

2013-1900
2014-04-25

BOTTLE LABEL

GROUP 1B INSECTICIDE

**PRO® MALATHION 50 EC
LIQUID INSECTICIDE**

FOR THE CONTROL OF HOUSE FLIES, STABLE FLIES, MITES, AS WELL AS MANY
OTHER INSECT PESTS ON ORNAMENTAL TREES, FRUIT, VEGETABLE AND FIELD
CROPS.

COMMERCIAL

GUARANTEE: Malathion 50%

REGISTRATION NO. 16099 PEST CONTROL PRODUCTS ACT

READ THE LABEL AND ATTACHED LEAFLET BEFORE USING

KEEP OUT OF REACH OF CHILDREN

NET CONTENTS: 4 L (10 L)

CAUTION



POISON

Agrium Advanced Technologies RP Inc.
10 Craig St.,
Brantford, ON
N3R 7J1
519-757-0077

DO NOT APPLY BY AIR.

DIRECTIONS FOR USE: (For additional use instructions, refer to attached leaflet)

As this product is not registered for the control of pests in aquatic systems, **DO NOT** use to control aquatic pests.

DO NOT contaminate irrigation or drinking water supplies or aquatic habitats by cleaning of equipment or disposal of wastes.

Field sprayer application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) medium. Boom height must be 60 cm or less above the crop or ground.

Airblast application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** direct spray above plants to be treated. Turn off outward pointing nozzles at row ends and outer rows. **DO NOT** apply when wind speed is greater than 16 km/h at the application site as measured outside of the treatment area on the upwind side.

Buffer zones

Use of the following spray methods or equipment **DO NOT** require a buffer zone: hand-held or backpack sprayer and spot treatment.

The buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands) and estuarine/marine habitats.

Method of application	Crop		Freshwater Habitat of Depths: Less than 1 m	Freshwater Habitat of Depths: Greater than 1 m	Estuarine/Marine Habitats of Depths: Less than 1 m	Estuarine/Marine Habitats of Depths: Greater than 1 m
Field sprayer	Asparagus, carrots, tomatoes, peas, beans, broccoli, Brussels sprouts, rutabagas, radishes, parsnips, cabbage, kale, cucumbers, squash, pumpkin, melons, eggplant, peppers,		2	1	5	3

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	potatoes, onions (bulb & green), lettuce, wheat, rye, barley, oats, alfalfa, clovers, tobacco, lentils, rape, pasture and rangeland					
	Beets, mustard,		1	1	4	2
	Spinach, celery		3	1	5	3
	Strawberries		3	1	10	4
	Raspberries		4	2	10	5
Airblast	Apples, apricots, cherries, plums, peaches, pears	Early growth stage	35	25	50	40
		Late growth stage	30	15	40	30
	Grapes	Early growth stage	30	20	45	35
		Late growth stage	20	10	35	25

For tank mixes, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture and apply using the coarsest spray (ASAE) category indicated on the labels for those tank mix partners.

Young grasshopper control in pastures: Apply PRO® Malathion 50 EC Liquid Insecticide at the rate of 1.0 - 1.5 L/ha in sufficient water for good coverage. Make thorough coverage applications..

Fly control (house and stable flies): For the control of flies , mix 2 L of PRO® Malathion 50 EC Liquid Insecticide in 100 L of water. Repeat applications as necessary

Treatment of outdoor structural foundations only, and the 1 m wide path surrounding the foundation.

Caution: Wait 14 days before using PRO® Malathion 50 EC Liquid Insecticide on freshly whitewashed surfaces.

DO NOT allow effluent or runoff from greenhouses or mushroom houses containing this product to enter lakes, streams, ponds or other waters.

ENVIRONMENTAL HAZARDS: TOXIC to aquatic organisms. Observe buffer zones specified under DIRECTIONS FOR USE. TOXIC to birds. TOXIC to bees exposed to direct treatment, drift, or residues on flowering crops or weeds. **DO NOT** apply this product to flowering crops or weeds if bees are visiting the treatment area. Minimize spray drift to reduce harmful effects on bees in habitats close to the application site. TOXIC to certain beneficial insects. Minimize spray drift to reduce harmful effects on beneficial insects in habitats next to the application site such as hedgerows and woodland. To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay. Avoid application of this product when heavy rain is forecast. Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body. The use of this chemical may result in contamination of groundwater particularly in areas where soils are permeable (for example, sandy soil) and/or the depth to the water table is shallow.

PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN. Avoid inhaling spray mist. Avoid contact with skin, eyes and clothing. Avoid contamination of food and feed. Do not contaminate drinking troughs or utensils. Wear long pants, long-sleeved shirts, and chemical-resistant gloves during mixing/loading, application, clean-up and repair. Chemical-resistant gloves are not required while operating groundboom sprayers. When using handwand equipment, wear chemical-resistant coveralls over long pants, long sleeved shirts, chemical-resistant gloves, and chemical-resistant footwear during mixing/loading application, clean-up and repair, and limit the amount of active ingredient handled per day to 6 kg per person (approx.. 190 L at a rate of 32.5 g a.i./L). Wash after handling or using. Avoid contamination of ponds, lakes, streams and other bodies of water which contain fish life or which may be used for irrigation or domestic purposes. Do not apply oil-based sprays to ornamentals as injury may occur. This product contains a petroleum distillate that is toxic to aquatic organisms. Avoid contamination of aquatic systems during application. Do not contaminate these systems through direct application, disposal of waste or cleaning of equipment. Apply only when the potential for drift to areas of human habitation or areas of human activity such as houses, cottages, schools and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.

When used in residential areas, outdoor use only. Residential areas are defined as any use site where bystanders including children could be exposed during or after application. This includes homes, schools, public buildings or any other areas where the general public including children could be exposed

FIRST AID: If in eyes, hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control centre or doctor for treatment advice. **If on skin or clothing,** take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control centre or doctor for treatment advice. **If swallowed,** call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person. Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION: Malathion is an organophosphate that is a cholinesterase inhibitor. Typical symptoms of overexposure to cholinesterase inhibitors include headache, nausea, dizziness, sweating, salivation, runny nose and eyes. This may progress to muscle twitching, weakness, tremor, incoordination, vomiting, abdominal cramps and diarrhea in more serious poisonings. A life-threatening poisoning is signified by loss of consciousness, incontinence, convulsions, and respiratory depression with a secondary cardiovascular component. Treat symptomatically. If exposed, plasma and red blood cell cholinesterase tests may indicate degree of exposure (baseline data are useful). Atropine, only by injection, is the preferable antidote. Oximes, such as pralidoxime chloride, may be therapeutic if used early; however, use only in conjunction with atropine. In cases of severe acute poisoning, use antidotes immediately after establishing an open airway and respiration. With oral exposure, the decision of whether to induce vomiting or not should be made by an attending physician.

STORAGE: Do not contaminate water, food, or feed by storage or disposal. Keep in original container during storage. Isomalathion, a toxic metabolite of malathion, forms when malathion product is stored at elevated temperatures or for extended periods of time. Malathion product must be stored in a cool (<20-23 degrees C) dry, well ventilated place away from seed, fertilizer or other pesticides and for no longer than one year.

DISPOSAL: Triple - or pressure - rinse the empty container. Add the rinsings to the spray mixture in the tank. Follow provincial instructions for any required cleaning of the container prior to its disposal. Make the empty container unsuitable for use. Dispose of the container in accordance with provincial requirements. For information on disposal of unused, unwanted product, contact the Manufacturer or the Provincial Regulatory Agency. Contact the Manufacturer and the Provincial Regulatory Agency in case of a spill, and for clean-up of spills.

NOTICE TO USER: This pest control product is to be used only in accordance with the directions on the label. It is an offence under the *Pest Control Products Act* to use this product in a way that is inconsistent with the directions on the label. The user assumes the risk to persons or property that arises from any such use of this product.

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LEAFLET

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Ornamentals: To control oyster shell scales, mix 1.25 - 2.5 L/ha of PRO® Malathion 50 EC Liquid Insecticide in 1000 L of water. Apply when scale crawlers have settled on foliage. To control aphids, leafhoppers, young grasshoppers, thrips, spider mites, four-lined leaf bugs, codling moths, mealybugs, whiteflies, native scales, Japanese beetles, tarnished plant bugs, lace bugs, European pine shoot moths, mix 2 L of PRO® Malathion 50 EC Liquid Insecticide in 1000 L of water and treat thoroughly. For spruce budworm, tent caterpillars, birch leaf miners, boxwood leaf miners, bagworms, mix 2.5 L of PRO® Malathion 50 EC Liquid Insecticide in 1000 L of water. To control pine needle scale, mix 5 L of PRO® Malathion 50 EC Liquid Insecticide in 1000 L of water. Apply when scale crawlers have settled on foliage. Maximum 4 applications per year. Minimum interval between applications (days): 10.

