

PM-13
Code 1547

Reg # 279-3141

1976
Net Contents



For Agricultural and Commercial Use Only

EPA Reg. No. 279-3141

EPA Est. 279-

Active Ingredient:	By Wt.
Permethrin**	36.8%
Inert Ingredients	63.2%
	100.0%

*(3-Phenoxyphenyl) methyl (±) cis-trans 3-(2,2-dichloroethyl)-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 who handle this pesticide for any use covered by Worker Protection Standard (CFR Part 170) - in general, only agricultural-plant uses are covered - 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 Products Group
Philadelphia PA 19103

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ACCEPTED

26 JUN 1995

Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 279-3141

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.

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Non-Agricultural Use Requirements

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standards for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries and greenhouses.

Do not allow people or pets on treated surfaces until the spray has dried.
Do not touch treated surface until dry.

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.

tion 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.

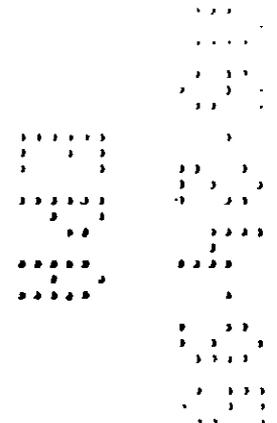
Chemigation Use Directions

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 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



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.
	Aphids	4 to 8 Fl. Oz. per 100 Gals.	Use higher rate for moderate to high infestations.
	Bagworm	4 to 8 Fl. Oz. per 100 Gals.	Direct application to blooms may cause browning of petals.
	Beet Armyworm	4 to 8 Fl. Oz. per 100 Gals.	Marginal leaf burn may occur on Salvia, Dieffenbachia and Pteris Fern.
	Cabbage Looper	4 to 8 Fl. Oz. per 100 Gals.	
	Citrus Thrips	4 to 8 Fl. Oz. per 100 Gals.	
	Fungus Gnat	4 to 8 Fl. Oz. per 100 Gals.	
	Heliothis spp	4 to 8 Fl. Oz. per 100 Gals.	
	Japanese Beetles	4 to 8 Fl. Oz. per 100 Gals.	
	Lace Bug	4 to 8 Fl. Oz. per 100 Gals.	
	Leaf Feeding Caterpillars	4 to 8 Fl. Oz. per 100 Gals.	
	Leafminers	4 to 8 Fl. Oz. per 100 Gals.	
	Leathoppers	4 to 8 Fl. Oz. per 100 Gals.	
	Leafrollers	4 to 8 Fl. Oz. per 100 Gals.	
	Lygus Bugs	4 to 8 Fl. Oz. per 100 Gals.	
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*	4 to 8 Fl. Oz. per 100 Gals.	
	Seed Bugs*	4 to 8 Fl. Oz. per 100 Gals.	
Lawns Residential lawns and grass nurseries	Chinchbug	0.4 to 0.8 Fl. Oz. per 1000 ft ²	Apply using sufficient water to provide adequate coverage.
	Grubs	0.4 to 0.8 Fl. Oz. per 1000 ft ²	
	Pill Bugs	0.4 to 0.8 Fl. Oz. per 1000 ft ²	
	Sod Webworm (See also list of pests under Premises Applications)	0.4 to 0.8 Fl. Oz. per 1000 ft ²	

*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 treated 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 tentative flower closure or peak pollen flight. To control other coneworms and seed bugs—make first application within 30 days following flower closure.

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 ¹	
Armyworm	
Fire Ants	
Bees	
Carpenter Bees	
Bark Beetles ³	
Borers ³	
Boxelder Bugs ²	
Centipedes	
Cockroaches	
Asian Cockroaches	
Crickets	
Mole Crickets	
Earwigs	
Elm Leaf Beetles ²	
Firebrats	
Fleas ⁴	
Ground Beetles	
Gypsy Moths (adults & Caterpillars) ²	
Millipedes	
Scorpions	
Silverfish	
Sowbugs	
Spiders	
Wasps	
Ticks ⁴	
Flies	
Carpenter Ants	
Chinchbugs ⁴	
Pill Bugs	
Sod Webworm	

Lawn	Sq Ft	Oz of Astro™	Gals of Water
Small	2,000	0.8 to 1.6	8 to 50
	4,000	1.6 to 3.2	16 to 100
Medium	6,000	2.4 to 4.8	24 to 150
	12,000	4.8 to 9.6	48 to 300
Large	44,000	17.0 to 34.0	176 to 1,100

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. Arid climates generally require the higher volumes.

As a livestock spray

Animals	Insect	Dilute & Use	Application Rate
Lactating and Non-Lactating Dairy Cattle and Goats, Beef Cattle and Sheep	Horn flies only	4 fl. oz. to 50 gals. water (treats 200 head) 0.025% Active Ingredient (AI). High pressure spray.	1 qt. of coarse spray per animal.
	Horn flies, Face flies, Stable flies, House flies, Horse flies, Deer flies, Black flies, Eye gnats, Mange mites, Scabies mites, Ticks, Lice and Sheep keds.	4 fl. oz. to 25 gals. water (treats 50-100 head) 0.05% AI. High pressure spray.	1-2 qt of coarse spray per animal over whole body surface. For Mange, Scabies, Ticks and Lice thoroughly wet animal. Repeat application 10-14 days for Mites and Lice.
	Horn flies, Face flies, Stable flies, Ear ticks and Lice.	4 fl. oz. to 2 1/2 gals. water (treats 64-80 head) 0.5% AI. Low pressure spray (Hand pump sprayer).	For fly and lice control, spray mid-line from face to tailhead to point of runoff (4-5 fl.oz.). For ear tick control spray directly into each ear (1/2 fl.oz each).
	Horn flies, Face flies and Stable flies.	4 fl. oz. to 10 gals. diesel oil or suitable mineral oil, 0.125% AI, Backrubber, self oiler.	Keep rubbing device charged. Results improved by daily forced use.
Poultry	Northern fowl mites and Lice	1-4 fl. oz. 3 3/4 gals. water (treats 1500 head) 0.08-0.33% AI. High pressure spray.	1 gal of coarse spray per 100 birds, paying particular attention to vent area.
Swine (Allow 5 days between last treatment and slaughter)	Lice and Mange	4 fl. oz. to 25 gals. water (treats 50-100 head) 0.05% AI. Sprayer or dip.	Thoroughly wet or dip animals including ears. For mange, spray pen floors, sides and bedding. Repeat at 14 days.
Horses	Horn flies, Face flies, Stable flies, House flies, Horse flies, Black flies, Eye gnats, Mange mites, Scabies mites, Ticks, Lice and Fleas	1/4 fl. oz. to 1 pt. water 0.6257% AI. Low pressure spray.	1-2 fl.oz. spray per animal. Spot treat back, face, legs, tail and ears.
		1/4 fl. oz. to 1 1/4 gals. water 0.0626% AI. Dip wash	Thoroughly wet animal to skin with sponge or rag. Let drip dry.
		4 fl. oz. to 20 gals. water 0.0625%AI. Dip (dogs only).	Make sure all areas are soaked to skin. Let dip dry on animals. Do not rinse off.

