

CARDINAL  
CHEMICAL  
COMPANY



FIFTY FRANCISCO ST  
SAN FRANCISCO  
CALIFORNIA 94133

ACCEPTED  
JUN 26 1984  
EPA Reg. No. 5440-113

EPA EST. 5440-CA-1

PROTECTING  
THE FOODS  
THAT FEED  
THE NATION

# CARDINAL FOOD PLANT 5-1 INSECTICIDE

## PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

Harmful if swallowed. Avoid breathing vapor. Avoid contact with skin, eyes or clothing. Wear protective clothing. Wash exposed skin with soap and water after handling and before eating. Wash all contaminated clothing with soap and water separately from other clothing before reuse.

Do not apply directly to food. In commercial food handling facilities, cover or remove any food and food processing equipment during application. Do not apply while food processing is under way. After space spraying in meat packing plants, bakeries, and other food processing plants, wash all equipment, benches, shelving, etc., with potable water where exposed food will be handled. In the home, all food processing surfaces and utensils should be covered during treatment or thoroughly washed before use.

Remove pets and birds, and cover fish aquariums before spraying.

### FIRST AID

If in eyes: Flush eyes with plenty of water. Get medical attention if irritation persists.

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

### PHYSICAL OR CHEMICAL HAZARDS

Extinguish open flame before space spraying. This formulation is combustible. DO NOT USE POUR SPILL 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. SEE SIDE PANEL FOR ADDITIONAL INSTRUCTIONS.

## STORAGE AND DISPOSAL

**STORAGE:** Do not store in water, food or feed by storage or disposal.

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

**CONTAINER DISPOSAL:** Triple rinse, if required. Then offer for recycling or reuse, if available, or puncture and dispose of in a sanitary landfill or by other permitted means approved by state and local authorities.

### DIRECTIONS FOR USE

Cardinal Food Plant 5-1 Insecticide should be used as directed for control of the following insects:

- |                      |                        |
|----------------------|------------------------|
| Angoumois Grain Moth | Cheese Skippers        |
| Ants                 | Cigarette Beetles      |
| Boreder Bugs         | Clover Mites           |
| Caddisflies          | Cockroaches (German)   |
| Cheese Mites         | Confuser Flour Beetles |

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### ACTIVE INGREDIENTS

Pyrethrins	1.0%
*Piperonyl Butoxide technical	5.0%
Petroleum Distillate	94.0%
	100.0%

\*Equivalent to 4.0% (butylcarbitol) 16-propylpiperonyliether and 1.0% related compounds

KEEP OUT OF REACH OF CHILDREN  
CAUTION

SEE SIDE PANEL FOR ADDITIONAL  
PRECAUTIONARY STATEMENTS

EPA Reg No. 5440-113

**WARRANTY STATEMENT:** Our recommendations for use of this product are based upon tests believed to be reliable. The use of this product is beyond the control of the manufacturer. No guarantee, expressed or implied, is made as to the effect of such or the results to be obtained if not used in accordance with directions or established safe practice. The buyer must assume all responsibility including injury or damage resulting from its misuse as such or in combination with other materials.

- |                     |                           |
|---------------------|---------------------------|
| Crickets            | Lice                      |
| Dark Mealworms      | Mediterranean Flour Moths |
| Deer Flies          | Mosquitoes                |
| Dried Fruit Beetles | Mushroom Flies            |
| Drug Store Beetles  | Red Flour Beetles         |
| Earwigs             | Rice Weevils              |
| Fruit Flies         | Sawtoothed Grain Beetles  |
| Fungus Gnats        | Silverfish                |
| Gnats               | Small Flying Moths        |
| Grain Mites         | Spiders                   |
| Granary Weevils     | Spider Beetles            |
| Horn Flies          | Stable Flies              |
| Hornets             | Tobacco Moths             |
| Horse Flies         | Wasps                     |
| House Flies         | Yellow Mealworms          |
| Indian Meal Moths   |                           |

### FOR TRAINED PERSONNEL ONLY

To be applied only by or under the supervision of pest Control Operators, members of Mosquito Abatement Districts or Public Health Organizations and other Trained Personnel responsible for insect Control Programs. For indoor or outdoor application as a space, area or contact spray. Dependent upon pests to be controlled and the area to be treated, may be applied through Mechanical Aerosol Generators (ULV) as well as conventional fogging or spraying equipment.

