

DEC 2 1991

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Mr. Paul A. Smith  
Micro-10 Company  
Lakeland, FL 33807

*Dennis H. Edwards*

Dennis H. Edwards, Jr.  
Product Manager (32)  
Insecticide-Repellent/Disinfectant  
Pesticide Division

Enclosure

CONCURRENCES

SYMBOL							
SURNAME							
DATE							

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**MICRO FLO  
SEVIN\* 4 FLOWABLE**

For Agricultural or Commercial Use Only

**ACTIVE INGREDIENT:**

Carbaryl (1-naphthyl-N-methylcarbamate) ..... 43.3%

**INERT INGREDIENTS** ..... 56.7%

**TOTAL** ..... 100.0%

\*SEVIN is a registered trademark for Rhone Poulenc for Carbaryl  
(Contains 4 pounds of Carbaryl per gallon)

**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 and induce vomiting by touching finger to back of throat. Do not induce vomiting or give anything by mouth to an unconscious person.

**IF INHALED:** Remove victim to fresh air. Apply respiration if indicated.

**IF IN EYES:** Flush eyes for at least 15 minutes with water. Call a physician immediately.

**IF ON SKIN:** Wash thoroughly with soap and water

See Elsewhere on Label For Additional Precautionary Statements

EPA Reg. No. 51036-66

EPA Est. No. 51036-GA-1

**ACCEPTED**  
DEC 2 1991  
Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 51036-66

Manufactured By  
**MICRO FLO COMPANY**  
P.O. BOX 5948  
LAKELAND, FLORIDA 33807

**PRECAUTIONARY STATEMENTS**

Hazards To Humans And Domestic Animals

**CAUTION**

**MAY BE HARMFUL IF SWALLOWED OR INHALED. OVEREXPOSURE MAY CAUSE:** Salivation, watery eyes, pinpoint eye pupils, blurred vision, muscle tremors, difficult breathing, excessive sweating, abdominal cramps, nausea, vomiting, diarrhea, weakness, headache. **IN SEVERE CASES CONVULSION, UNCONSCIOUSNESS AND RESPIRATORY FAILURE MAY OCCUR. SIGNS AND SYMPTOMS OF OVEREXPOSURE OCCUR RAPIDLY FOLLOWING EXPOSURE TO THIS PRODUCT.**

Avoid breathing spray mist. Do not take internally. Avoid contact with eyes, skin or clothing. Wear regular long-sleeved work clothing and head covering. Change to clean clothing daily. Bathe and wash hair after each work day. Do not eat, drink or use tobacco while working with this product or spray solutions. Wash hands and face before eating, drinking or using tobacco. Keep out of reach of children and domestic animals.

**ANTIDOTE STATEMENT:** Atropine sulfate is highly effective as an antidote

**NOTE TO PHYSICIAN:** Carbaryl is a carbamate insecticide, which is a cholinesterase inhibitor. Overexposure to this substance may cause toxic signs and symptoms due

to stimulation of the cholinergic nervous system. These effects of overexposure are spontaneously and rapidly reversible. Gastric lavage may be used if this product has been swallowed. Carbaryl poisoning may occur rapidly after ingestion and prompt removal of stomach contents is indicated. Specific treatment consists of parenteral atropine sulfate. Caution should be maintained to prevent overatropinization. Mild cases may be given 1 to 2 mg intramuscularly every 10 minutes until full atropinization has been achieved and repeated thereafter whenever symptoms reappear. Severe cases should be given 2 to 4 mg intravenously every 10 minutes until fully atropinized, then intramuscularly every 30 to 60 minutes as needed to maintain the effect for at least 12 hours. Dosages for children should be appropriately reduced. Complete recovery from overexposure is to be expected within 24 hours.

Narcotics and other sedatives should not be used. Further, drugs like 2-PAM (pyridine-2-aidoxime methiodide) are NOT recommended.

To aid in confirmation of a diagnosis, urine samples should be obtained within 24 hours of exposure and immediately frozen.

#### ENVIRONMENTAL HAZARDS

This product is extremely toxic to aquatic and estuarine invertebrates. Do not apply directly to water or wetlands, except under forest canopy and use on rice. Discharge from rice fields may kill aquatic and estuarine invertebrates. Do not apply when weather conditions favor drift from area treated. Do not contaminate water by cleaning of equipment or disposal of wastes.

#### BEE CAUTION

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 or weeds if bees are visiting the treatment area.

#### DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

#### CHEMIGATION PROHIBITION

Do not use this product through any type of irrigation system.

#### RE-ENTRY STATEMENT

Do not apply this product in such a manner as to directly or through drift expose workers or other persons. The area being treated must be vacated by unprotected persons.

Do not enter treated areas without protective clothing until sprays have dried.

Protective clothing means, at least, a hat or other suitable head covering, a long sleeved shirt and long legged trousers or a coverall type garment (all of closely woven fabric covering the body, including the arms and legs), shoes and socks.

Because certain states may require more restrictive reentry intervals for various crops treated with this product, consult your State Department of Agriculture for further information.

Written or oral warnings must be given to workers who are expected to be in a treated area or in an area about to be treated with this product. When oral warnings are given, warnings shall be given in a language customarily understood by workers. Oral warnings must be given if there is reason to believe that written

warnings cannot be understood by workers. Written warnings must include the following information. **CAUTION!** Area treated with Carbaryl on (date of application). Do not enter without appropriate protective clothing until sprays have dried. See Statement of Practical Treatment and Precautionary Statements for actions to be taken in case of accidental exposure.

#### **STORAGE AND DISPOSAL**

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited.

**STORAGE:** Store in original container only, in cool, dry, locked area out of reach of children and animals. Do not store in areas where temperature frequently exceeds 100 degrees F. Carbaryl may be used following exposure to several freeze thaw cycles. In case of minor spills, or leaks, clean up immediately. Soak up with sand, earth or other suitable material.

**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 (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

#### **PREHARVEST AND GRAZING USE INFORMATION AND LIMITATIONS**

Tolerances established under the Federal Food, Drug and Cosmetic Act permit the sale of crops bearing probable carbaryl residues when this product is used in accordance with the label directions. If used as directed, treated forage may be grazed or used as feed for dairy and meat animals without causing illegal residues in meat or milk. This product may be applied up to and including the day of harvest or grazing of forage crops (except alfalfa). Applications may be made without removing livestock from area being treated. Do not apply at greater rates or at more frequent intervals than is stated on the label. To do so may result in illegal residues in crops, meat, and milk.

**DO NOT PLANT ROTATIONAL FOOD AND FEED CROPS NOT LISTED ON THIS OR OTHER CARBARYL LABELS IN CARBARYL TREATED SOIL.**

Do not use reclaimed irrigation water from crops treated with carbaryl on crops for which carbaryl tolerances are not established.

#### **PLANT RESPONSE PRECAUTIONS**

To avoid possible injury to tender foliage, do not apply to wet foliage or during periods of high humidity.

Do not use on Boston Ivy, Virginia creeper and maidenhair fern as injury may result. Carbaryl may also injure Virginia and sand pines.

Carefully observe label instructions for apple thinning to avoid excessive thinning. Combinations with certain herbicides on rice and soybeans may be phytotoxic. Refer to specific directions for appropriate crop.

