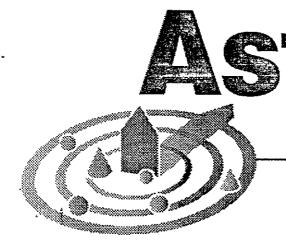
Insecticide

**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***	<u>63.2%</u>
	100.0%

\*\*cis/trans ratio: Max. 55% (±) cis and min. 45% (±) trans
\*\*\*Contains petroleum distillates.

Contains 3.2 pounds permethrin per gallon U.S. Patent No. 4,024,163

# KEEP OUT OF REACH OF CHILDREN CAUTION

See other panels for additional precautionary information.

#### STATEMENT OF PRACTICAL TREATMENT

IF SWALLOWED: Call a physician or Poison Control Center. Do not induce vomiting as it may cause aspiration pneumonia. Do not give anything by mouth to an unconscious person. Avoid alcohol.

IF INHALED: Remove victim to fresh air. If not breathing give artificial respiration, preferably mouth to mouth. Get medical attention.

IF ON SKIN: Wash with plenty of soap and water. Get medical attention.

IF IN EYES: Flush eyes with plenty of water. Call a physician if irritation persists.

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.

For Emergency Assistance Call: (800) 331-3148.

# PRECAUTIONARY STATEMENTS Hazards to Humans (and Domestic Animals)

Harmful if swallowed, inhaled or absorbed through the skin. Avoid contact with skin, eyes or clothing. Avoid breathing vapor or spray mist. Wash thoroughly with soap and water after handling. Remove contaminated dothing and wash before reuse.

#### **Personal Protective Equipment**

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category 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.

# 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**

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 furaging. Additional information may be obtained from your Cooperative Extension Service.

This product is extremely texic 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 contami, all water when disposing of equipment washwaters.

# Physical and Chemical Hazards

Đọ not use or store near heat or open flamé.

this 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.

**FMC** Corporation Agricultural Products Grounder the Federal Insecticide, and Rodenticide Act.

10/97 Trik mix Dft. 1, no Hlt

ACCEPTED PIRECTIONS FOR USE

as amended, for the positide ce production and action EFA Beg. No.

### **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.

### 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, is series and greenhouses.

on 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.

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, eater, food, or feed by storage or disposal.

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

To confine spill: If liquid, dike surrounding area or absorb with sand, cat litter, or commercial day or gel absorbents. If dry material, cover to prevent dispersal. Place damaged package in a holding container. Identity 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/Refiliable 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 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 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 fayors on target product disposition (approximately 3 to 10 mph). Be 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 wingsp or rotor vortices. Boom length must not exceed 75% of wing sprand rotor diameter.

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

### **Recommended Application Rates**

CROP  Crnamentals (including greenhouse and interior-scapes), field and container grown foliage and flowering plants, woody and herbacious non-edicie ornamentals and non-bearing plants of fruiting species	PEST  Ants Aphids Bagworm Beet Armyworm Cabbage Looper Citrus Thrips Fungus Gnat Heliothis spp Japanese Beetles Lace Bug Leaf Feeding Caterpillars Leafminers Leafmopers Leafrollers Lygus Bügs Mealybugs Root Weevils (Adult) Whiteflies	RECOM- MENDED RATE 4 to 8 FI. Oz. per 100 Gals. — or — Broadcast 4 to 8 FI. Oz. per Acre	SPECIFIC INSTRUCTIONS  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, Dielfenbachia and Pteris Fern.	
Conifers (Field and Container Grown), Christmas trees and Pine Seed Orchards*	Nantucket Pine Tip Moth Coneworms* Seed Bugs*	4 to 8 FI. Oz. per 100 Gais. — or — Broadcast 4 to 8 FI. Oz. per Acre	Begin application when adults appear. Repeat applications may be made on 5-7 day intervals as needed.	
Lawns Residential lawns and grass nurs- eries	Chinchbug Grubs Pill Bugs Sod Webworm (See also list of pests under Premises Applications)	-0.4 to 0.8 Fl. Oz. per 1000 ft	Apply using suffi- cient water to pro- vide adequate cov- erage.	



