

Hopkins® Malathion 57%
Emulsifiable Liquid Insecticide-B
EPA Reg. No. 2393-280
Center Panel

H O P K I N S ®
MALATHION 57%
EMULSIFIABLE LIQUID INSECTICIDE-B

ACCEPTED
DEC 14 1984
Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under
EPA Reg. No. 2393-280

ACTIVE INGREDIENT:

Malathion*	57.0%
INERT INGREDIENTS:	43.0%
TOTAL	100.0%

*O,O-Dimethyl dithiophosphate of diethyl mercaptosuccinate.
This product contains xylene-range aromatic solvents.
One gallon contains 5 pounds of Malathion.

KEEP OUT OF REACH OF CHILDREN 12 pt.
CAUTION 18 pt.

STATEMENT OF PRACTICAL TREATMENT

If swallowed: Call a physician or Poison Control Center immediately. Gastric lavage may be indicated if material was taken internally. DO NOT INDUCE VOMITING unless other treatment is not available. Vomiting may cause aspiration pneumonia. If it is necessary to induce vomiting, give victim 1 or 2 glasses of water and insert finger in back of throat. Repeat until vomit fluid is clear. DO NOT induce vomiting or give anything by mouth to an unconscious person.
If on skin: Remove contaminated clothing and wash affected areas with soap and water.
If in eyes: Immediately flush eyes with plenty of water and get medical attention.
If inhaled: Remove victim to fresh air. Assist respiration as needed.

Note to Physician: Empty stomach if material was taken internally. Gastric lavage may be indicated. Xylene-range aromatic solvent is an aspiration hazard. This product may cause cholinesterase inhibition. Atropine is antidotal. 2-PAM may be effective as an adjunct to atropine.

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS

Harmful if swallowed, inhaled or absorbed through the skin. Avoid breathing spray mist. Do not get in eyes, on skin or on clothing. Wear clean synthetic rubber gloves. Wash skin thoroughly after handling. Remove and wash contaminated clothing before reuse. Use respirator jointly approved by the Mining Enforcement and Safety Administration (formerly the U.S. Bureau of Mines) and the National Institute for Occupational Safety and Health under the provisions of 30 CFR Part 11.

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.

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ENVIRONMENTAL HAZARDS

This product is toxic to fish, shrimp, crab, and other aquatic organisms. Keep out of lakes, streams, ponds, tidal marshes and estuaries. Do not apply directly to water except as recommended. Shrimp and crab may be killed at application rates recommended on this label. Do not apply when weather conditions favor drift from areas treated.

This pesticide is highly toxic to bees exposed to direct treatment or to residue remaining on the treated area. Do not apply when bees are actively visiting the crop, cover crop, or weeds blooming in the treated area. Applications should be timed to provide the maximum possible interval between treatment and the next period of bee activity. Consult Cooperative Agricultural Extension Service for additional procedures.

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PHYSICAL HAZARDS

Do not use or store near heat or open flame.

DIRECTIONS FOR USE

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

STORAGE AND DISPOSAL 12 pt.

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

Storage: Do not use or store near heat or open flame. Keep product in original container, tightly closed and store in a cool, dry place. High temperatures may shorten shelflife of product.

Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. 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: 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.

RE-ENTRY STATEMENT

Do not enter treated areas unless full protective clothing is worn and until sprays have dried. Applies to foliar applications to agricultural crops. Does not apply to use on livestock. Because certain states may require more restrictive re-entry intervals for various crops treated with this product, consult your State Department of Agriculture for further information. Written or oral precautions must be given to workers who are expected to be in a treated agricultural crop area or in an agricultural crop area about to be treated with this product.

These precautions are: CAUTION; Area treated with malathion on (date of application). Do not enter unless full protective clothing is worn until spray has dried. For accidental exposure follow Statement of Practical Treatment on this label. Oral precautions must be given if there is reason to believe that written precautions cannot be understood by workers. When oral precautions are given, precautions shall be given in a language customarily understood by workers.

DIRECTIONS FOR USE (Cont.)

Unless otherwise indicated, dosages are given in pints of Hopkins Malathion 57% Emulsifiable Liquid Insecticide-B in sufficient water to cover one acre. Thorough, full coverage application should be made. Begin application when insects first appear and repeat as necessary. For orchard pests such as Codling Moth, Apple Maggot, Oriental Fruit Moth or Plum Curculio, apply at petal fall and every 10 to 14 days thereafter until control is achieved.

MALATHION 57% E.L.

Amount Per Acre **Amount Per 100 Gals.**

Ailanthus	Amount Per Acre
Weevil larvae	1 1/2 pts 0
Aphids	1 1/2 pts 0
Armyworms	2 pts 0
Clover leaf weevil	1 1/2 pts 0
Grasshoppers	1 1/2 pts 0
Leafhoppers	1 1/2 pts 0
Lygus bugs	1 1/2 pts 0
Pea aphid	1 pt 0
Spider mites	1 1/2 pts 0
Spittlebug	1 1/2 pts 0
Spotted alfalfa aphid	1 1/2 pts 0

Almonds	Amount Per 100 Gals.
Aphids	1-2 pts 0
Peach twig borer	1-1 1/2 pts 0
Red spiders	1-2 pts 0

Apples	Amount Per 100 Gals.
Aphids (Woolly Apple, Green Apple, Russet Apple)	1-1 1/2 pts 3
Codling moth	1 pt 3
Curling moth	2 pts 3
Forces scale	1 pt 3
Mealybug	1-2 pts 3
Plum curculio	2 pts 3
Red banded leaf roller	2 pts 3
Tent caterpillar	1-1 1/2 pts 3

Apples (Dormant and delayed dormant sprays)	Amount Per 100 Gals.
Aphids (Woolly Apple, Green Apple, Russet Apple)	1 pt + 1 gal Superior Oil

Mites	1 pt. + 1 gal Superior Oil
Red banded leaf roller	1 pt + 1 gal Superior Oil

*Make full coverage dormant or delayed dormant sprays only.