#### **SPRAY PREPARATION**

TO ASSURE A UNIFORM SUSPENSION, AGITATE, STIR AND RECIRCULATE ALL CONTAINERS OF THIS PRODUCT PRIOR TO USE. Remove oil, rust, scale, pesticide residues and other foreign matter from mix tanks and entire spray system. Flush

with clean water. Fill spray or mix tank with 1/2 to 3/4 the desired amount of water. Start mechanical or hydraulic agitation. Slowly add the required amount of Carbaryl and then the remaining volume of water. Include rinse water from container. Prepare only as much spray mixture as can be applied on the day of mixing. **MAINTAIN CONTINUOUS AGITATION DURING MIXING AND APPLICATION TO ASSURE A UNIFORM SUSPENSION. DO NOT STORE SPRAY MIXTURE FOR PROLONGED PERIODS OR DEGRADATION OF CARBARYL MAY OCCUR.** Local water conditions may also accelerate the degradation of spray mixtures containing carbaryl. See Compatibility Statement below.

#### **WASHOFF RESISTANCE AND COVERAGE**

Dilution of 1 volume Carbaryl with 1 volume of water provides maximum resistance to washoff by rainfall or overhead irrigation. Dilutions higher than 1 part Carbaryl to 39 parts water (1:39) are not recommended when washoff resistance is desired.

To achieve washoff resistance, Carbaryl must be diluted as stated above, and droplets must dry on the foliage. When atmospheric humidity is low, a drying time of at least two hours is generally adequate. Under high humidity a longer drying time is required. Washoff resistance cannot be expected if this product is applied to wet foliage and has not thoroughly dried prior to rainfall or overhead irrigation.

On all crops, use sufficient spray volume to obtain thorough coverage. Optimum pest control under certain crop, pest or climatic conditions may require spray gallonages higher than the 1:39 dilution. For example in hot, arid weather (low humidity), higher spray gallonage per acre may be required to compensate for loss from evaporation and insure thorough coverage. The total spray volume required for effective pest control can best be determined by previous experience, pest and crop conditions and local recommendations.

#### **COMPATABILITY**

Carbaryl 4 Flowable when diluted with at least an equal volume of water, is compatible with a wide range of pesticides. It is not compatible with diesel fuel, kerosene, fuel oil or aromatic solvents. If compatibility with another product and the resulting crop response is unknown, the mixture should be tested on a small scale. Curdling, precipitation, greasing, layer formation or increased viscosity are symptoms of incompatibility. Incompatibility will reduce insect control and may cause application and handling difficulties or plant injury. Observe all cautions and limitations on labeling of all products used in mixtures. **WHEN PREPARING COMBINATION SPRAYS, FIRST ADD CARBARYL TO AT LEAST AN EQUAL VOLUME OF WATER, MIX THOROUGHLY, AND THEN ADD COMBINATION PRODUCTS TO THE MIXTURE. DO NOT APPLY TANK MIX COMBINATIONS UNLESS YOUR PREVIOUS EXPERIENCE INDICATES THE MIXTURE IS EFFECTIVE AND WILL NOT RESULT IN APPLICATION PROBLEMS OR PLANT INJURY.**

Carbaryl is unstable under highly alkaline conditions and mixtures with strong bases, such as Bordeaux, lime-sulfur and casein-lime spreaders, will result in chemical degradation of the insecticide. Do not use this product in water with pH values above 8.0 unless a buffer is added. If necessary, water should be buffered to neutral (pH=7.0) before adding this product to the spray tank. Overhead

irrigation with alkaline or muddy water after application will also accelerate chemical degradation and may result in reduced insect control.

#### **APPLICATION**

On all crops use sufficient gallonage to obtain thorough and uniform coverage. Observe crop label instructions for specific directions regarding spray volume where they occur. Calibrate spray equipment to deliver the required volume. The flow rate of this product diluted 1:1 with water is similar to water. Use 50 mesh slotted strainers in spray system and 25 mesh slotted strainers behind nozzles. To clean spray system after use, drain and flush with water and detergent mixture. Rinse thoroughly with clean water. Refer to the Storage and Disposal directions for disposal instructions.

#### **INSECT CONTROL**

Begin application when insect populations reach recognized economic threshold levels. Consult the Cooperative Extension Service, Professional Consultants or other qualified authorities to determine appropriate threshold levels for treatment in your area. Where a dosage range is indicated, use the lower rate on light to moderate infestations, young plants and early instars and the higher rate on heavy infestations, mature plants, advanced instars and adults. Thorough and uniform spray coverage is essential for effective control.

**NOTE:** All references to armyworm on the crops listed below refer to the species, *Pseudaletia unipuncta*, often called the "true armyworm". Except where indicated otherwise, this product is not registered for the control of other armyworm species. Regional differences have been noted in the susceptibility of certain strains of fall armyworm, Colorado potato beetle, spotted tentiform leafminer, and tobacco budworm (on cotton) to carbaryl. If local experience indicates inadequate control, use an alternative pesticide.

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#### **DIRECTIONS FOR USE AS A WHEAT BRAN BAIT**

**FOR END USE ONLY. NOT FOR REPACKAGING. FOR USE ONLY BY GOVERNMENT PERSONNEL OR PERSONS UNDER THEIR DIRECT SUPERVISION.**

**Mixing Instructions:** Mix the appropriate amount of Carbaryl 4 Flowable with wheat bran to make a carbaryl wheat bran bait containing 2% to 10% active carbaryl. For example, for a bait containing 5% carbaryl, mix 1 quart Carbaryl (contains 1 lb. active carbaryl) with each 19 pounds of wheat bran. Mix only the amount of bait necessary for each insect control program.

**Storage Instructions:** Store carbaryl bran baits in cool, dry area out of reach of children and animals. Do not contaminate water, food, or feed by storage or disposal.

**NOTE:** Carbaryl bran baits should only be stored temporarily while awaiting application.

**Application Instructions:** Applications may be made with ground equipment (hand cyclone spreader) or with aerial application equipment with a metered bait spreader attachment.

#### **PASTURES, RANGELAND, WASTELAND, ROADSIDES**

Use 0.50 - 1.50 lbs. active ingredient/acre for the control of grasshoppers and Mormon crickets. The lower rate is suggested for early instars on small plants or

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sparse vegetation. Use the higher rate for adults or dense vegetation. Use of low bait assay and higher rate is suggested for control of high grasshopper populations. Treatment may be repeated as necessary.

Preharvest interval is 0 days.

**IMPORTANT: BEFORE USING CARBARYL, READ AND FOLLOW CAREFULLY, OBSERVE THE PRECAUTIONARY STATEMENTS AND ALL OTHER INFORMATION APPEARING ON THE PRODUCT LABEL.**

### FORAGE, FIELD AND VEGETABLE CROPS

Apply in sufficient spray volume to obtain thorough coverage. Do not dilute greater than 1:39 (volume product: volume water) where washoff resistance is desired. Where maximum washoff resistance is needed, do not exceed a 1:1 dilution. To prepare small volumes of spray mixture use 1 tablespoonful (1/2 fluid ounce) of Carbaryl 4 Fl per gallon of water where rates of 1 quart per acre or 1 quart per 100 gallons are indicated in the tables below.

#### GRASSHOPPERS

**ALL FORAGE, FIELD AND VEGETABLE CROPS:** 1/2 to 1 1/2 quarts Carbaryl 4 Fl per acre. For preharvest interval days, see specific forage, field or vegetable crops.

Use the lower rate for nymphs on small plants or sparse vegetation in wasteland, rangeland, ditchbanks and borders. Use the higher rate for mature grasshoppers or applications to dense vegetation or if extended residual control is desired. Be certain spray volumes are appropriate to assure adequate coverage.

