

PMRA APPROVED  
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## **PRO® MALATHION ULV® INSECTICIDE CONCENTRATE LIQUID**

**FOR MOSQUITO AND FLY CONTROL. MAY ALSO BE USED TO CONTROL INSECTS SUCH AS GRASSHOPPERS, GREEN CLOVERWORMS, ARMYWORMS, CEREAL LEAF BEETLES, LEAFHOPPERS, ALFALFA WEEVIL LARVAE AND DIAMONDBACK MOTH LARVAE.**

COMMERCIAL

GUARANTEE: Malathion 96.5%

REGISTRATION NO. 14597 PEST CONTROL PRODUCTS ACT

CAUTION



POISON

READ THE LABEL BEFORE USING  
KEEP OUT OF REACH OF CHILDREN

NET CONTENTS : 10 L

Agrium Advanced Technologies RP Inc.  
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**For mosquito and fly control. PRO® Malathion ULV® Insecticide Concentrate** may also be used to control insects such as grasshoppers, green cloverworms, armyworms, cereal leaf beetles, leafhoppers, alfalfa weevil larvae and diamondback moth larvae.

**PRO® Malathion ULV® Insecticide Concentrate** is specifically formulated for use undiluted in Ultra-Low Volume aerial and ground applicators.

**PRO® Malathion ULV® Insecticide Concentrate** may cause spotting on automobile paint finish if these instructions are not followed. Cars should not be sprayed directly or subjected to prolonged exposure.

#### **ENVIRONMENTAL HAZARDS:**

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.

#### **SPECIFICATIONS:**

##### **Droplet Size:**

1. Spray droplets should not be less than 5 microns in diameter as the smaller droplets do not impinge readily on adult mosquitoes.
2. Spray droplets should not exceed the range of 23 to 27 microns in diameter as larger droplets, when transported by natural air currents, impinge more readily on objects in their pathway and will permanently damage automobile paint.
3. More than one-half of the total spray mass should consist of droplets in the 5 to 15 micron diameter to achieve adequate dispersal of insecticide over a 90 metre swath.
4. A minimum of two-thirds, preferably four-fifths, of the total spray mass should consist of droplets not exceeding 20 microns in diameter.
5. The mass median diameter (MMD) of the droplets should not exceed 14 microns. The MMD is the drop diameter which divides the spray volume into the equal parts, i.e. 50% of the volume is in the drop size below the MMD and 50% is above the MMD.
6. The average diameter of the droplets should not exceed 12 microns.

#### **DIRECTIONS FOR USE:**

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.

Aerial application: **DO NOT** apply during periods of dead calm. Avoid application of this product when winds are gusty. **DO NOT** apply when wind speed is greater than 10 km/h at flying height at the site of application. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) medium. To reduce drift caused by turbulent wingtip vortices, the nozzle distribution along the spray boom length **MUST NOT** exceed 65% of the wing- or rotorspan.

### 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	Cereal crops, grasses and legumes grown for hay		1	1	4	2
	Legumes, alfalfa, pasture and range grasses		2	1	5	3
Aerial	Grasses	Fixed wing	15	4	85	20
		Rotary wing	10	1	50	15
	Cereal crops grown for hay, rape	Fixed wing	15	5	125	30
		Rotary wing	15	3	65	20
	Legumes	Fixed wing	20	5	150	35
		Rotary wing	15	5	75	25
	Alfalfa	Fixed wing	45	10	175	70
		Rotary wing	25	10	95	40
	Clover	Fixed wing	30	10	150	50
		Rotary wing	20	5	80	30

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.

## **ULV Application by Ground Equipment:**

### **Operating equipment:**

1. The Ultra-Low Volume cold aerosol nozzle for dispersal of Malathion to control adult mosquitoes must have the minimum capability of producing the droplet spectrum described under Droplet Size.
2. Tank Pressure should be maintained at the value recommended in equipment's operating manual.
3. No insecticide pump is necessary with the ULV system.
4. Flow rate must be regulated by an accurate flow meter and should not exceed 120 mL/minute.
5. Nozzles should be positioned at the rear of the truck and pointed upward at an angle of 45° or more.
6. Vehicle speed should not be greater than 16 km/h. Shut off spray equipment when vehicle is stopped.