Apricots	Amount Per 100 Gals.
Aphids	1 1/2 pts 7
Codling moth	1 1/2 pts 7
Orange tortrix	1 1/2 pts 7
Soft brown scale	1 1/2 pts 7
Tortrix scale	1 1/2 pts 7

Asparagus	Amount Per Acre
Asparagus aphid	2 pts 1
Asparagus beetle	2 pts 1
Thrips	1 1/2 pts 1

Avocados	Amount Per 100 Gals.
Greenhouse thrips	1 1/2 pts 7
Lathraea scale	1 1/2 pts 7
Omnivorous looper	1 1/2 pts 7
Orange tortrix	1 1/2 pts 7
Soft brown scale	1 1/2 pts 7

Barley	Amount Per Acre
Aphids	1 1/2 pts 7
Armyworms	2 pts 7
Cereal leaf beetle	1-1 1/2 pts 7
Grasshoppers	1 1/2 pts 7
Greenbugs	1 1/2 pts 7

Beans	Amount Per Acre
Aphids	2 pts 1
Cucumber beetle	2 pts 1
Japanese beetle	1 1/2 pts 1
Lygus bugs	1 1/2 pts 1

Beets	Amount Per Acre
Aphids	1 1/2 pts 7*

*All tops are to be used as feed.

Blackberries	Amount Per Acre
Aphids	3 pts 1
OR 1 1/2 pts per 1/2 acre	
Japanese beetle	1 1/2 pts 1
Leafhoppers	1 1/2 pts 1
Mites	1 1/2 pts 1
Rose scale	3 pts 1
Thrips	OR 1 1/2 pts per 1/2 acre 1 1/2 pts 1

Blueberries	Amount Per Acre
Blueberry maggot	1 pt + 8 Staley's Unit hrs
Japanese beetle	1 1/2 pts 1

Blackberries	Amount Per Acre
Aphids	3 pts 1
OR 1 1/2 pts per 1/2 acre	
Japanese beetle	1 1/2 pts 1
Leafhoppers	1 1/2 pts 1
Mites	1 1/2 pts 1
Rose scale	3 pts 1
Thrips	OR 1 1/2 pts per 1/2 acre 1 1/2 pts 1

Broccoli	Amount Per Acre
Aphids	1-2 pts 3
Cabbage looper	1-2 pts 3
Caterpillars	2 pts 3
Imported cabbage worm	1-2 pts 3

*For best results, combine with other recommended insecticides.

Brussels Sprouts	Amount Per Acre
Aphids	1 1/2 pts 7
Cabbage looper	2 pts 7
Caterpillars	2 pts 7
Omnivorous moth imported cabbage worm	2 pts 7

*For best results, combine with other recommended insecticides.

Cabbage	Amount Per Acre
Aphids	1-2 pts 7
Cabbage looper	2 pts 7
Imported cabbage worm	1-2 pts 7

*For best results, combine with other recommended insecticides.

Cantaloupes	Amount Per Acre
Aphids	1 1/2 pts 1
Cucumber beetle	2 pts 1
Spider mites	1 1/2 pts 1

Carrots	Amount Per Acre
Aphids	1 1/2 pts 7
Leafhoppers	2 1/2 pts 7

Cauliflower	Amount Per Acre
Caterpillars	2 pts 7

Celery (Anise) and fresh leaves and stalks only	Amount Per Acre
Aphids	1 1/2 pts 7
Spider mites	1 1/2 pts 7

*Do not use on crops grown for seed and oil.

Cherries	Amount Per 100 Gals.
Black cherry aphid	1 1/2 pts 3
Bud moth	1 pt 3
Cherry fruit fly	1 pt 3
Fruit tree torter	1 1/2 pts 3
Japanese beetle	1 pt 3

Citrus	Amount Per 100 Gals.
Black scale	1-1 1/2 pts 7
California red scale	1-1 1/2 pts 7
Chincola scale	1-1 1/2 pts 7
Florida red & purple scales	2 pts 7
Purple scale	1-1 1/2 pts 7
Soft scale	1-1 1/2 pts 7
Wasp	1 1/2 pts per 200 gal 7
Yellow scale	1-1 1/2 pts 7

Clover (Do not apply to clover in bloom)	Amount Per Acre
Aphids	1 1/2 pts 0
Clover leaf weevil	1 1/2 pts 0
Grasshoppers	1 1/2 pts 0
Leafhoppers	1 1/2 pts 0
Mites	1 1/2 pts 0

Collards	Amount Per Acre
Aphids	1 1/2 pts 7
Caterpillars	2 pts 7
Marblehead cabbage bug	1 pt 7

Corn (field, Sweet and Pop)	Amount Per Acre
Aphids	1 1/2 pts 5
Armyworms	1 1/2 pts 5
Cereal leaf beetle	1-1 1/2 pts 5
Corn rootworm adults	1 1/2 pts 5
Grasshoppers	1 1/2 pts 5
Stem borer	1 1/2 pts 5
Thrips	1 1/2 pts 5