**ALFALFA:** Blister beetles, Mexican bean beetle - 1/2 to 1 quart Carbaryl 4 Fl per acre. Alfalfa caterpillar, Bean leaf beetle, Cucumber beetles, Green cloverworm, Japanese beetle, Leafhoppers, Potato Leafhopper, Three cornered alfalfa hopper, Thrips, Velvetbean caterpillar - 1 quart Carbaryl 4 Fl per acre.

Armyworm, Cloverhead weevil, Corn earworm, Egyptian alfalfa weevil larvae, Essex skipper, European alfalfa beetle, Fall armyworm, Lygus bugs, Stink bugs, Webworms, Yellowstriped armyworm - 1 to 1 1/4 quarts Carbaryl 4 Fl per acre.

Alfalfa weevil larvae (West of the Rock Mountains) - 1 to 1 1/2 quarts Carbaryl 4 Fl per acre. Alfalfa weevil larvae (East of the Rocky Mountains) - 1 1/2 quarts Carbaryl 4 Fl per acre. Preharvest interval - 7 days.

Observe bee caution. Observe plant response precautions. Carbaryl may cause a temporary bleaching of tender alfalfa foliage. Apply only once per cutting for alfalfa at 1 1/2 quarts. On dense growth, use 25 to 40 gallons per acre with ground equipment to ensure adequate coverage. For alfalfa weevil larvae, if pretreatment damage is extensive, cut alfalfa and treat the stubble.

Grasshoppers - Refer to general Grasshopper heading above.

**ASPARAGUS:** Asparagus beetle - 1 to 2 quarts Carbaryl 4 Fl per acre. Preharvest interval - 1 day. Apache cicada, Asparagus beetle - 2 to 4 quarts Carbaryl 4 Fl. Post harvest application only. Treat ferns or brush growth. Do not treat more than once every 3 days.

**BEANS (including blackeyed peas, cowpeas, southern peas, dry beans, green beans, lima beans, navy beans, and snap beans) LENTILS (DO NOT USE ON LENTILS IN CALIFORNIA):** Blister beetles, Mexican bean beetle - 1/2 to 1 quart Carbaryl 4 Fl per acre. Alfalfa caterpillar, Bean leaf beetles, Cucumber beetles, Flea beetles,

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Green cloverworm, Japanese beetle, Leafhoppers, Three cornered alfalfa hopper, Thrips, Velvetbean caterpillar, Western bean cutworm - 1 quart Carbaryl 4 Fl per acre. Armyworm, Corn earworm, Cutworms, European corn borer, Fall armyworm, Stink bugs, Tarnished plant bug, Webworms - 1 to 1 1/2 quarts Carbaryl 4 Fl per acre. Alfalfa Looper - 1 1/2 quarts Carbaryl 4 Fl per acre. Cowpea curculio - 2 quarts Carbaryl 4 Fl per acre. Corn earworm, Limabean podborer, Lygus bugs, Stink bugs (CALIFORNIA ONLY) - 2 quarts Carbaryl 4 Fl per acre. Preharvest interval - 0 days (except cowpeas and lentils), cowpeas - 3 days, lentils - 7 days. Observe plant response precautions. Grasshoppers - Refer to general grasshopper heading above.

**CABBAGE, BROCCOLI, BRUSSELS SPROUTS, CAULIFLOWER, KOHLRABI**

Flea beetles, Harlequin bug - 1/2 to 1 quart Carbaryl 4 Fl per acre.

Armyworm, Corn earworm, Diamondback moth, Fall armyworm, Imported cabbageworm - 1 to 2 quarts Carbaryl 4 Fl per acre. Preharvest interval - 3 days.

**CHINESE CABBAGE, COLLARDS, HANOVER SALAD, HORSERADISH, KALE, MUSTARD GREENS, RADISHES, RUTABAGS, TURNIPS:** Flea beetles, Harlequin bug, Leafhoppers - 1/2 to 1 quart Carbaryl 4 Fl per acre. Aster leafhopper - 1 to 1 1/2 quarts Carbaryl 4 Fl per acre. Armyworm, Corn earworm, Fall armyworm, Imported cabbageworm, Stink bugs, Tarnished plant bug - 1 to 2 quarts Carbaryl 4 Fl per acre. Preharvest interval - 3 days (horseradish, radishes, rutabagas and turnip roots). 14 days (Chinese cabbage, collards, Hanover salad, kale, mustard greens, and turnip tops)

**CARROTS, CELERY, PARSLEY, PARSNIPS (Do not use on Celery in California)**

Flea beetles, Leafhoppers - 1/2 to 1 quart Carbaryl 4 Fl per acre.

Aster leafhopper, Lygus bugs, Spittlebugs - 1 to 1 1/2 quarts Carbaryl 4 Fl per acre. Armyworm, Corn earworm, Fall armyworm, Stink bug, Tarnished plant bug - 1 to 2 quarts Carbaryl 4 Fl per acre. Preharvest interval - 0 days on carrots, 3 days on parsnips, 14 days on celery and parsley. Treat on a 5 to 7 day schedule.

**CORN (Field, Sweet, Pop):** Armyworm, Chinch bugs, Corn earworm, Corn rootworm adults, Fall armyworm, Flea beetles, Japanese beetle, Sap beetles, Southwestern corn borer, Leafhoppers - 1 to 2 quarts Carbaryl 4 Fl per acre. Observe bee caution. For insects attacking silks and ears apply at 1 to 6 day intervals starting when first silks appear and continuing until silks begin to dry. For larvae in whorl and foliage feeders, apply as necessary. Optimum timing and good coverage are essential for effective control. For optimum chinch bug control, apply at least 20 gallons of water per acre by ground and direct spray toward stalk to provide thorough coverage. European Corn borer - 1 1/2 to 2 quarts Carbaryl 4 Fl per acre. For optimum control, do not apply in less than 3 gallons of water per acre by air and 15 gallons of water per acre by ground. Western bean cutworm - 2 quarts Carbaryl 4 Fl per acre. Cutworms - 2 to 3 quarts Carbaryl 4 Fl per acre.

For optimum control, apply in a 12 inch band, over the row, using sufficient volume of water to obtain thorough coverage. For broadcast application use at least 20 gallons (ground) and 5 gallons (air) of water per acre. Grasshoppers - Refer to general grasshopper heading above.

**COTTON:** Cotton fleahopper, Cotton leafworm, Flea beetles, Striped blister beetle, Thrips - 1/2 to 1 quart Carbaryl 4 Fl per acre. Boll weevil, Cotton bollworm, Fall



armyworm, Leafrollers, Leafhoppers, Tarnished plant bug, Yellowstriped armyworm (cotton cutworm) - 1 to 2 quarts Carbaryl 4 Fl per acre.

Treat on a 5 to 7 day schedule for as long as control is necessary. Mid and late season insect control. May be applied after bolls open. Lygus bugs - 1 to 2 quarts Carbaryl 4 Fl per acre. For light to moderate populations in Western irrigated cotton. Pink bollworm - 1 1/2 to 2 1/2 quarts Carbaryl 4 Fl per acre.

Cutworms, Stink bugs, Saltmarsh caterpillar - 2 quarts Carbaryl 4 Fl per acre.

Aphid populations will be suppressed by repeated applications of this insecticide.

Preharvest interval - 7 days.

**CUCUMBER, MELONS, PUMPKIN, SQUASH:** Pickleworm, Melonworm - 1/2 to 1 quart Carbaryl 4 Fl per acre. Cucumber beetles, Flea beetles, Leafhoppers, Squash bugs - 1 quart Carbaryl 4 Fl per acre. Observe plant response precautions. Preharvest interval - 0 days.