### INDOOR USE AREAS

- |                            |                                  |
|----------------------------|----------------------------------|
| Bakeries                   | Office Buildings                 |
| Beverage Plants            | Poultry Houses                   |
| Canneries                  | Railroad Cars                    |
| Cattle Barns               | Homes                            |
| Dried Food Products        | Schools                          |
| in Storage or Processing   | Stored Food in Multi-Floor Mills |
| Walled Paper or Cloth Bags |                                  |
| Food Processing Plants     | Supermarkets                     |
| Grain Elevators            | Swine Houses                     |
| Granaries                  | Truck Trailers                   |
| Horse Barns                | Warehouses                       |
| Hospitals                  | Ships' Holds                     |
| Hotels                     | Zoos                             |
| Industrial Installations   | Restaurants                      |
| Meat Packing Plants        | Hotels                           |

### OUTDOOR USE AREAS

- |                      |                    |
|----------------------|--------------------|
| Corrals              | Playgrounds        |
| Drive-In Restaurants | Recreational Areas |
| Drive-In Theaters    | Swine Yards        |
| Feedlots             | Urban Areas        |
| Golf Courses         | Zoos               |
| Parks                |                    |

### INDOOR USE UNDILUTED

The use of this product in food processing or food handling establishments (bakeries, beverage plants, canneries, food processing plants, hospitals, hotels, industrial installations, meat packing plants, restaurants, schools, supermarkets and warehouses) should be confined to time periods when the plants or facilities are not in operation. Foods should be removed or covered during treatment. All food processing surfaces should be covered during treatment or thoroughly cleaned before reusing.

SPACE A  
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Small Fly  
Wasps  
Hornets  
Clover M  
Silverfish  
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Granary  
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# INSECTICIDE

Meatworms  
Fruit Flies  
Store Beetles  
Gnats  
Mites  
Wasp  
Crickets  
Silverfish

Lice  
Spider Beetles  
German Cockroaches  
Crickets  
Silverfish

**TRAINED PERSONNEL ONLY**  
Applied only by or under the supervision of pest control operators, members of Municipal Abatement Organizations, Health Organizations and other Trained personnel responsible for Pest Control Programs. For use in areas that have a separate area for pest control. Do not use in areas where the pest is controlled and the insecticide may be spread through mechanical means. Do not use in areas where the pest is controlled and the insecticide may be spread through mechanical means.

**INDOOR USE AREAS**  
Offices  
Bridges  
Poultry Houses  
Railroad Cars  
Homes  
Schools  
Storage of Processing  
Stores  
Factories  
Warehouses  
Shops  
Restaurants  
Motels

**INDOOR USE AREAS**  
Factories  
Warehouses  
Shops  
Restaurants  
Motels

**INDOOR USE (UNDILUTED)**  
Use of this product in food processing areas and in food storage areas is prohibited. Do not use in areas where the pest is controlled and the insecticide may be spread through mechanical means. Do not use in areas where the pest is controlled and the insecticide may be spread through mechanical means.

## SPACE AND CONTACT SPRAY APPLICATION

To control accessible adult stages of:  
Fruit Flies  
Mosquitoes  
Small Flying Moths  
Wasps  
Hornets  
Clover Mites  
Silverfish

Cheese Mites  
Cheese Skippers  
Boxelder Bugs  
Ants  
Earwigs  
Cockroaches (German)  
Crickets

and the following common stored product pests:  
Granary Weevils  
Rice Weevils  
Confused Flour Beetles  
Sawtoothed Grain Beetles  
Spider Beetles  
Cigarette Beetles  
Angoumois Grain Moths  
Mediterranean Flour Moths

Close doors and windows and shut off ventilating systems. Use a mechanical aerosol generator or a fogger adjusted to deliver aerosol droplets of 30 microns or less. Direct the spray first into cracks and crevices, behind equipment, cupboards, obstructions or dark harborage areas to provide maximum penetration and impingement on the insects. Then treat as a space spray directing the spray towards the ceiling and upper corners of the area and behind any obstructions. Apply at a rate of 1 ounce per 1000 cubic feet of space. Keep area closed for at least one hour. Vacate treated area and ventilate before reoccupying. Repeat treatment as necessary.

## TREATMENT OF STORED FOOD AREAS

Foods in multi-walled bags or in cloth bags stored in warehouses, storage rooms, flour mills, grain elevators and granaries. To control accessible adult stages of:

Angoumois Grain Moth  
Cigarette Beetles  
Confused Flour Beetles  
Indian Meal Moth  
Mediterranean Flour Moth  
Rice Weevil  
Sawtoothed Grain Beetles  
Yellow Mealworm

Cheese Mites  
Cheese Skippers  
Cigarette Beetles  
Granary Mites  
Granary Weevils  
Dark Mealworms  
German Cockroaches  
Red Flour Beetles

Use of this product in food processing areas and in food storage areas is prohibited. Do not use in areas where the pest is controlled and the insecticide may be spread through mechanical means. Do not use in areas where the pest is controlled and the insecticide may be spread through mechanical means.