Cotton*	Amount Per Acre
Aphids	1-2 qts 1 0
Beet weevil	1-2 qts 1 0
Cotton leaf perforator	1-2 qts 1 0
Cotton leafworms	1-2 qts 1 0
Fall armyworms	1 1/2 pts 0
Fieldhoppers	1-1 1/2 pts 0
Garden web worms	1 1/2 pts 0
Grasshoppers	1 1/2 pts 0
Leafhoppers	1-2 qts 1 0
Lygus bugs	1-2 qts 1 0
Mites	1-2 qts 1 0
Thrips	1-2 qts 1 0
White flies	1-2 qts 1 0

OR 1/2-1 qt per 1/2 acre
*Residue tolerances are for cotton seed

Cowpea Hay	Amount Per Acre
Grasshoppers	1 1/2 pts 0

Cucumbers*	Amount Per Acre
Aphids	1 1/2 pts 1
Cucumber beetles	3 pts 1
OR 1 1/2 pts per 1/2 acre	
Packworm	1 1/2 pts 1
Spider mites	1 1/2 pts 1

*Do not apply unless plants are dry.

Dandelions	Amount Per Acre
Aphids	1 1/2 pts 7

Dewberries	Amount Per acre
Aphids	3 pts 1
OR 1 1/2 pts per 1/2 acre	
Japanese beetle	1 1/2 pts 1
Leafhoppers	1 1/2 pts 1
Mites	1 1/2 pts 1
Rose scale	3 pts 1
Thrips	OR 1 1/2 pts per 1/2 acre 1 1/2 pts 1

Eggplant	Amount Per Acre
Aphids	1 pt 3
Lygus bug	3 pts 3
OR 1 1/2 pts per 1/2 acre	
Spider mites	1 pt 3

Endive (Escarole)	Amount Per Acre
Aphids	1 1/2 pts 7
Mites	1 1/2 pts 7

Figs	Amount Per 100 Gals.
Dried fruit beetles	2 qts + 1 1/2 gal unsulfurized molasses* 3
OR 1 qt + 1 1/2 gal unsulfurized molasses*	
Vinegar flies	2 qts + 1 1/2 gal unsulfurized molasses* 3

*OR 1 qt + 1 1/2 gal unsulfurized molasses

Filberts	Amount Per 100 Gals.
Apple mealybug	1 pt 0
Egg spotted bud moth	1 pt 0
Filbert aphid	1 pt 0
Scale (crawler stage)	1 pt 0
Thrips	1 pt 0

Garlic	Amount Per Acre
Aphids	1 1/2 pts 3
Thrips	1 1/2 pts 3

Grain Sorghum	Amount Per Acre
Aphids (Greenbug)	1 1/2 pts 7

Grapes	Amount Per Acre
European fruit locust	1 1/2 pts 3
Leafhoppers	1 1/2 pts 3
Mealybugs	1 1/2 pts 3

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Loganberries (Continued)		
Leafhoppers	1 1/2 pts	1
Mites	1 1/2 pts	1
Rose scale	3 pts	1
OR 1 1/2 pts per 1/2 acre		
Thrips	1 1/2 pts	1
Lupines Amount Per Acre		
Grasshoppers	1 1/2 pts	0
Macadamia Nuts Amount Per 100 Gals		
Green stink bug	1 1/2 pts	0
Melons Amount Per Acre		
Aphids	1 1/2 pts	1
Cucumber beetle	2 pts	1
Spider mites	1 1/2 pts	1
Lent Amount Per Acre		
Adult flea beetles	1 1/2 pts	7
Aphids	1 1/2 pts	7
Caterpillars	1 1/2 pts	7
Leafhoppers	1 1/2 pts	7
Spider mites	1 1/2 pts	7
Mushrooms Amount Per Acre		
Mites	2 1/2 pts per 130 gals of water	1
OR		
2 lbs per 3 gals of water per 1000 sq ft of bed		1
Phorid & sciarid flies	2 1/2 pts per 130 gals of water	1
OR		
2 lbs per 3 gals of water per 1000 sq ft of bed		1
Muskmelons Amount Per Acre		
Aphids	1 1/2 pts	1
Cucumber beetles	2 pts	1
Spider mites	1 1/2 pts	1
Mustard Greens Amount Per Acre		
Aphids	1-2 pts	7
Cabbage looper	1-2 pts	7
Flea beetles	1 1/2 pts	7
Imported cabbage worm	1-2 pts	7
Nectarines Amount Per 100 Gals		
Mites	1-2 pts	7
Plum curculio	2 pts	7
Oats Amount Per Acre		
Armyworms	2 pts	7
Cereal leaf beetle	1-1 1/2 pts	7
English grain aphid	1 1/2 pts	7
Grasshoppers	1 1/2 pts	7
Greenbugs	1 1/2 pts	7
Olea Amount Per Acre		
Aphids	1 1/2 pts	1
Japanese beetle	2 pts	1
Onions Amount Per Acre		
Onion maggots	2 1/2 pts	3
OR 1 1/2 pts per 1/2 acre		
Thrips	1 1/2 pts	3
Papayas Amount Per Acre		
Aphids	1 1/2 pts	0
Mealybugs	1 1/2 pts	0
Parsley Amount Per Acre		
Aphids	1 1/2 pts	21
Parsnips Amount Per Acre		
Aphids	1 1/2 pts	7