**DANDELION, ENDIVE (ESCAROLE), LETTUCE, SALSIFY:** Flea beetles, Harlequin bug, Leafhoppers - 1/2 to 1 quart Carbaryl 4 Fl per acre. Aster leafhopper, Lygus bugs, Spittlebugs - 1 to 1 1/2 quarts Carbaryl 4 Fl per acre. Armyworm, Corn earworm, Fall armyworm, Imported cabbageworm, Stink bugs, Tarnished plant bug - 1 to 2 quarts Carbaryl 4 Fl per acre. Preharvest interval - 3 days on head lettuce and salsify roots; 14 days on dandelion, endive (escarole), leaf lettuce and salsify tops. Observe plant response precautions. Treat on a 5 to 7 day schedule after heads begin to form.

**FLAX, PROSO MILLET (DO NOT USE IN CALIFORNIA):** Armyworm - 1 to 1 1/2 quarts Carbaryl 4 Fl per acre. Do not graze treated areas or harvest for dairy feed prior to crop maturity. Preharvest interval - 42 days. Grasshopper - Refer to the general grasshopper heading above.

**PASTURE:** Armyworm, Chinch bugs, Essex skipper, Fall armyworm, Striped grass looper, Thrips, Range caterpillar, Range crane fly - 1 to 1 1/2 quarts Carbaryl 4 Fl per acre. Preharvest interval - 0 days (aerial application); 14 days (ground applications). To control thrips in grasses grown for seed, use high spray pressure to improve penetration into boot. Apply a minimum of 2 applications per year. Allow at least 14 days between applications. Do not allow foraging or cut for hay within 14 days of last application by ground. Aerially treated pastures may be grazed or cut for hay on day of treatment. Carefully mark swaths to avoid overapplication. Grasshoppers - Refer to the general grasshopper heading above.

**RANGELAND:** Black grass bug, Mormon cricket, Range caterpillar, Range crane fly - 1/2 to 1 quart Carbaryl 4 Fl per acre. Preharvest interval - 0 days.

**FOR AERIAL APPLICATIONS ONLY.** Apply a maximum of 2 applications per year. Allow at least 14 days between applications. Carefully mark swaths to avoid overapplication. Grasshoppers - Refer to the general grasshopper heading above.

**WASTELAND, RIGHTS-OF-WAY, HEDGEROWS, DITCH BANKS, ROADSIDES:** Black grass bug, Mormon cricket, Range caterpillar, Range crane fly - 1/2 to 1 quart Carbaryl 4 Fl per acre. Preharvest interval - 0 days (aerial application); 14 days (ground application). Apply a maximum of 2 applications per year. Allow at least 14 days between applications. Do not allow foraging or cut for hay within 14 days of last application by ground. Aerially treated areas may be grazed or cut for hay on day

of treatment. Carefully mark swaths to avoid overapplication. Grasshoppers - Refer to the general grasshopper heading above.

**GARDEN BEET, SPINACH, SWISS CHARD:** Flea beetles, Harlequin bug, Leafhoppers - 1/2 to 1 quart Carbaryl 4 Fl per acre. Aster leafhopper - 1 to 1 1/2 quarts Carbaryl 4 Fl per acre. Armyworm, Corn earworm, Fall armyworm, Stink bugs, Tarnished plant bug - 1 to 2 quarts Carbaryl 4 Fl per acre. Preharvest interval - 3 days (garden beet roots; 14 days (garden beet tops, spinach, Swiss chard).

Treat on a 5 to 7 day schedule.

**OKRA:** Corn earworm, Stink bugs - 1 to 2 quarts Carbaryl 4 Fl per acre. Preharvest interval - 0 days. Treat on a 5 to 7 day schedule.

**PEANUTS:** Blister beetles, Mexican bean beetle - 1/2 to 1 quart Carbaryl 4 Fl per acre. Alfalfa caterpillar, Bean leaf beetle, Cucumber beetles, Green cloverworm, Japanese beetle, Leafhoppers, Rednecked peanutworm, Three cornered alfalfa hopper, Thrips, Velvetbean caterpillar - 1 quart Carbaryl 4 Fl per acre.

Armyworm, Corn earworm, Fall armyworm, Stink bugs, Webworms - 1 to 1 1/2 quarts Carbaryl 4 Fl per acre. White-fringed beetle adults, Cutworms - 2 quarts Carbaryl 4 Fl per acre. Preharvest interval - 0 days.

Observe plant response precautions.

**PEAS:** Colorado potato beetle, Leafhoppers - 1 quart Carbaryl 4 Fl per acre.

Armyworm - 1 to 1 1/2 quarts Carbaryl 4 Fl per acre. Alfalfa caterpillar, Cutworms, Pea leaf weevil, Pea weevil, Yellowstriped armyworm - 1 1/2 quarts Carbaryl 4 Fl per acre. Alfalfa looper - 2 1/2 quarts Carbaryl 4 Fl per acre. (WASHINGTON STATE ONLY) Preharvest interval - 3 days.

**POTATO, TOMATO, EGGPLANT, PEPPER:** Colorado potato beetle, Flea beetles, Leafhoppers - 1/2 to 1 quart Carbaryl 4 Fl per acre. European corn borer, Fall armyworm, Lace bugs, Stink bugs (suppression), Tarnished plant bug, Tomato fruitworm, Tomato hornworm, Tomato pinworm - 1 to 2 quarts Carbaryl 4 Fl per acre. Cutworms - 2 quarts Carbaryl 4 Fl per acre. Preharvest interval - 0 days.

Thorough coverage is essential to effectively suppress stink bugs. When disease transmission is suspected, monitor fields following application and retreat if reinfestation occurs.

**PRICKLY PEAR CACTUS:** Cochineal scale (crawlers) - 2 quarts Carbaryl 4 Fl per acre. Preharvest interval - 1 day. Apply as needed at 7 to 10 day intervals. Do not make more than 7 applications per season.

**RICE:** Armyworm, Chinch bugs, Fall armyworm, Stink bugs - 1 to 1 1/2 quarts Carbaryl 4 Fl per acre.

#### **MISSISSIPPI DELTA AND TEXAS**

**CAUTION:** May kill shrimp and crabs. Do not use in areas where these are important resources. Do not use on rice fields in which crayfish and catfish farming are included in the cultural practice. **DO NOT APPLY PROPANIL HERBICIDES WITHIN 15 DAYS BEFORE OR AFTER APPLICATION OF THIS PRODUCT OR PLANT INJURY WILL RESULT.**

Armyworm, Leafhoppers, Tadpole shrimp - 2 quarts Carbaryl 4 Fl per acre.

#### **CALIFORNIA ONLY**

For optimum tadpole shrimp control apply to water when pest first appears. Preharvest interval - 14 days.

Grasshoppers - Refer to the general grasshopper heading above.

**SORGHUM (MILO, GRAIN SWEET AND HYBRID):** Sorghum midge - 3/4 to 1 quart Carbaryl 4 Fl per acre. Armyworm, Chinch bugs, Corn earworm, Fall armyworm, Stink bugs, Webworms - 1 to 2 quarts Carbaryl 4 Fl per acre. Southwestern corn borer - 1 1/2 quarts Carbaryl 4 Fl per acre. Cutworms - 2 quarts Carbaryl 4 Fl per acre. Preharvest interval - 21 days (grain); 0 days (forage) Direct spray into forming heads for optimum insect control. Treat for sorghum midge when 25 to 30 percent of heads have emerged from boot and are in bloom. Repeat application 3 to 5 days later if adults are still active. A third application may be necessary in late planted sorghum or if midge are abundant. For chinch bugs use high gallonage ground application directed at the base of plants. Grasshoppers - Refer to general grasshopper heading above.