Note: Injury may occur on certain ferns, on some species of crassula, petunia, ilex, African violets and juniper.

Mushroom beds: To control mites, phorid flies, sciarid flies, mix 25 to 40 mL in 11 L of water and apply to an area of 100 m² immediately after picking.

Vegetables: Apply the concentration listed below for each crop using enough water in spray mixture to ensure thorough coverage. Repeat as necessary but not closer to harvest than listed below.

Crop	Pest	Rate	Max. no. of Applications per Year	Minimum Interval (days)	Days before harvest	Restricted Entry Interval (REI) (days)
Asparagus	Asparagus beetle	2.75 L/ha	1	N/A	1	12 hrs.
Carrots Radishes Parsnips	Aphids	1.1 - 2.75 L/ha	1	N/A	7	Radish = 12 hrs. Carrots, Parsnips = 1 day
Tomatoes (field)	Spider mites, aphids	1.5 - 2.25 L/ha	4	7	3	12 hrs.
Peas	Pea aphid (Do not apply unless the foliage is dry.)	2.25 L/ha	2	7	3	1
Beans	Mexican bean beetle, spider mites	1.5 - 2.15 L/ha	2	7	3	1
Broccoli Cabbage Kale	Aphids	1.1 - 2.75 L/ha	1	N/A	3 (Broccoli)	Broccoli, Cabbage = 2 Kale = 1
	Imported cabbage worm, cabbage looper	1.1 - 2.75 L/ha			7 (Cabbage & Kale)	
Brussels sprouts	Aphids	1.1 - 2.75 L/ha	1	N/A	7	2
Rutabagas	Aphids	1.1 - 2.75 L/ha	1	N/A	3	12 hrs.

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Crop	Pest	Rate	Max. no. of Applications per Year	Minimum Interval (days)	Days before harvest	Restricted Entry Interval (REI) (days)
Cucumbers Squash Pumpkin Melons	Aphids, spider mites Leafhopper on melon Do not apply malathion to cucurbits unless plants are dry.	2.25 L/ha 2.25 L/ha	1	N/A	3 3	1
Eggplant	Aphids, spider mites	1.1 - 2.75 L/ha	4	7	3	12 hrs.
Peppers	Aphids	1.1 - 2.75 L/ha	4	7	3	12 hrs.
Beets	Aphids	1.1 - 2.75 L/ha	1	N/A	7	1
Potatoes	Aphids, leafhoppers	1.5 - 2.25 L/ha	1	N/A	3	12 hrs.
Onions (bulb & green)	Thrips	2.25 L/ha	1	N/A	3	12 hrs.
Spinach	Aphids	2.75 - 3.5 L/ha	1	N/A	7	1
Field lettuce	Aphids, six-spotted leafhoppers	1.5 - 2.25 L/ha	1	N/A	7	1
Celery	Aphids, spider mites	2.75 - 3.5 L/ha	1	N/A	7	1
Greenhouse lettuce	Aphids, armyworms, thrips, whiteflies	1.5 - 2.25 L/ha	2	10	7 (Head lettuce) 14 (Leaf)	12 hrs.

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Fruit crops:

Crop	Pest	Rate per 1000 L of water	Max. No. of applications per Year	Minimum Interval (days)	Days before harvest	Restricted Entry Interval (REI) (days)
Apples	Woolly apple aphid Bud moth Green apple aphid Rosy apple aphid Mealybug Clover mite European red mite Two-spotted mite Yellow mite* Codling moth Plum curculio Red-banded leaf roller	1.0 - 2.5 L	2	10	3 3	Hand thinning: 3 Hand harvest, hand line irrigation: 2 All other activities: 12 hrs.
		PRO® Malathion 50 EC Liquid Insecticide may cause injury to McIntosh and Courtland varieties if spray is applied within 4 weeks of harvest.				
Apricots	European lecanium scale, soft brown scale, aphids	2.0 - 2.5 L	2	10	7	Hand thinning: 3 Hand harvest, hand line irrigation: 2 All other activities: 12 hrs.
Cherries	Black cherry aphid, fruit tree leaf roller	1.25 - 2.0 L	1	N/A	3	Hand thinning: 3 All other activities: 1
		Note: Injury may occur on certain varieties of sweet cherries in British Columbia				