Peas and Range		
Grass Amount Per Acre		
Aphids	1 1/2 pts OR	0
1 1/2 pts in 1 gal diesel fuel oil		
Armyworms	2 pts	0
Grasshoppers	1 1/2 pts OR	0
1 1/2 pts in 1 gal diesel fuel oil		
Leafhoppers	1 1/2 pts OR	0
1 1/2 pts in 1 gal diesel fuel oil		
Peaches Amount Per 100 Gals		
Aphids		
Green Peach		
Black Cherry		
Black Peach		
Rusky Plum	1 pt	7
Antony peach scale	2 pts	7
Japanese beetle	1 pt	7
Oriental fruit moth	2 pts	7
Plum curculio	2 pts	7
Terrapin scale	2 pts	7
Peanuts Amount Per Acre		
Leafhoppers	1 1/2 pts	0
Thrips	1 1/2 pts	0
Pears Amount Per 100 Gals		
Codling moth	2 pts	1
Fruit tree leaf roller	2 pts	1
Mealybugs	1-2 pts	1
Mites	1-2 pts	1
Pea psylla	1-2 pts	1
Plum curculio	2 pts	1
Red banded leaf roller	2 pts	1
Peas Amount Per Acre		
Aphids	1 1/2 pts	1
Pea weevil	1 1/2 pts	1
* 7 day interval if vines are used as animal feed. 3 day interval if vines are NOT used as animal feed.		
Pecans Amount Per 100 Gals		
Aphids	1-2 pts	0
Mites	1-2 pts	0
Peppers Amount Per Acre		
Aphids	1 pt	3
Maggots	2 1/2 pts	3
OR 1 1/4 pts per 1/2 acre		
Pineapple Amount Per Acre		
Mealybug	1 gal	7
OR 1 qt per 1/4 acre		
Plums Amount Per 100 Gals		
Mealy plum aphid	1 pt	3
Plums (Dormant and delayed dormant)* Amount Per 100 Gals		
Scale insects	1 pt + 1 gal oil	
* Make full coverage dormant or delayed dormant sprays only.		
Potatoes Amount Per Acre		
Aphids	1 pt	0
False chinch bug	1 1/2 pts	0
Leafhoppers	1 pt	0
Mealybugs	1 pt	0
Prunes Amount Per 100 Gals		
Bud moth	1 pt	3
Mealy plum aphid	1 pt	3

Prunes (Dormant and delayed dormant)* Amount Per 100 Gals		
Scale insects	1 pt + 1 gal oil	
* Make full coverage dormant or delayed dormant sprays only.		
Pumpkins Amount Per Acre		
Aphids	1 1/2 pts	3
Mites	1 1/2 pts	3
Squash vine borers	3 pts	3
OR 1 1/2 pts per 1/2 acre		
Do not apply unless plants are dry.		
Quinces Amount Per Acre		
Codling moth	2 pts	3
Forbes scale	1 pt	3
Mites	1-2 pts	3
Oriental fruit moth	2 pts	3
Plum curculio	2 pts	3
Radishes Amount Per Acre		
Aphids	1 1/2 pts	7
Raisins Amount Per Acre		
[drying in field]		
Dried fruit beetle	1/4 oz per 144 sq ft of paper	
Raisin moth	1/4 oz per 144 sq ft of paper	
Vinegar flies	1/4 oz per 144 sq ft of paper	
Raspberries Amount Per 100 Gals		
Aphids	3 pts	1
OR 1 1/2 pts per 50 gals		
Japanese beetle	1 1/2 pts	1
Leafhoppers	1 1/2 pts	1
Mites	1 1/2 pts	1
Rose scale	3 pts	1
OR 1 1/2 pts per 50 gals		
Sap beetle	1 1/2 pts	1
Thrips	1 1/2 pts	1
Rice Amount Per Acre		
[grain form]		
Rice leaf miner	2 1/2 pts	7
Rice stink bug	1-1 1/2 pts	7
Tadpole shrimp	3 pts	
[Call] OR 1 1/2 pts per 1/2 acre		
* Restrict water spill from the treated fields for 48 hours following application.		
Rutabagas Amount Per Acre		
Aphids	1 1/2 pts	3
Rye Amount Per Acre		
Armyworms	2 pts	7
English grain aphid	1 1/2 pts	7
Grasshoppers	1 1/2 pts	7
Greenbugs	1 1/2 pts	7
Safflower Amount Per Acre		
Aphids	1 1/2 pts	3
Grasshoppers	1 1/2 pts	3
Lygus bugs	1 1/2 pts	3
Salsify Amount Per Acre		
Aphids	1 1/2 pts	7
Shallots Amount Per Acre		
Aphids	1 1/2 pts	3
Thrips	1 1/2 pts	3
Soybeans Amount Per Acre		
Grasshoppers	3 pts	7
OR 1 1/2 pts per 1/2 acre		
Green cloverworm	1 pt Box to 3 pts	3
Mexican bean beetle	3 pts	3
OR 1 1/2 pts per 1/2 acre		