**SOYBEANS:** Bean leaf beetle, Blister beetle, Cucumber beetles, Grape colaspis, Green cloverworm, Japanese beetle, Mexican bean beetle, Velvetbean caterpillar - 1/2 to 1 quart Carbaryl 4 Fl per acre. Corn earworm - 1/2 to 1 1/2 quarts Carbaryl 4 Fl per acre. **DO NOT APPLY A COMBINATION OF THIS PRODUCT AND 2,4 DB HERBICIDES TO SOYBEANS AS CROP INJURY MAY RESULT.** Use lower rates for light to moderate populations and smaller instars and to provide maximum survival of beneficial insects and spiders. Use the higher rates for heavy populations and larger instars. Alfalfa caterpillar, Leafhoppers, Three cornered alfalfa hopper, Thrips - 1 quart Carbaryl 4 Fl per acre. Armyworm, Cutworms, Fall armyworm, Webworms - 1 to 1 1/2 quarts Carbaryl 4 Fl per acre.

Painted lady (Thistle caterpillar), Saltmarsh caterpillar, Woollybear caterpillar, Yellowstriped armyworm - 1 1/2 to 2 quarts Carbaryl 4 Fl per acre.

Preharvest interval - 0 days. Grasshoppers - Refer to general grasshopper heading above.

**SUGAR BEETS:** Armyworm, Beet leaf beetle, Fall armyworm, Flea beetles, Leafhoppers, Webworms - 1 to 1 1/2 quarts Carbaryl 4 Fl per acre. Preharvest interval - 14 days. Cutworms - 1 1/2 quarts Carbaryl 4 Fl per acre.

Grasshopper - Refer to general grasshopper heading above.

**SUNFLOWER (DO NOT USE IN CALIFORNIA):** Cutworms - 1 1/2 quarts Carbaryl 4 Fl per acre. Armyworm, Fall armyworm, Sunflower moth - 1 1/2 to 2 quarts Carbaryl 4 Fl per acre. Stem weevil, Sunflower beetle - 1 to 2 quarts Carbaryl 4 Fl per acre. Preharvest interval - 60 days. Grasshopper - Refer to general grasshopper heading above.

**SWEET POTATO (DO NOT USE IN CALIFORNIA):** Corn earworm, Cucumber beetles, Flea beetles, Sweet potato hornworm, Tortoise beetles - 1 to 2 quarts Carbaryl 4 Fl per acre. Yellowstriped armyworm - 2 quarts Carbaryl 4 Fl per acre. Apply as a foliar spray as needed. Sweet potato weevil - 1 to 2 quarts Carbaryl 4 Fl per acre. Full coverage of plants is essential. Use lower rate on young plants and higher rate on mature plants. Preharvest interval - 0 days.

**TOBACCO (PLANT BED TREATMENT):** Flea beetle - 1 quart Carbaryl 4 Fl per acre. Observe plant response precautions. For flea beetle control, use 4 tsps. (0.7 fl oz) in 6 gallons of water and apply to 100 square yards. Green June beetle grubs - 8 quarts Carbaryl 4 Fl per acre. For green June beetle grub control mix 11 tablespoons (5.5 fl oz) in 50 to 100 gallons of water and apply to 100 square yards.

Applications should be made to areas that larvae have uprooted by sprinkling mixture as a drench treatment.

**(FIELD TREATMENT):** Budworms, Fall armyworm, Flea beetles, Hornworms Japanese beetle, June beetle, Suckfly - 1 to 2 quarts Carbaryl 4 Fl per acre.

Use lower rate on young plants (up to knee height). Use at least 10 gallons of prepared spray per acre. Begin treatments when worms are small.

Preharvest interval - 0 days.

**WHEAT (INCLUDING TRITICALE) (DO NOT USE IN CALIFORNIA):** Flea beetles - 1/2 to 1 quart Carbaryl 4 Fl per acre. Cereal leaf beetle - 1 quart Carbaryl 4 Fl per acre. Application is effective against eggs, larvae and adult of the cereal leaf beetle. Armyworm, Fall armyworm - 1 to 1 1/2 quarts Carbaryl 4 Fl per acre.

Preharvest interval - 0 days (forage); 21 days (grain) Grasshoppers - Refer to the general grasshopper heading above.

#### **TREE FRUIT AND NUT CROPS**

For dilute sprays apply the specified dosage per 100 gallons of water. For concentrate and aerial sprays, maintain the recommended rate per acre equivalent to that used in a dilute spray. The optimum spray gallonage will depend on tree size, density and stage of growth. Typical spray gallonages per acre range from 200 to 300 gallons for dilute sprays, 30 to 100 gallons for concentrate sprays and 5 to 25 gallons of aerial sprays. Do not exceed maximum label rate per acre per application.

#### **APPLE THINNING**

**APPLES:** 1/4 to 1/2 quarts Carbaryl 4 Fl per 100 gallons of water. Preharvest interval - 1 day. Observe bee caution. Apply 1 full coverage dilute spray between 10 and 25 days after full bloom. Factors such as tree age, variety, nutrition, previous crop, pruning, bloom and degree of set favor excessive fruit thinning with this product. Exercise caution to avoid possible yield reduction. Rates may vary depending on variety and local orchard conditions. Consult with your County Extension Service or other experts for advice on the proper use of this product. In Eastern apple growing areas, tank mix combinations of Carbaryl and Naphthaleneacetic Acid (NAA) or Naphthaleneacetamide (NAD) have successfully thinned several early-maturing, heavy-setting varieties, as well as hard-to-thin varieties such as Golden Delicious and Rhode Island Greening. The higher rate of Carbaryl and reduced rates of NAA or NAD are recommended for the combination. Also, a petal fall application of NAA or NAD followed 7 to 10 days later by an application of Carbaryl has improved thinning on these varieties.

1/2 to 1 quart Carbaryl 4 Fl per 100 gallons of water. Preharvest interval - 1 day. For difficult to thin varieties including Baldwin, Ben Davis, Duchess, Early McIntosh, Golden Delicious, Lady Apple, Northern Spy, Rhode Island Greening, Steele Red, Turley, Wealthy, Yellow Transparent, and York Imperial.

**ALMOND:** Peach twig borer, San Jose scale, Fruittree leafroller - 1 quart Carbaryl 4 Fl per 100 gallons of water. Observe bee caution. Apply in "popcorn" or petal fall stages and again when the May brood of the peach twig borer begins to hatch or thereafter as needed. Navel orangeworm - 1 quart Carbaryl 4 Fl per 100 gallons of water. Time early and mid season applications to correspond to moth flight peaks.

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Make a late season application at initiation of hull split or up to 10% hull split. Do not apply more than 5 quarts per acre. Preharvest interval - 28 days.

**APPLES, PEARS:** Apple aphid, Apple maggot, Apple rust mite, Apple sucker, Bagworms, California pearslug (pear sawfly), Eastern tent caterpillar, European apple sawfly, Eyespotted bud moth, Forbes scale, Fruit tree leafroller, Green fruitworm, Gypsy moth, Lygus bugs, Orange tortrix, Oystershell scale, Pear leaf blister mite, Pear psylla, Pear rust mite, Periodical cicada, Plum curculio, Redbanded leafroller, Rosy apple aphid, San Jose scale, Tarnished plant bug, Tentiform leafminers, Woolly apple aphid, Yellowheaded fireworm - 3/4 to 1 quart Carbaryl 4 Fl per 100 gallons of water. Apple mealybug, Apple aphid, Codling moth, White apple leafhopper - 1/2 quart Carbaryl 4 Fl per 100 gallons of water.