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Crop	Pest	Rate per 1000 L of water	Max. No. of applications per Year	Minimum Interval (days)	Days before harvest	Restricted Entry Interval (REI) (days)
Grapes	Spider mites, leaf hoppers, mealybugs	2.0 L	1	N/A	3	Girdling, cane turning: 5 Hand harvest, training, tying, leaf pulling, hand pruning, thinning: 4 All other activities: 12 hrs
		Note: Injury may occur on Ribier grapes				
Peaches	Oriental fruit moth, plum curculio	1.0 - 2.0 L	1	N/A	7	Hand thinning: 3 All other activities: 1
Pears	Mites, pear psylla, mealybugs	1.0 - 2.5 L	2	10	3	Hand thinning: 3
	Codling moth, plum curculio, fruit tree leaf roller, red-banded leaf roller	1.0 - 2.5 L			3	Hand harvest, hand line irrigation: 2 All other activities: 12 hrs.
Plums	Mealy plum aphid, plum curculio	1.0 - 2.0 L	1	N/A	3	Hand thinning: 3 All other activities: 1
Strawberries	Aphids	1.25 - 2.0 L	2	7	3	12 hrs.
	Adult strawberry root weevil (B.C. only)	2.5 - 3.75 L			3	
Raspberries	Thrips, leafhoppers, sap beetles	2.0 - 2.5 L	2	10	1	1
	Adult bud weevil	2.0 - 2.5 L			--	

Field crops:

Crop	Pest	Rate per 1000 L of	Max. No. of applications	Minimum Interval	Days before	Restricted Entry Interval (REI) (days)
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		water	per Year	(days)	harvest	
Wheat Oats Rye Barley	Aphids, greenbug, winter grain mite	1.0 - 2.5 L/ha	1	N/A	7	12 hrs.
Alfalfa Clovers	Aphids, potato leafhopper, spider mites, alfalfa weevil larvae, spittlebug, young grasshoppers	2.0 - 2.5 L/ha	2 alfalfa - 2 applications per cut to max 4 per year	14	7	12 hrs.
NB: Do not apply to crops in bloom No application within 7 days of harvest or pasturing						
Tobacco (field)	Aphids	1.0 - 2.0 L/ha	1	N/A	7	12 hrs.
Mustard Rape	Flea beetles, diamondback moth larvae	1.0 L/ha	1	N/A	7	12 hrs.
Lentils	Grasshopper	1.7 L/ha	2	7	14	1

Resistance-Management Recommendations

For resistance management, PRO® Malathion 50 EC Liquid Insecticide contains a Group 1B insecticide. Any insect population may contain individuals naturally resistant to PRO® Malathion 50 EC Liquid Insecticide and other Group 1B insecticides. The resistant individuals may dominate the insect population if this group of insecticides is used repeatedly in the same fields. Other resistance mechanisms that are not linked to site of action but are specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

To delay insecticide resistance:

- Where possible, rotate the use of PRO® Malathion 50 EC Liquid Insecticide or other Group 1B insecticides with different groups that control the same pests.
- Avoid application of more than the maximum number listed in the label and consecutive sprays of PRO® Malathion 50 EC Liquid Insecticide or other insecticides in the same group in a season.
- Use tank mixtures with insecticides from a different group that is effective on the target pest when such use is permitted.

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- Insecticide use should be based on an IPM program that includes scouting, record keeping, and considers cultural, biological and other chemical control practices.
- Monitor treated pest populations for resistance development.
- Contact your local extension specialist or certified crop advisors for any additional pesticide resistance-management and/or IPM recommendations for the specific site and pest problems in your area.
- For further information or to report suspected resistance, contact company representatives at 1-800-461-6471 or at www.agriumat.com.

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ENVIRONMENTAL HAZARDS:

TOXIC to aquatic organisms. Observe buffer zones specified under DIRECTIONS FOR USE.
TOXIC to birds.

TOXIC to bees exposed to direct treatment, drift, or residues on flowering crops or weeds. **DO NOT** apply this product to flowering crops or weeds if bees are visiting the treatment area.

Minimize spray drift to reduce harmful effects on bees in habitats close to the application site.

TOXIC to certain beneficial insects. Minimize spray drift to reduce harmful effects on beneficial insects in habitats next to the application site such as hedgerows and woodland.

To reduce runoff from treated areas into aquatic habitats avoid application to areas with a moderate to steep slope, compacted soil, or clay.

Avoid application of this product when heavy rain is forecast.

Contamination of aquatic areas as a result of runoff may be reduced by including a vegetative strip between the treated area and the edge of the water body.

The use of this chemical may result in contamination of groundwater particularly in areas where soils are permeable (for example, sandy soil) and/or the depth to the water table is shallow.

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