Spinach Amount Per Acre		
Aphids	2 pts	7
Squash Amount Per Acre		
Aphids	1 1/2 pts	1
Cucumber beetle	3 pts	1
OR 1 1/2 pts per 1/2 acre		
Pickleworm	2 pts	1
Spider mites	1 1/2 pts	1
Squash vine borers	3 pts	1
OR 1 1/2 pts per 1/2 acre		
Strawberries Amount Per Acre		
Aphids	1 1/2 pts	3
Field crickets	1 1/2-3 pts	3
Lygus bugs	1 1/2-3 pts	3
Potato leafhopper	1 1/2-2 1/2 pts	3
Spider mites	1 1/2 pts	3
Spittlebug	1 1/2-3 pts	3
Strawberry leafroller	1 1/2-2 1/2 pts	3
Strawberry root weevil	1 1/2 pts	3
Thrips	1 1/2-3 pts	3
White flies	1 1/2-2 1/2 pts	3
Sugar Beets Amount Per Acre		
Aphids	1 1/2 pts	3
Grasshoppers	3 pts	3
OR 1 1/2 pts per 1/2 acre		
Mites	1 1/2-2 pts	3
Sweet Potatoes Amount Per Acre		
Leafhoppers	1 1/2 pts	3
Morning glory leafminers	2 1/2-3 pts	3
OR 1 1/4-1 1/2 pts per 1/2 acre		
Swiss Chard Amount Per Acre		
Aphids	1 1/2-2 pts	7
Tobacco Amount Per Acre		
Aphids	1 1/2-2 1/2 pts	7
Use maximum dosage in plant bed.		
Tomatoes Amount Per Acre		
Aphids	1 pt	1
Armyworms (Cal.)	2 1/4 pts	3
OR 1 1/4 pt per 1/2 acre		
Drosophila	2 1/2 pts	1
OR 1 1/4 pts per 1/2 acre		
Fruit worms (Cal.)	2 1/4 pts	3
OR 1 pt 6 oz per 1/4 acre		
Spider mite	1 1/2 pts	1
Turnips Amount Per Acre		
Aphids	1-2 pts	3
Cabbage looper	1-2 pts	3
Imported cabbage worm	1-2 pts	3
Vetch Amount Per Acre		
Omnivorous leaf tier	1 1/2-2 pts	0
Pea aphid	1 1/2-2 pts	0
Vetch bruchid	1 1/2-2 pts	0
Watercress Amount Per Acre		
Aphids	1 1/2 pts	7
Watermelons Amount Per Acre		
Aphids	1 1/2 pts	1
Cucumber beetle	2 pts	1
Spider mites	1 1/2 pts	1
Wheat Amount Per Acre		
Armyworms	2 pts	7
Cereal leaf beetle	1-1 1/2 pts	7
English grain aphid	1-1 1/2 pts	7
Grasshoppers	1 1/2 pts	7
Greenbugs	1 1/2 pts	7

COMMERCIAL GREENHOUSE USES

CROP	Insect Controlled	Dosage	Directions For Use	Days to Harvest
VEGETABLES				
Cucumbers	Aphids, Armyworms, Cabbage loopers, Caterpillars, Earwigs, Garden leafhoppers, Mealybugs, Spider mites, Thrips, Whiteflies	1-1/2-2 pts per 100 gals	Spray plants thoroughly. Repeat applications as necessary. Do not apply to cucurbits unless plants are dry.	1
Onions	Aphids, Armyworms, Cabbage loopers, Serpentine leafminers, Thrips, Whiteflies	1-1/2-2 pts per 100 gals	Spray plants thoroughly. Repeat applications as necessary.	7
Lettuce	Aphids, Armyworms, Cabbage loopers, Caterpillars, Serpentine leafminers, Thrips, Whiteflies	1-1/2-2pts per 100 gals	Spray plants thoroughly. Repeat applications as necessary.	7 (head) 14 (leaf)
Radishes	Aphids, Flea beetles	1-1/2-2 pts per 100 gals	Spray plants thoroughly. Repeat applications as necessary.	7
Tomatoes	Aphids, Armyworms, Cabbage loopers, Caterpillars, Cutworms, Drosophila, Garden leafhoppers, Mealybugs, Russet mites, Serpentine leafminers, Spider mites, Thrips, Whiteflies	1-1/2-2 pts per 100 gals	Spray plants thoroughly. Repeat applications as necessary.	1
Water Cress	Aphids, Serpentine leafminers, Thrips	1-1/2-2 pts per 100 gals	Spray plants thoroughly. Repeat applications as necessary.	7

IN AND AROUND GREENHOUSES AND GARDENS

Insect Controlled	Dosage	Directions For Use
Millipedes, Sowbugs, Springtails	1 teaspoon per gal.	Apply to 150 square feet of soil surface or where insects congregate. Repeat at 7 to 10 day intervals as needed.

FOREST CROPS

CROP	Insect Controlled	Rate	Directions For Use
Deciduous Forest and Shade Trees	Tent caterpillar	2 pts./100 gals. water	Make thorough coverage application before larvae reach third instar.
Pines	Pine needles/needle miner	1-1/2 pts. per acre	Apply by ground or aircraft equipment in 25 gals. of water. Make application when air is calm and temperature is below 68° F. Apply when 75% of larvae have left overwintering mines.
Eastern Pines	Pine louse scale	1-1/2 pts. per acre	Apply by aircraft in 2 gals. of water per acre when crawlers emerge. Repeat application in 1 week under conditions of heavy infestation. Make application when air is calm and temperature is below 68° F.
Red Pine	Red-headed pine sawfly	0.6 pts. per acre	Apply by mist blower in 2 gallons of water per acre when egg hatch is complete.

FLY AND MOSQUITO CONTROL

FLY CONTROL: For use in and around buildings which house domestic animals, around yards, homes and meat and food processing plants. Do not use in edible products areas of food processing plants, restaurants or other areas where food is commercially prepared or processed. Do not use in resting areas while food is exposed.