Preharvest interval - 1 day. Observe bee caution. To avoid undesired apple thinning, delay use until at least 30 days after full bloom. For psylla control apply when eggs hatch or young nymphs are present. To control scale insects, apply when crawlers are present. Apply dilute sprays in 200 to 400 gallons per acre.

**CHESTNUTS (DO NOT USE IN CALIFORNIA):** Chestnut weevil - 2 to 3 quarts Carbaryl 4 Fl per 100 gallons water. Preharvest interval - 0 days. Make 4 applications at weekly intervals beginning in late July for adult chestnut weevil control. Last application should be made prior to shuck split.

**CITRUS FRUITS (SUCH AS GRAPEFRUIT, LEMONS, LIMES, ORANGES, TANGELOS, TANGERINES, CITRUS CITRON, KUMQUATS, AND HYBRIDS):** Avocado leafroller, California orangedog, Citrus cutworm, Citrus root weevil, Fruittree leafroller, Orange tortrix, Western tussock moth, West Indiana sugarcane borer (adults) - 1 quart Carbaryl 4 Fl per 100 gallons water. Black scale, Brown soft scale, California red scale, Citricola scale, Citrus snow scale, Yellow scale - 3/4 to 1 quart Carbaryl 4 Fl per 100 gallons water. Preharvest interval - 5 days. Observe bee caution. Do not apply more than 20 quarts of this product per acre per application. To insure thorough coverage, do not apply less than 10 gallons of dilute spray mixture per mature tree. May be mixed with petroleum oils commonly used on citrus. Apply dilute sprays in 300 to 500 gallons per acre.

#### **FILBERT:**

Filbert aphid, Filbert leafroller, Filbertworm - 1 quart Carbaryl 4 Fl per 100 gallons of water. Preharvest interval - 0 days. Apply when leafroller eggs are hatching. Repeat on first appearance of adult filbert moths and again 3 to 4 weeks later. Apply dilute sprays in 300 to 400 gallons per acre.

#### **OLIVES**

Olive scale - 3/4 to 1 quart Carbaryl 4 Fl per 100 gallons of water. Preharvest interval - 0 days. For optimum scale control add 1 1/2 gallons of summer oil and apply mixture when crawlers are present. Do not exceed 2 applications per year. Do not apply more than 15 quarts of this product per acre per application.

#### **PEACHES, APRICOTS, NECTARINES**

Apple pandemis, Codling moth, Cucumber beetles, European earwig, Fruittree leafroller, Gypsy moth, Japanese beetle, June beetle, Lecanium scales, Lesser peachtree borer, Olive scale, Orange tortrix, Oriental fruit moth, Peach twig borer.

Periodical cicada, Plum curculio, Redbanded leafroller, San Jose scale, Tarnished plant bug, Tussock moths, Variegated leafroller - 1 quart Carbaryl 4 Fl per 100 gallons of water. Preharvest interval - 1 day (peaches); 3 days (apricots and nectarines).

Do not apply more than 6 quarts of this product per acre per application to apricots. For optimum scale control apply when crawlers are present. Spray limbs and trunk thoroughly at weekly intervals during moth flight. Apply dilute sprays in 200 to 400 gallons per acre.

#### PECANS

Black margined aphid, Fall webworm, Hickory shuckworm, Lesser webworm, Peach leaf phylloxera, Pecan stem phylloxera, Pecan nut casebearer, Pecan spittlebug, Pecan weevil, Twig girdler, Walnut caterpillar - 1 to 2 1/2 quarts Carbaryl 4 Fl per 100 gallons of water. Preharvest interval - 0 days.

Do not apply more than 7.2 quarts of this product per acre per application. Apply dilute sprays in 200 to 400 gallons of water per acre.

#### PISTACHIOS

Navel orangeworm - 1/2 to 2 quarts Carbaryl per 100 gallons of water. Preharvest interval - 14 days. Apply dilute volumes of 150 to 300 gallons of mixed spray per acre for full coverage.

#### PLUMS, PRUNES, CHERRIES

Codling moth, Eastern tent caterpillar, Orange tortrix, Tussock moth - 3/4 quarts Carbaryl 4 Fl per 100 gallons of water.

Black cherry aphid, Brown soft scale, Cherry fruitworm, Cherry maggot, Eyespotted bud moth, Forbes scale, Fruittree leafroller, Green fruitworm, Gypsy moth, Japanese beetle, Lecanium scales, Lesser peachtree borer, Mealy plum aphid, Oystershell scale, Peach twig borer, Plum curculio, Prune leafhopper, Redbanded leafroller, Rose chafer, San Jose scale, Variegated leafroller - 1 quart Carbaryl 4 Fl per 100 gallons of water.

Preharvest interval - 1 day.

Do not apply more than 6 quarts of this product per acre per application. For optimum scale control apply when crawlers are present. For lesser peachtree borer control spray limbs and tree trunks thoroughly at weekly intervals during moth flight. Apply dilute sprays in 200 to 400 gallons of water per acre.

#### WALNUT

Calico scale, European fruit lecanium, Filbertworm, Fruittree leafroller, Frosted scale - 1/2 quart Carbaryl 4 Fl per 100 gallons water. Preharvest interval - 0 days. Apply 1000 gallons of dilute spray per acre for mature trees.

Codling moth - 1/2 quart Carbaryl 4 Fl per 100 gallons of water.

European earwig - 2 quarts Carbaryl 4 Fl per 100 gallons of water.

Preharvest interval - 6 days.

For codling moth apply first spray when average cross-sectional diameters of developing nuts are 1/2 to 3/4 inch. Repeat during middle or late June as needed.

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Apply dilute sprays in 200 to 500 gallons of water per acre. Spray tree trunks to point of run-off.

#### SMALL FRUIT CROPS

Recommended dosages refer to quarts of Carbaryl 4 Fl per acre. The optimum spray gallonage will depend on plant size, density and stage of growth. Typical spray gallonage per acre range from 100 to 300 gallons for dilute sprays, 30 to 100 gallons for concentrate sprays and 5 to 25 gallons for aerial sprays. Do not exceed maximum label rate per acre per application.

#### BLACKBERRIES, RASPBERRIES, DEWBERRIES (INCLUDING BOYSENBERRIES AND LOCANBERRIES)

European raspberry aphid, Japanese beetle, Leafhoppers, Leafrollers, Rose chafer, Snowy tree cricket - 1 to 2 quarts Carbaryl 4 Fl per acre. Preharvest interval - 7 days.

Omnivorous leafroller, Raspberry sawfly (California Only) - 2 quarts Carbaryl 4 Fl per acre. Preharvest interval - 7 days.

#### BLUEBERRIES

Blueberry maggot, Cherry fruitworm, Cranberry fruitworm, European fruit iecanium, Japanese beetle - 1 1/2 to 2 quarts Carbaryl 4 Fl per acre. Preharvest interval - 0 days. Apply 3 weeks before harvest and repeat as necessary.