#### Recommended Application Rates for Fruit and Nut Trees

Apply the appropriate amount of Astro Insecticide (see table below) in 100 gallons of water per acre. Astro Insecticide may be diluted and applied in greater volumes of water providing that the maximum application rates listed below are not exceeded on a per acre basis. For example: when attempting to control Navel Orangeworm on almonds using an application volume of 200 gallons per acre, the maximum legal dilution of Astro Insecticide is 8 fluid ounces per 100 gallons

TREE	PEST	RECOM- MENDED RATE	CROP
Almond	Navel Grangeworm Peach Twig Borer	8 to 16 fl.oz per 100 gai/A	Do not harvest nuts within 7 days after application. Do not apply more than 32 fluid ounces during hull split. Do not apply more than 30 fluid ounces per year.
Apples	Green Fruitworm Oblique Banded Leafroller Plum Curcullo Redbanded Leafroller Rosy Apple Aphid Spotted Tentiform Leafminer Tamished Plant Bug White Apple Leafhopper	4 to 8 fl.oz per 100 gal/A	Do not apply more than 24 fluid ounces per year.
Cherries	Green Fruitworm Lesser Peachtree Borer Plum Curculio Redbanded Leafroller Rose Chafer Tamished Plant Bug	4 to 8 fl.oz per 100 gal/A	Do not harvest fruit within 3 days after application. Do not make more than 4 applications per year. Do not make more than 3 applications after petal fall.
Filberts	Filbertworm Oblique Banded Leafroller	8 to 16 fl.oz per 100 gal/A	Do not harvest nuts within 14 days after application. Do not apply more than 64 fluid ounces per year.
Peaches	Green Fruitworm Lesser Peachtree Borer Oriental Fruit Moth Peach Twig Borer Plum Curculio Rose Chafer Tamished Plant Bug	4 to 16 fl.oz per 100 gal/A	Do not harvest fruit within 7 days after application, Do not apply more than 120 fluid ounces per year
Pears	Pear Psylla	8 to 16 fl.oz per 100 gal/A	Apply only during domant through delayed domant growth periods. Do not apply more than 32 fluid ounces per year.
Pistachios	Leaffooted Bugs Navel Orangeworm Peach Twig Borer Plant Bugs Stinkbugs	8 to 16 fl.cz per 100 gai/A	Nuts may be harvested on the day of application. Do not apply more than 32 fluid ounces per year. Do not apply after 10 percent hull split.

Astro insecticide is not intended for use on commercial crop protection.

To control Coneworm, Seed Bugs—Use Astro at the following rates:

or high volume sprayers: Use 8 ounces in 100 gallons of water, Apply 5 to 10 gallons of finshed spray per tree,

or low volume sprayers; Use 42 ounces in 100 gallons of water, Apply 100 gallons per acre,

or 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

nower 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 omamentals 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**

Approalions to outside our laces				
Pest	Specific	instructi	ons	
Ants Ant Mounds <sup>1</sup> Armyworm Fire Ants Bees	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 trames and along the foundation.			
Carpenter Bees Bark Beetles³ Borers³ Boxeider Bugs² Copedes Foaches Asian Cockroaches	1 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 moming or late evening hours, but not in the heat of the day.			
Crickets Mole Crickets Earwigs	2 Boxelder Bugs, Elm Leaf Beetles, Gypsy Moth Caterpillars: Spray tree trunks, building siding or wherever pests congregate, to the point of runoff.			
Elm Leaf Beetles <sup>2</sup> Firebrats Fleas <sup>4</sup>	of water and apply to 4000 square feet of lawn. Use the lower rate to knock down existing fleas and the			
Ground Beetles Gypsy Moths (adults & Caterpillars) <sup>2</sup> Millipedes				
Scorpions Silverfish	Lawn	Sq Ft	Oz of Astro™	Gals of Water
Sowbugs Spiders Wasps Ticks <sup>4</sup> Flies	Small Medium Large 1 Acre	2,000 4,000 6,000 12,000 44,000	0.8 to 1.6 1.6 to 3.2 2.4 to 4.8 4.8 to 9.6 17.0 to 34.0	8 to 50 16 to 100 24 to 150 48 to 300 176 to 1,100
Carpenter Ants Chinchbugs <sup>4</sup> F ygs S Webworm	Lawn shof application	ould not b cation. R	e longer than 3 in epeat application bination with con penetration. Arid	ches at the time if necessary. mpatible surfac-