Insect Controlled	Dosage	Directions For Use
Adult flies	Straight Sprays: 5 Tablespoons + 1 gal. water OR 1 Cup + 2-1/2 gal. water OR 1 Quart + 12 gal. water	Apply as a spray at the rate of 1 gallon per 1,000 sq. ft. on painted surfaces and 2 gals. per 1,000 sq. ft. on unpainted surfaces where flies alight or congregate, such as walls, ceilings, stanchions, windows or dairy barns, fences, around garage cars, etc.
Adult flies, Fly maggots	Bait Sprays: 5 Tablespoons sugar or molasses (unsulfurized) or corn syrup + 1 gal. water OR 1 Cup + 1 Cup sugar or molasses (unsulfurized) or corn syrup + 2-1/2 gal. water OR 1 Quart + 2-1/2 lbs. sugar or 1 quart molasses (unsulfurized) or 1 quart corn syrup + 12 gal. water	Apply as a bait spray over the surface of manure or poultry droppings indicating sheds, spray the dry bedding within 18 inches of the walls and around up-pen areas. For effective control in and around dairy barns, fly breeding sites such as manure and other waste material should be eliminated. Do not apply to freshly white-washed surfaces. Wait 14 days before applying.
Mosquitoes	1 part to 28 parts water, fuel oil or diesel oil	Spray building foundations, shrubs, low trees and lawn areas.
Mosquito larvae	13 fl. oz. per acre	For use in standing water (intermittently flooded areas, stagnant water, temporary rain pools). Mix in sufficient water or oil when applied by air or ground equipment.

Do not contaminate food, dishes or utensils. Avoid applying oil based formulations to valuable ornamental plants as injury may occur. MALATHION may be toxic to certain species of fish, particularly in shallow water. MALATHION 57% E.L. WILL PERMANENTLY DAMAGE AUTOMOBILE PAINT. CARS SHOULD NOT BE SPRAYED. IF ACCIDENTAL EXPOSURE DOES OCCUR, THE CAR SHOULD BE WASHED IMMEDIATELY.

HOUSEHOLD USES

DOMESTIC PETS Insect Controlled	Dosage	Directions For Use
Fleas, Lice, Ticks	1 oz. per gal.	Wet animal thoroughly. Repeat in 2 to 3 weeks if necessary.
Fleas, Ticks	5 oz. per gal.	PREMISE TREATMENT: Apply per 1,000 sq. ft. of surface to pet quarters, yards and lawns. Remove manure or debris before treating. Repeat treatment in 3 to 4 weeks if necessary.

IN AND AROUND HOMES, DAIRIES, FOOD PROCESSING PLANTS

Bedbugs	2 to 4 tablespoons per gal. deodorized kerosene	Apply lightly to all mattress surfaces in sufficient quantity to "mist" the fabric and generously to beds and woodwork, with special care taken to wet all possible hiding places.
LAWNS Ant mounds	1-1/2 pts. per 100 gals.	Spray ant hills thoroughly so that they are well soaked. For other small ants in flower beds, lawns, around trees, spray lightly in the infested areas. Repeat in 10 to 15 days if ants return.
Ground pearls	3 to 4 pts. per 100 gals. OR 3/4-1 qt. per 25 gals.	Make full coverage to soil surface when ground pearl nymphs are in the pink "crawler" or active stage and immediately wash into soil with additional water.

LIVESTOCK		
CATTLE (Beef and non-milking) and Horses		
Insect Controlled	Dosage	Directions For Use
Horn fly	1 to 1-1/2 gal per 100 gals OR 6-1/2 to 10 oz per 5 gals	Apply complete coverage spray Repeat at 2-week interval if needed
Lice	1 gal per 100 gals OR 6-1/2 oz per 5 gals	Apply Complete coverage spray One treatment may be sufficient Repeat only if needed
Ticks	1 to 2 gals per 100 gals OR 6-1/2 to 13 oz per 5 gals	Apply Complete coverage spray Repeat at 2-week intervals if needed
Back rubbing devices	2% mixture in fuel oil (for example, 1 pt per 4 gals fuel oil)	To reduce lice May also reduce horn flies Should be made continuously accessible, one to each 55 to 45 head of cattle and re-treated every 2 to 3 weeks

SHEEP AND GOATS*		
Insect Controlled	Dosage	Directions For Use
Keds, Lice, Ticks	1 gal per 100 gals OR 6-1/2 oz per 5 gals	Spray animals thoroughly.

DO NOT APPLY TO MILK GOATS.
 Repeat application after 2 or 3 weeks if needed. Do not treat animals under one month of age.
 Residue tolerance: 4 ppm in meat, fat and meat by-products

HOGS*		
Insect Controlled	Dosage	Directions For Use
Lice	1 gal per 100 gals OR 6-1/2 oz per 5 gals	Apply complete coverage spray to animals, pens and litter. One treatment may be sufficient. Repeat only if needed
Sarcopic mange	1 gal per 100 gals OR 6-1/2 oz per 5 gals	Apply complete coverage spray to all animals in herd, bedding and walls. Use extreme care to thoroughly cover all body surfaces of the animal, including inside of ears. One thorough spraying will usually control sarcopic mange of swine; however, extensive cases will require second treatment about 10 days after first application

* AFTER SPRAYING, SWINE SHOULD BE KEPT OUT OF SUN AND WIND FOR A FEW HOURS.
 Residue tolerance: 4 ppm in meat, fat and meat by-products

POULTRY (Chickens, Ducks, Geese & Turkeys)		
Insect Controlled	Dosage	Directions For Use
Chicken red mite	2 lbs per gal per 100 to 150 birds	DIRECT APPLICATION Repeat application in 4 to 6 weeks or when necessary. Use as a supplement to premise treatment for chicken red mite
	2 to 7 oz per gal	ROOST PAINT Brush on at rate of 1 pt. per 150 ft. of roost
	4 lbs per gal	PREMISE TREATMENT. Apply liberally to litter, walls, ceilings, roost nests and adjacent areas. Force spray into cracks and crevices
Chiggers	1 to 1-1/2 pt per acre	RANGE TREATMENTS. Treat range thoroughly day before placing poultry on range. Repeat every 2 to 3 weeks
Flies	4 lbs per gal	PREMISE TREATMENT. Apply liberally to litter, walls, ceilings, roost nests and adjacent areas. Force spray into cracks and crevices
Lice, Northern fowl mite	2 lbs per gal per 100 to 150 birds	DIRECT APPLICATION Repeat application in 4 to 6 weeks or when necessary
	8-1/2 oz per 15 gal per 400 birds	TAIL DIPPING Hold bird by wings and dip 3 to 4 inches of tail into solution. Treat vent and surrounding areas. Repeat in 7 to 10 days if necessary
	2 to 7 oz per gal of water or oil 4 lbs per gal	ROOST PAINT Brush on at rate of 1 pt. per 150 ft. of roost PREMISE TREATMENT. Apply liberally to litter, walls, ceilings, roost nests and adjacent areas. Force spray into cracks and crevices