#### CRANBERRIES

Cutworms, Cranberry fireworms, Cranberry fruitworms, Cranberry twig girdler, Elm spanworm, Japanese beetle, Leafhoppers, Rose chafer, Spaganothus worm - 1 1/2 to 3 quarts Carbaryl 4 Fl per acre. Preharvest interval - 1 day.

CAUTION: May kill shrimp and crabs. Do not use in areas where these are important resources. Apply in late bloom and as needed at 7 to 10 day intervals.

#### STRAWBERRIES

Flea beetles, Meadow spittlebug (strawberry fruitworm), Omnivorous leaf-tier, Strawberry clipper, Strawberry bud weevil, Strawberry leafroller, Strawberry weevil - 1 to 2 quarts Carbaryl 4 Fl per acre. Preharvest interval - 1 day. Carbaryl may injure Early Dawn and Sunrise varieties.

#### IMPORTED FIRE ANT CONTROL

#### LAWNS, CEMETERIES, AND RECREATIONAL AREAS (INCLUDING TURF, GOLF COURSES, AND PARKS), PASTURES, RANGELAND, FORESTED LANDS AND WASTELAND

1 1/2 quarts Carbaryl 4 Fl per 100 gallons of water or 1 1/2 tablespoons Carbaryl 4 Fl per gallon of water.

Apply a total of 2 gallons of the diluted solution over the surface of each mound or at least 1 quart per 6 inches of mound diameter using a bucket, can or other appropriate equipment. Thoroughly wet mound and surrounding area to a 4 ft. diameter (12 sq. ft.). Do not disturb mounds prior to treatment. Pour solution

from a height of about three feet to give sufficient force to break mound apex and flow into ant tunnels. For best results apply in cool weather, 65 to 80 degrees F or in early morning or late evening hours. Repeat application if mound activity resumes after 10 days. Treat new mounds as they appear. Pressurized sprays may disturb the ants and cause migration, reducing product effectiveness.

**DO NOT ALLOW PUBLIC USE OF TREATED AREAS DURING APPLICATIONS OR UNTIL SPRAYS HAVE DRIED.**

#### **NURSERY STOCK, VEGETABLE TRANSPLANTS, FOLIAGE PLANTS AND BEDDING PLANTS**

1 1/2 quarts Carbaryl 4 Fl per 100 gallons water.

**DO NOT USE ON ANY FOOD CROP NOT LISTED ON LABEL.**

Do not make more than one application, either as a root-dip or a drench treatment (applied to the point of saturation). Avoid contact with foliage and treat only the growing media when using on bedding plants.

#### **TREES AND ORNAMENTALS**

For control of certain insects on trees, ornamentals, woody plants and shrubs, apply the recommended rates specified below. Use sufficient spray volume to provide thorough coverage. Do not use on Boston Ivy, Virginia creeper and maidenhair fern. During early season it may also injure Virginia and sand pines.

**INSECTS:** Ants, Apple aphid, Armyworm, Azalea leafminer, Bagworms, Birch leafminer, Blister beetle, Boxelder bug, Boxwood leafminer, Brown tail moth, Cankerworms, Catalpa sphinx, Chiggers, Cooley spruce gall aphid, Cutworms, Cypress tip moth, Douglas fir tussock moth, Eastern spruce gall aphid, Elm leaf aphid, Elm leaf beetle, Elm spanworm, Eriophyid mites, European pine shoot moth, Fall armyworm, Flea beetles, Fuller rose beetle, Gall midges, Gall wasps, Green striped mapleworm, Grasshoppers, Gypsy moth, Hackberry nipplegall maker, Holly bud moth, Holly leafminer, Jackpine budworm, Japanese beetle, Jeffrey pine needleminer, June beetles, Lace bugs, Leafhoppers, Locust borer, Maple leafcutter, Mealy bugs, Mimosa webworms, Nantucket pine tip moth, Oak leafminers, Oak leaf skeletonizer, Oakworm complex, Oleander caterpillar, Olive ashborer, Orange stripped oakworm, Orange tortrix, Periodical cicada, Pine sawfly, Pine spittlebug, Pitch pine tip moth, Plant bugs, Poinsettia hornworm, Psyllids, Puss caterpillar, Redhumped oakworm, Rose aphid, Rose chafer, Roseslug, Saddled prominent, Sawflies (exposed), Scale insects, Sowbugs, Spiny elm caterpillar, Springtails, Spruce budworm, Spruce needleminer, Subtropical pine tip moth, Tent caterpillars, Thornbug, Thrips (exposed), Ticks, Walnut caterpillar, Webworms, Western hemlock looper, Western spruce budworm, Willow leaf beetles, yellow poplar weevil - 1 ounce/3 gallon, 1 quart/100 gallon.

Observe plant response precautions. Use sufficient spray volume to obtain thorough coverage of upper and lower leaf surfaces. To control scale insects, treat trunks, stems and twigs in addition to plant foliage. For optimum worm control, treat when in early instars. Addition of a sticker may improve residual control. Applications for control of Maple leafcutter on sugar maple should be made when larvae are in 2nd instar, after mining, and as cases are being formed.



**INSECTS:** Elm bark beetle, Ips engraver beetle, Mountain pine beetle, Roundheaded pine beetle, Western pine beetle - 18 ounces/3 gallon, 4 gallon/100 gallon. Effective as a preventive treatment only. Repeat annually as required to prevent beetle attacks. Apply 1 gallon of spray per 50 square feet of bark in late May to early July, or prior to beetle attack. Treat tree trunks from ground level up, until trunk diameter is less than 5 inches. Applications for control of Elm bark beetle should consist of 20 to 30 gallons of spray for 50 foot height of elm tree for thorough coverage of all bark surfaces on trunk, limbs, and twigs.

#### **LAWNS AND RECREATIONAL AREAS**

**TURF GRASSES:** Ants, Armyworm, Bluegrass billbug, Centipedes, Chiggers, Chinch bugs, Cutworms, Earwigs, Essex skipper, European chafer, Fall armyworm, Fiery skipper, Fleas, Grasshoppers, June beetles, Leafhoppers, Lucerne moth, Millipedes, Mosquitoes, Sod webworm (lawn moths), Sowbugs, Springtails, Ticks, White grubs, Yellowstriped armyworm - Use 6 fl. oz. of Sevin per 1000 square feet (8 quarts per acre) of turf grass. Make application in sufficient spray volume for thorough coverage and turf thatch penetration. Repeat treatment as necessary.

For Armyworm, Cutworm, Fall Armyworm and Sod Webworm Control: Do not irrigate treated areas following insecticide application.

For Chinch Bug Control: Treat entire turf grass area rather than just damaged areas. Irrigation of turf grass area before insecticide application will aid in penetration into turf grass.

For White Grub Control: Applications should be made when grubs are feeding near the soil surface, usually during late March through May, or July to early September, or as recommended by local Agricultural Extension Service agents. Water or irrigate turf grasses thoroughly soon after treatment.

#### **ADULT MOSQUITO CONTROL**

For dilute-spray ground applications to trees (including shade trees, shelter belts, forests, plantations, parks and recreational areas), ornamentals, woody plants and shrubs, apply the specified dosage per 100 gallons of water. For concentrate-spray ground applications, apply the specified dosage per acre in sufficient spray volume to provide thorough coverage. To prepare small volumes of spray, use 1 tablespoon (1/2 fluid ounce) of Carbaryl 4 Fl per gallon of water, where rates of 1 quart are indicated.

#### **PASTURES, RANGELANDS, PARKS, RECREATIONAL AREAS, LOGGING CAMPS, MILITARY POSTS AND ADJACENT FORESTED LANDS OR WASTELANDS**

1/4 to 1 quart (1/2 to 1 tablespoonful per gallon) per 100 gallons water.