Subsurface Injection of Astro to Flush Mole Crickets: To increase flushing of mole crickets with subsurface insecticide applications, use Astro with a companion mole cricket control product (such as Taistar PL Granular) and apply at the rate of 0.2 to 0.8 fluid ounces of Astro per 1,000 square feet. Applications must be made in accordance with the more restrictive of label limitations and precautions. No label application rates may be exceeded. This product cannot be used with any product with label prohibitions against such mixing.

ally 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 space or surface spray to walls and ceilings as a residual surface treatment. When applied as a fog or fine mist direct the spray toward the ceiling and upper corners until the area is filled with mist. For best results, close doors and windows before spraying and keep them closed for ten to lifteen minutes. Vacate the treated area and ventilate before reoccupying. Repeat treatment as necessary.

The use of any residual fly spray should be supplemented with proper manure management and general sanitation to reduce or eliminate fly breeding areas.

# As a space spray - Livestock Premises

For Application in	Target insects	Method of Applic.	Dilute	Applic. Rate
Dairies, Barns, feedlots, sta- bles, poultry houses, swine and livestock houses	Lesser meal- worm, dark- ling beetles, house flies, stable flies and other manure breeding flies. Also aids in the reduction of cockroach- es, mosqui- toes and spi- ders.	Sprayer Fog or Mist	4 ounces to 12.5 gal- lons water 1.5 to 2.0 ounces to 1 gal- lon water	1 gallon per 750 square feet of surface 2 ounces per 1,000 cubic feet of space

Avoid contamination of feed and water. Do not apply dilutions for premise spray directly to livestock or poultry.

# As a livestock spray

Animals	Insect	Dilute & Use	Application Rate
Laciating and Non-Laciating Dairy Cattle and Goats, Beef	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.
Cattle and Sheep	Hom flies, Face flies, Stable flies, House flies, Horse flies, Deer flies, Black flies, Eye gnats, Mange mites, Scables mites, Ticks, Lice and Sheep keds.	4 fl. oz. to 25 gals, water (treats 50-100 head). 0.05% Al. 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.
	Hom flies, Face flies, Stable flies, Ear ticks and Lice.	4 fl. oz. to 2 1/2 gals. water (treats 64-80 head) 0.5% Al. Low pressure spray (Hand pump sprayer).	For fly and lice control, spray mid- tine from face to tailhead to point of runoff (4-5 fl.oz.). For ear tick con- trol spray directly into each ear (1/2 fl.oz each).
	Hom flies, Face flies and Stable flies.	4 fl. oz. to 10 gals. diesel oil or suitable min- eral oil, 0.125% Al, 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% Al. High pressure spray.	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% Al. 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% Al. 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% Al. Dip wash	Thoroughly wet animal to skin with sponge or rag. Let drip dry.
		4 fl. oz. to 20 gals, water 0.0625%Al, Dip (dogs only).	Make sure all areas are soaked to skin. Let dip dry on animals. Do not rinse off,

6/10

#### -Attention

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

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.

#### 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 **FMIC**—Trademarks of FMC Corporation

(1547-10/21/96)

**REVISIONS:**