**Adult Mosquito Control:** For control of adult mosquitoes over a 90 metre swath with non-thermal aerosols of Malathion using the Ultra-Low Volume method, use a flow rate of 30-60 mL per minute at a truck speed of 8 km/h and a flow rate of 60-120 mL per minute at 15 km/h. Flow rate must be constantly monitored by the operator to maintain uniform control of discharge.

### **Aerial Application:**

Use **PRO® Malathion ULV® Insecticide Concentrate** undiluted for Ultra-Low Volume aerial applications. Aerial applications should be made at altitudes of 6-8 metres. Aircraft must be equipped for Ultra-Low Volume applications. Conventional aircraft spray equipment can also be converted to ULV application by making a few minor modifications in the plumbing and boom assembly. Generally, spraying should not be attempted when the wind is at or above 16 km/h or temperature is above 28° C.

**NOTE :** **PRO® Malathion ULV® Insecticide Concentrate** may cause spotting on automobile paint finish if prolonged exposure is permitted. Cars should not be sprayed directly. If accidental exposure does occur, the car should be washed immediately.

**Mosquitoes:** Apply at 425-550 mL/ha. Repeat application as necessary.

1. In residential areas, rates must not exceed 260 g a.i./ha (i.e. 223 mL of product/ha)
2. When used in residential areas, outdoor use only. Residential areas are defined as sites where bystanders including children may be potentially exposed during or after spraying. This includes around homes, schools, parks, playgrounds, playing fields, public buildings or any other area where the general public including children could be exposed.

Consult Provincial/Territorial pesticide regulatory officials for required authorization.

**Houseflies and stable flies:** Apply 425-550 mL/ha in feed lots, stabling areas and pastures. Only one application per year. REI: 12 hrs

**Grasshoppers:** For grass in pasture and range, apply 550 mL/ha and repeat as necessary. May be grazed or harvested on day of application. Only one application per year. REI: 12 hrs

**Green cloverworms:** Apply to clover at 550 mL/ha. Repeat as necessary. Do not apply within 7 days of harvest. Do not apply when clover is in bloom. Two applications per year. Minimum application interval: 14 days. REI: 12 hrs

**Leafhoppers:** In non-agricultural land (wild host plants), apply 425-550 mL/ha. Only one application per year. REI: 12 hrs.

**Armyworms & cereal leaf beetle:** On cereal crops and grasses or legumes being grown for hay, apply 425-550 mL/ha when armyworms appear. For cereal leaf beetle, apply 275-550 mL/ha when adult beetles become active. Only one application per year. Do not apply to cereal crops within 7 days of harvest. REI: 12 hrs.

**Alfalfa weevil larvae:** On alfalfa, apply when 50% to 75% of the leaves show feeding damage and temperatures are over 18° C. Do not apply to seed alfalfa or when alfalfa is in bloom or within 5 days of harvest. Apply at a rate of 1.1 L/ha. Do not apply via ground ULV application. Two applications per cut to a maximum of 4 per year. Minimum application interval: 14 days. REI: 12 hrs.

**Diamondback moth larvae:** Apply 275-425 mL/ha in rape. Do not apply within 7 days of harvest. Only one application per year. REI: 12 hrs

**PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN.** Avoid inhaling spray mist. Avoid contact with skin, eyes and clothing. Wash exposed skin areas thoroughly with soap and water after working with Malathion. Wear cotton coveralls (for ground and aerial ULV application) over long pants, long sleeved shirts, and chemical-resistant gloves during mixing/loading, application, clean-up and repair. Remove contaminated clothing and clean before reuse. Avoid contamination of food and feed. Do not store near food, feed, fertilizers, seed and like commodities. Do not contaminate drinking troughs or utensils. Highly toxic to fish and bees. 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 treat dairy barns. Do not apply to pasture while occupied by dairy animals.

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.

For ULV Ground Applications:

Limit the amount of active ingredient handled per day to 95 kg per person (approx. 70 ha at a rate of 1375 g a.i./ha, and 150 ha at a rate of 653 g a.i./ha).

For ULV Aerial Applications:

Limit the amount of active ingredient handled per day to 1125 kg per person (approx. 820 ha at a rate of 1375 g a.i./ha, and 1700 ha at a rate of 653 g a.i./ha).

**FIRST AID: 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 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 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 P.C.P. Reg. No. 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:** Empty the contents of the container thoroughly into the spray tank. Follow

provincial instructions for any required additional cleaning of the container prior to its disposal. Make the empty container unsuitable for further use. Dispose of the container in accordance with provincial requirements. For information on the 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.