**DO NOT ALLOW PUBLIC USE OF TREATED AREAS DURING APPLICATION OR UNTIL SPRAYS HAVE DRIED.**

**CAUTION:** May kill shrimp and crabs. Do not use in areas where these are important resources. Observe bee caution.

Treat shrubbery and areas where adult mosquitoes congregate. Treat when adult mosquitoes are active in early mornings or late evenings. Repeat at 7 to 10 day intervals. Use 1/4 to 1/2 quart per 100 gallons in mistblowers, 1/2 to 1 quart per acre in aerial sprays and 1 quart per acre in low pressure ground sprayers.

25 quarts Carbaryl 4 Fl per 100 gallons water. For residual control in subtropical regions apply 4 gallons of prepared spray per 2000 square feet of surface area. Repeat in 3 to 6 months or when necessary.

#### **POULTRY ROOSTS AND BUILDINGS ONLY**

Bed bugs, Chicken mite, Fleas, Lice, Northern fowl mite - 4 quarts Carbaryl 4 Fl per 100 gallons water. **DO NOT TREAT POULTRY OR GAME BIRDS.** Apply 1 to 2 gallons of spray mixture per 1000 square feet of wall, litter or roost surface. Force spray into cracks. Repeat as needed. Avoid spraying nests, eggs and feeding and watering troughs.

Fowl tick - 16 quarts Carbaryl 4 Fl per 100 gallons water. Ventilate while spraying. Do not treat premises within 7 days of slaughter.

Lesser mealworms - 50 quarts Carbaryl 4 Fl per 100 gallons water. Apply 2 gallons of spray mixture per 1000 square feet of floor space or litter surface. Repeat as needed. Ventilate while spraying. Do not treat premises within 7 days of slaughter.

#### **DIRECTIONS FOR USE THROUGH SPRINKLER IRRIGATION SYSTEMS**

Apply this product only through sprinkler irrigation systems including center pivot and solid set. Do not apply this product through any other type of irrigation system.

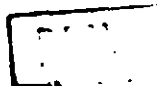
**SPRAY PREPARATION:** First prepare a suspension of Carbaryl 4 Fl in a mix tank. Fill tank with 1/2 to 3/4 the desired amount of water. Start mechanical or hydraulic agitation. Add the required amount of Carbaryl 4 Fl and then the remaining volume of water. (Suspension concentrations using the appropriate dosage per acre recommended on this label of Carbaryl per 1 to 4 gallons of water are recommended). Then set sprinkler to deliver 0.1 to 0.3 inch of water per acre. Start sprinkler and uniformly inject the suspension of Carbaryl 4 Fl into the irrigation water line so as to deliver the desired rate per acre. The suspension of Carbaryl 4 Fl should be injected with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing. If you should have any other questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.

**NOTE:** When treatment with Carbaryl 4 Fl has been completed, further field irrigation over the treated area should be avoided for 24 to 48 hours to prevent washing the chemical off the crop.

#### **GENERAL PRECAUTIONS FOR APPLICATIONS THROUGH SPRINKLER IRRIGATION SYSTEMS**

Maintain continuous agitation in mix tank during mixing and application to assure a uniform suspension.

Greater accuracy in calibration and distribution will be achieved by injecting a larger volume of a more dilute solution per unit time.



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, 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 shutdown. 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.

Do not apply when wind speed favors drift, when system connection or fittings leak, when nozzles do not provide uniform distribution or when lines containing the product must be dismantled and drained.

Crop injury, lack of effectiveness, or illegal pesticide residues in the crop may result from nonuniform distribution of treated water.

Allow sufficient time for pesticide to be flushed through all lines and all nozzles before turning off irrigation water. A person knowledgeable of the chemigation system and responsible for its operation shall shut the system down and make necessary adjustments should the need arise.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the label-prescribed safety devices for public water supplies are in place.

## PEST CONTROL IN AND AROUND BUILDINGS

### General Information

**NOTE:** Staining may occur on certain surfaces such as stucco, brick, cinder block, and wood. Therefore, applications of Carbaryl 4 F1 to surfaces where a noticeable residue or discoloration is objectionable should be avoided. Do not apply to carpets or draperies as staining may occur. Care should also be exercised to avoid spotting of wallpaper and fabrics.

Do not use this product in commercial food areas of food handling establishments, restaurants or other places where food is prepared or processed. Do not use in serving areas while food is exposed.

### INDOORS

#### ANTS, CRICKETS, FIREBRATS, SILVERFISH

Mix 3 oz of this product per gallon of water and apply as fine, low pressure (20 psi) spot spray or as crack and crevice application to areas where these pests hide, such as baseboards, storage areas, closets, around water pipes, doors and windows.

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behind and under refrigerators, cabinets, sinks, stoves, dishwashers, hot water heaters, the underside of shelves, drawers and similar areas. For ants, apply to ant trails, around doors and windows and other places where ants enter premises.

#### **BEEES AND WASPS**

Mix 3 oz. of this product per gallon of water and thoroughly spray nest and entrance and surrounding areas where insects alight. It is generally advisable to spray the nests in the evening when the insects are less active and have returned to the nest. For best results, check nest carefully one or two days after spraying to ensure complete kill, then remove and destroy nest to prevent emergence of newly hatched insects.

#### **BROWN DOG TICKS AND FLEAS**

Mix 3 oz. of this product per gallon of water and thoroughly spray infested areas such as nearby cracks and crevices, between and under cushions of upholstered furniture, along and behind baseboards, window and door frames and other areas where these pests may be present.

#### **CARPENTER ANTS**

Mix 3 oz. of this product per gallon of water and apply to ant trails, around doors and windows and other places where ants enter premises. Where possible, apply this product directly to ant nest or infested wood.

#### **CENTIPEDES, EARWIGS, MILLIPEDES, SCORPIONS**

Mix 3 oz. Carbaryl 4 Fl. per gallon of water and apply around water pipes, doors, and windows, and other places where these pests may enter premises. Spray baseboards, storage areas, garages, carports, basements and other areas where these pests are found.

#### **COCKROACHES**

Efficacy varies with species sensitivity. This product is generally not highly effective in controlling German cockroaches. However, the following may be controlled with the rates as stated. American roach, Australian roach, Brown roach, Smoky brown roach, and others. Mix 3 oz. this product per gallon of water and apply as a fine, low pressure (psi) spot spray or as a crack and crevice application to areas where pipes, doors and windows, behind and under refrigerators, cabinets, sinks, stoves, dishwashers, hot water heaters, the underside of shelves, drawers and similar areas.

#### **SPIDERS**

Mix 3 oz. of this product per gallon of water and apply to infested baseboards, window and door frames, corners, pipes, storage areas, attics and under eaves. Make spot applications to other areas where these pests are present.

#### **OUTDOORS**

#### **PERIMETER TREATMENT**

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Residual spray for control of ants, bees and wasps, brown dog ticks, carpenter ants, centipedes, cockroaches, crickets, earwigs, firebrats and silver fish, fleas, millipedes, scorpions and spiders. Mix 16 oz. this product per 50 gallons of water and apply via power spray or other spray methods.

To help prevent infestations of buildings by the above pests, outside perimeter treatment should be in a band 6 to 10 feet wide and confined to shrub beds, foundation plantings and lawn or soil areas immediately adjacent to the structure. Direct application to structures should be minimal and restricted to cracks and crevices and other areas where insects tend to congregate.