## INDOOR USE (DILUTED)

**SPACE SPRAY APPLICATION** For use in mechanical fogging or spraying equipment. To control accessible stages of:  
Fruit Flies  
Mosquitoes

Gnats  
Small Flying Moths

Cover or remove exposed food and cover food handling surfaces in edible product areas of food handling establishments. Close room and shut off air conditioning or ventilating equipment. Mix 13 ounces of Cardinal Food Plant 5-1 Insecticide with sufficient oil to equal one gallon of diluted spray. Apply at the rate of 1-2 fluid ounces per 1000 cubic feet filling the room with mist. Keep area closed for at least 15 minutes. Vacate treated area and ventilate before reoccupying. Repeat treatment if reinfestation occurs.

## ANIMAL QUARTER USE

Cattle barns, horse barns, poultry houses, swine houses, zoos. As a space spray diluted for use in conventional mechanical fogging or spraying equipment. To control:  
Fruit Flies  
Small Flying Moths  
Mosquitoes  
Gnats

Mix 13 ounces of Cardinal Food Plant 5-1 Insecticide with sufficient oil to equal one gallon of diluted spray. Apply at the rate of 2 ounces per 1000 cubic feet of space above the animals. Direct spray towards the upper portions of the enclosure filling the room with mist. Keep area closed for at least 15 minutes. Vacate treated area and ventilate before reoccupying. Repeat treatment if reinfestation occurs.

## INDOOR ROOM PRODUCTION AND PROCESSING

To control: Mushroom Flies and Fungus Gnats

Mix 13 ounces of Cardinal Food Plant 5-1 Insecticide with sufficient oil to equal one gallon of diluted spray. Apply in growing houses at 1 ounce per 1000 cubic feet of space. Foggers should be operated 8 to 10 feet away from the plants and directed slightly upwards over them. Ventilating fans should be left in operation, but for best results, refrigeration should be turned off. In processing plants, treat at the rate of one ounce per 1000 cubic feet of space.

## SURFACE SPRAY APPLICATION

To control accessible stages of:  
Ants  
Boxelder Bugs  
Clover Mites  
Drugstore Beetles  
Earwigs

Lice  
Spider Beetles  
German Cockroaches  
Crickets  
Silverfish

Mix 13 ounces of Cardinal Food Plant 5-1 Insecticide with sufficient oil to equal one gallon of diluted spray. Apply as a coarse droplet spray using approximately one gallon to 750 square feet of space. Spray walls, floors and other surfaces of bins and storage and handling areas thoroughly being especially careful to treat cracks, crevices and similar hiding places. Treat unloading, handling and processing areas and inside conveying, processing and handling equipment. Spray thoroughly around the base of heavy machinery and equipment. Spray insects directly when possible.

## FOR IN-TRANSIT PROTECTION

Clean and spray truck beds, boxcars and ships' holds before loading. Thoroughly treat walls and floors and spray each layer of cartons or containers lightly as stacked.

## TREATMENT OF STORED GRAIN

To control accessible adult stages of:  
Indian Meal Moth and Angoumois Grain Moth

Apply to the surface of binned grain at a rate of 1 gallon per 1000 square feet. Apply at monthly intervals with the first appearance of moths and continue until early fall. In severe infestations, break up webbing with a rake before spraying and make a second application in two weeks.

## TREATMENT OF FLYING INSECTS RESTING PLACES

To aid in the control of:  
Mosquitoes  
Wasps

Gnats  
Skippers

Treat wall hangings, moldings, screens, door frames, window frames, beams, light cords and similar resting places with the above dilution of Cardinal Food Plant 5-1 Insecticide.

## OUTDOOR APPLICATION (UNDILUTED)

To control: Mosquitoes, Gnats and Small Flying Moths

For best results, use truck-mounted equipment and apply when there is a light breeze of approximately 5 miles per hour. Spray from the windward side so the fog will be carried across the area to be treated. Treat shrubbery and vegetation where mosquitoes may rest, particularly stagnant pools, marshy areas, shore lines and ponds. However, application of this undiluted product to any body of water is prohibited. Repeat treatment as required.

