase price paid and shall not include incidental or consequential damages.

Astro, U-Turn and FMC—Trademarks of FMC Corporation (1547-)

REVISIONS:

1. Change REI to 12 hours

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