LIVESTOCK (Continued)		
Insect Controlled	Dosage	Directions For Use
Ticks	6 to 7 oz per gal	PREMISE TREATMENT. Apply liberally to walls, ceilings and adjacent areas. Force spray into cracks and crevices

Residue tolerance: 4 ppm in or on meat, fat or meat by-products.
 0.1 ppm in eggs (from application to poultry)

NON-AGRICULTURAL LANDS		
Insect Controlled	Dosage	Directions For Use
Grasshoppers	1-1/2 to 3 pts OR 1-1/2 to 3 pts in 1 gal diesel fuel oil	

INJURY TO ORNAMENTALS AROUND NURSERY (OR NURSERY)
 Injury may occur on ferns, hickory, viburnum, lantana, cressula and canneri juniper following the use of Melathion 57% E. L. Slight injury has also been reported on Boston, stens, and maidenhair ferns, petunias, small-leaf spirea, white pine and maples. Under extreme heat, drought and disease conditions the emulsifiable concentrates may cause slight damage to elms.

FLOWERS, SHADE TREES, SHRUBS		
Insect Controlled	Dosage	Directions For Use
Aphids, Spider mites	1-1/2 pts per 100 gals OR 2 teaspoons per gal	Apply when scale crawlers have settled on foliage
Bag-worms	2 pts per 100 gals OR 2 teaspoons per gal	
Birch leaf miner, Boxwood leaf miner	2 pts per 100 gals OR 2 teaspoons per gal	
European pine shoot moth, Four-lined leaf bug, Japanese beetle adult, Potato leafhopper, Rose leafhopper, Tarnished plant bug, Thrips	1-1/2 pts per 100 gals OR 2 teaspoons per gal	
Lace bug	1 pt per 100 gals OR 2 teaspoons per gal	
Mealybugs, Whiteflies	1-1/2 pts per 100 gals OR 2 teaspoons per gal	
Oak kermes	2 pts per 100 gals OR 2 teaspoons per gal	
Tent caterpillar	2 pts per 100 gals OR 2 teaspoons per gal	

SCALES		
Insect Controlled	Dosage	Directions For Use
Oyster shell	1 pt per 100 gals OR 2 teaspoons per gal	Apply when scale crawlers have settled on foliage
Eucynus scurfy	1-1/2 pts per 100 gals OR 2 teaspoons per gal	Apply when scale crawlers have settled on foliage
Azalea, Magnolia, Pine leaf	2 pts per 100 gals OR 2 teaspoons per gal	
Fletcher	2 pts per 100 gals OR 2 teaspoons per gal	
Florida red, Juniper	2 pts per 100 gals OR 2 teaspoons per gal	
Black scale crawlers	2-1/4 pts per 100 gals OR 2 teaspoons per gal	
Monterey pine, Soft	2-1/2 pts per 100 gals OR 2 teaspoons per gal	
Pine needle scale	4 pts per 100 gals OR 4 teaspoons per gal	
Wax	4 pts per 100 gals OR 4 teaspoons per gal	

Apply in spring when crawlers are active. Repeat 1 or 2 full-coverage applications at 10-day intervals.

STORED PRODUCTS

BAGGED CITRUS PULP		
Insect Controlled	Dosage	Directions For Use
Residual warehouse spray	1 pt. in sufficient water to make 2-1/2 gals. of spray OR 1 gal. per 19 gals. of water.	Apply spray at the rate of 2 gals. per 1,000 sq. ft. of surface or to runoff. Before bagged citrus pulp is stored, thoroughly clean warehouses by removing and burning all debris and sweepings. Thoroughly spray with sufficient pressure interior of empty warehouse (including cracks and protected places), outside walls to a height of 6 to 8 feet and ground to a distance of about 6 ft. from warehouse.

Do not use treated burlap bags other than for dried citrus pulp.

GRAINS (Barley, Corn, Grain Sorghum, Oats, Rice, Rye, Wheat) and FIELD OR GARDEN SEEDS

Insect Controlled	Dosage	Directions For Use
Cereal leaf beetle, Confused flour beetle, Flat grain beetle, Granary weevil, Indian meal moth, Lesser grain borer, Midge weevil, Red flour beetle, Rice weevil, Rusty grain beetle, Saw-toothed grain beetle	1 gal. per 25 gals. of water OR 1 qt. per 6-1/4 gals. of water 1 pt. in 2 to 5 gals. of water per 1,000 bushels 1/2 pt. in 2 to 2 1/2 gals. of water per 1,000 sq. ft. of grain surface area	RESIDUAL SPRAY BEFORE STORING GRAINS: For a residual wall, floor and machinery spray in grain elevators, in treating truck beds, box cars and ships' holds, before loading grain make a thorough application. Before applying spray, clean elevators, box cars, etc. thoroughly. Remove and burn all sweepings and debris. GRAINS GOING INTO STORAGE: Apply as the grain is being loaded or turned into final storage. AS A SURFACE TREATMENT AFTER GRAINS ARE STORED: Apply the spray evenly over the surface of the grain. Apply immediately after grain is loaded into storage and repeat if necessary.