BEST DOCUMENT AVAILABLE

**INDOOR USE DILUTED**

**SPACE SPRAY APPLICATION** For use in mechanical fogging or spraying equipment To control accessible stages of

- Mites
- Spiders
- Bugs
- Ants
- Flies
- Fruit Flies
- Mosquitoes
- Small Flying Gnats

**SURFACE SPRAY APPLICATION**

To control accessible stages of

- Ants
- Boxelder Bugs
- Clover Mites
- Drugstore Beetles
- Earwigs
- Spider Beetles
- German Cockroaches
- Crickets
- Silverfish

Mix 13 ounces of Cardinal Food Plant 5-1 Insecticide with sufficient oil to equal one gallon of diluted spray Apply as a coarse droplet spray using approximately one gallon to 750 square feet of space Spray walls, floors and other surfaces of bins and storage and handling areas thoroughly being especially careful to treat cracks crevices and similar hiding places Treat unloading handling and processing areas and inside conveying processing and handling equipment Spray thoroughly around the base of heavy machinery and equipment Spray insects directly when possible

**FOR IN-TRANSIT PROTECTION** Clean and spray truck beds boxcars and ships holds before loading Thoroughly treat walls and floors and spray each layer of cartons or containers lightly as stacked

**TREATMENT OF STORED GRAIN**

To control accessible adult stages of Indian Meal Moth and Angoumois Grain Moth

Apply to the surface of binned grain at a rate of 1 gallon per 1000 square feet Apply at monthly intervals with the first appearance of moths and continue until early fall In severe infestations break up webbing with a rake before spraying and make a second application in two weeks

**TREATMENT OF FLYING INSECTS' RESTING PLACES**

To aid in the control of Mosquitoes Gnats Wasps Snappers

Treat walls ceilings moldings screens door frames window frames beams light cords and similar resting places with the above dilution of Cardinal Food Plant 5-1 Insecticide

**OUTDOOR APPLICATION DILUTED**

To control Mosquitoes Gnats and Small Flying Moths

For best results use truck mounted equipment and apply when there is a light breeze of approximately 5 miles per hour Spray from the windward side of the building or area to be treated Treat shrubbery and vegetation where mosquitoes may rest particularly stagnant pools marshy areas in the yard and ponds If water is present in this undiluted product is not to be used Repeat treatment as required

Disperse the Cardinal Food Plant 5-1 Insecticide at the following rates

Truck Speed (miles per hour)	Flow Rate (fluid ounces per minute)
5	12-15
10	24-30

Delivery rates and traveling speeds can be varied slightly so as long as the basic objective of 0.002 to 0.0025 pounds actual pyrethrins per acre is maintained Use a swath width of 300 feet for acreage calculations

**FOR TEMPORARY REDUCTION OF ANNOYANCE**  
From Flies Gnats Mosquitoes

In drive-in restaurants drive-in theaters golf courses urban areas parks playgrounds and other recreational areas Direct the spray into tall grass shrubbery and around lawns where these pests may hover or rest Apply while area is still and avoid wetting foliage Application should be made prior to use Repeat as necessary

In the treatment of corrals feedlots swine lots and zoos cover any exposed water drinking fountains and animal feed before application Fill the area with mist and direct the spray into tall grass shrubbery and around lawn where the above pests may hover or rest Apply while the air is still and avoid wetting foliage In Zoos avoid exposure of reptiles to the product Repeat as necessary

**OUTDOOR APPLICATION DILUTED**

**TO CONTROL MOSQUITO LARVAE** Mix 48 ounces of Cardinal Food Plant 5-1 Insecticide with sufficient oil to equal 50 gallons of diluted spray Apply 20 to 25 gallons per acre Apply as a coarse wetting spray to the border or on the shallow water of wetlands swamps and marshes known to be infested with mosquito larvae

**FOR USE ON ANIMALS**

- To protect against Horn Flies
- Mosquitoes
- House Flies
- Gnats

Mix 13 ounces of Cardinal Food Plant 5-1 Insecticide with sufficient oil to equal one gallon of diluted spray Apply light mist sufficient to wet the tips of the hair on beef and dairy cattle horses and dogs

To protect against

- Stable Flies
- Deer Flies
- Horse Flies

Apply the above dilution at two ounces per a 100 lb beef cattle dairy cattle and horses to sufficiently wet the hair but not saturate the hide Repeat this application once or twice daily or as needed for continued protection For other than the above stages of ticks, keds, ear ticks and dairy cattle apply the diluted spray to thoroughly wet hair Use 20 ounces of spray per animal and repeat every 2 to 3 weeks as required