NUTS ALMONDS (In-Shell and Shelled)

Insect Controlled	Dosage	Directions For Use
Indian meal moth, Merchant grain beetle	4 fl. oz. in sufficient water to treat 10,000 lbs. of almonds	Use a suitable mechanical spray applicator that regulates the rate application to the flow of the almonds. Avoid spraying with a fine mist that drifts away. Shield the nozzle against wind and air currents.

PEANUTS

Insect Controlled	Dosage	Directions For Use
Confused flour beetle, Flat grain beetle, Granary weevil, Indian meal moth, Lesser grain borer, Red flour beetle, Rice weevil, Rusty grain beetle, Saw-toothed grain beetle	1 pt. in 2-1/2 gals. of water OR 1 gal. in 19 gals. of water Farmers Stock Peanuts 2-1/2 pts. in 5 gals. of water for each 15 tons OR 1-1/4 pts. in 2-1/2 gals. of water for each 7-1/2 tons	RESIDUAL WAREHOUSE SPRAY - BEFORE STORING PEANUTS: Apply as a coarse spray at the rate of 2 gals. per 1,000 sq. ft. of surface or to runoff. Clean warehouse thoroughly of trash and remains of old peanuts 1 to 2 weeks before new peanut crop is stored. Then, thoroughly spray the interior of the empty warehouse, especially cracks and protected places. Treat outside walls to a height of 6 to 8 feet and the ground to a distance of 6 feet from the warehouse. BULK SPRAY TREATMENT - PEANUTS GOING INTO STORAGE: Use good spray equipment. Apply coarse spray uniformly. Preferably, use a suitable mechanical spray applicator that regulates the rate of application to the flow of peanuts. Adjust the operating pressure of spray pump and size of nozzle opening to correlate the amount of spray delivery with the rate of flow of peanuts being treated. Avoid spraying with a fine mist that drifts away, by using low nozzle pressure. Shield the nozzle against wind and air currents.

SUPPLEMENTAL SURFACE SPRAY: After warehouse has been filled, level surface of peanuts before spraying. Apply surface spray using 1-1/3 cups of Malathion 57% E.L. in 2 gallons of water and apply at the rate of 2 gallons per 1,000 sq. ft. of surface. Apply first treatment as soon as bin is filled and leveled, but not later than the first week in October. Apply the second surface treatment 1 month later, followed by treatments at 2 month intervals. Use a piston type power sprayer equipped with agitator and nozzle capable of delivering a coarse spray. Repeat surface application 60 days later if warm temperatures prevail. Otherwise delay further treatment until late winter.

STORED PRODUCTS (Continued)

RAISINS (In Storage)		
Insect Controlled	Dosage	Directions For Use
Indian meal moth, Saw-toothed grain beetle	3/4 oz. per 144 sq. ft. of paper used as drying trays	Dry grapes in the field on treated paper

RESIDUAL SPRAY - BOX CARS FOR LOADING AND TRANSPORTING BAGGED FLOUR AND PACKAGED CEREALS

Insect Controlled	Dosage	Directions For Use
Confused flour beetle, Flat grain beetle, Granary weevil, Indian meal moth, Lesser grain borer, Midge weevil, Red flour beetle, Rice weevil, Rusty grain beetle, Saw-toothed grain beetle	1 gal. in 25 gals. water OR 1 qt. in 6-1/4 gals. water OR 1 gal. in 19 gals. of deodorized kerosene OR 1 qt. in 4-3/4 gals. of deodorized kerosene.	Clean the box car thoroughly, then remove and burn all sweepings and debris. Spray walls and floor to the point of runoff. Let the sprayed box car stand empty with the doors open until the spray has thoroughly dried. Line the walls and floor of the box car with kraft paper before loading. * The deodorized kerosene solution should be made up of - parts kerosene-type solvent plus one part aromatic hydrocarbon-type solvent.

On and Around CULL FRUIT & VEGETABLE DUMPS

Insect Controlled	Dosage	Directions For Use
Drosophila flies	1-1/2 gal. per 100 gals. water OR 3/4 qt. per 12-1/2 gals. water	Apply as a drench using 8 to 10 gals. of spray per 100 sq. ft. For best results, dumps should not be over 16 inches deep. DO NOT FEED TREATED FRUIT AND VEGETABLES

In and Around WINERIES AND PROCESSING PLANTS

Insect Controlled	Dosage	Directions For Use
Drosophila flies	3-1/2 oz. in 1 qt. water	Paint all doors and window screens. AVOID CONTAMINATION OF WINE, FOOD, UTENSILS, EQUIPMENT AND WATER

PLANTS PROCESSING DRY MILK

Insect Controlled	Dosage	Directions For Use
Black carpet beetles, Trogoderma species	1 pt. per 2-1/2 gals.	Clean premises thoroughly before applying and maintain good sanitation at all times. Use spray equipment and nozzles that will produce a coarse spray. Application must be made only by an experienced or trained person. Apply as a residual spray to all sections of the plant and warehouses where insects hide or crawl, such as cracks, corners, edges of floors, lower parts of walls, floors under storage platforms and underneath and behind protected places. Avoid contamination of milk, dry milk, equipment, utensils, work surfaces, containers and liners. Repeat application as necessary.

NOTICE OF WARRANTY

Seller makes no warranty, express or implied, concerning the use of this product other than indicated on the label. Buyer assumes all risk of use and/or handling of this material when such use and/or handling is contrary to label instructions.



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