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GROUP

1B

INSECTICIDE

**GARDEX CHEMICALS LTD.**

**Gardex Malathion ULV Concentrate**

COMMERCIAL

LIQUID INSECTICIDE – CONTAINS MALATHION

**READ THE LABEL BEFORE USING**

**GUARANTEE: MALATHION 96.5%**

**REGISTRATION NO. 16198 PEST CONTROL PRODUCTS ACT**

**CAUTION**

**POISON**

**NET CONTENTS: 20 LITRES**

**Gardex Chemicals Ltd.**

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**(TEL): 1-800-561-7302**

## **DIRECTIONS FOR USE**

### **MOSQUITO AND FLY CONTROL:**

I. Ultra Low Volume Aerial Application Where Automobiles, Trailers, Trucks are present. Aerial spraying should not be attempted when the wind is, at or above 15 km/h or temperatures are above 27° C.

Undiluted spray droplets of GARDEX MALATHION ULV CONCENTRATE will permanently damage vehicle paint finishes unless the aircraft used for the ultra low volume application meets all of the specifications listed below.

1. Aircraft is operated at 240 km/h or more.
2. There are no leaks in the ultra volume spray system.
3. Nozzles are placed on the boom at a 45° angle down and into the wind.
4. Diaphragm check valves are used on all nozzles to insure positive cut-off of the spray.
5. Dosage of GARDEX MALATHION ULV CONCENTRATE does not exceed 200 mL/ha when spraying where vehicles are present.
6. The spray system produces droplets of this product in the 50 to 60 mass median diameter (MMD) micron range, with no more than 10% of the droplets exceeding 100 microns, as determined by readings made from microscope slides coated with Dri-Film. For information on determination of droplet size, request additional data from Gardex Chemicals Ltd.

**Houseflies and Stable Flies** – on feedlots, stabling areas and pastures. Apply this product at the rate of 425-550 mL/ha.

**Mosquito Adults** – apply this product at the rate of 425-550 mL/ha.

1. In residential areas, rates must not exceed 260g a.i./ha (i.e., 300 mL product/ha).
2. 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 areas where the general public including children could be exposed.
3. Consult Provincial/Territorial pesticide regulatory officials for required authorization.

**Mosquito Larvae** – apply this product to breeding areas at the rate of 425-550 mL/ha.

**DO NOT** apply to public waterways or to water draining into public waterways. For use only in water wholly confined within the property of the user and where there is no outflow beyond the property limits.

### **II. Ultra Low Volume Application of Nonthermal Aerosols Applied by Ground Equipment.**

**NOTICE:** GARDEX MALATHION ULV CONCENTRATE must not be used undiluted as a nonthermal aerosol applied ultra low volume by ground equipment for control of adult mosquitoes unless written authorization and specific instructions for this use are obtained from Gardex Chemicals Ltd.

**TO BE APPLIED ONLY BY TRAINED PERSONNEL OF MOSQUITO ABATEMENT DISTRICTS OR PEST CONTROL OPERATORS WHO HAVE THE KNOWLEDGE AND EXPERIENCE NECESSARY TO FOLLOW THE HIGHLY TECHNICAL AND SPECIFIC INSTRUCTIONS.**

**Adult Mosquito Control** – for control of adult mosquitoes over a 100m swath with nonthermal aerosols of MALATHION using the ultra low volume method, use the following flow rates at the indicated vehicle speeds:

Vehicle Speed	Flow Rate of MALATHION
Km/h	Millilitres per minute
10	40-80
15	60-130

**Adult Stable Fly Control** – for control of adult stable flies over 100m swath with nonthermal aerosols of MALATHION using the ultra low volume method, use the following flow rates at the indicated vehicle speeds:

Vehicle Speed	Flow rate of MALATHION
Km/h	Millilitres per minute
10	80
15	130

## OPERATING EQUIPMENT

**Each non-thermal aerosol generator** used for dispersal of GARDEX MALATHION ULV CONCENTRATE, the Premium Grade Malathion or Malathion ULV Concentrate to control adult mosquitoes must have minimum capability of producing the droplet spectrum described under DROPLET SIZE. The initial determination of droplet size is made after the unit is installed in a vehicle and prior to its use in mosquito control operations.

The unit should be rechecked as frequently as necessary to insure that proper droplet size is maintained for each operation. Determination of droplet size every two months is usually sufficient if the unit has been maintained in good operating condition.

Equipment manufacturer's instructions setting forth cleaning and maintenance of the unit must be followed. This unit must be inspected before each operation to correct any leaks or obstructions in the spray system; to detect whether the nozzle, hoses or other parts are worn and need replacement; to insure that the flow meter is properly calibrated and to determine that the pressure recommended by the manufacturer is being maintained.

**Flow Rate:** Must be regulated by accurate flow meter. The flow rate must be constantly monitored by the operator to maintain uniform control of the discharge rate.

**Nozzle Direction:** Rear of the vehicle

Upward at an angle of 45° or more.

**Vehicle Speed:** Not greater than 15 km/h

Shut off spray equipment when vehicle is stopped.

**Important:** Spray droplets of undiluted MALATHION will permanently damage automobile paint unless all the conditions described and recommended in this leaflet are met.

### DROPLET SIZE:

1. The mass median diameter (MMD) of the droplets should not exceed 17 microns. The MMD is the drop diameter, which divides the spray volume into two equal parts; i.e. 50% of the volume is in the drop sizes below the MMD and 50% is above the MMD.
2. Spray droplets should not exceed 32 microns in size. Three percent of the spray droplets (6 droplets out of 200) can exceed 32 microns providing the MMD does not exceed 17 microns and no droplets exceed a maximum of 48 microns. Larger droplets,

when transported by natural air currents, impinge more readily on objects in their pathway and will permanently damage automobile type paints.

3. More than one-half of the total spray mass must consist of droplets in the 6 to 8 micron range to achieve adequate dispersal of insecticide over a 100m swath.
4. A minimum of two-thirds, preferable four-fifths of the total spray mass must consist of droplets not exceeding 24 microns in range.
5. Spray droplets should not be less than 5 microns in size, as the smaller droplets do not impinge readily on adult mosquitoes.

Undiluted spray droplets of GARDEX MALATHION ULV CONCENTRATE will permanently damage automobile paint unless these specific instructions for ground and aerial application are followed.

Before using, read the instructions contained in this label for the proper methods and procedures, which must be followed to achieve effective insect control and avoid permanent damage to automobile and other paint finishes. Cars and trucks should not be sprayed directly. If accidental exposure does occur, the vehicle should be washed immediately.

GARDEX MALATHION ULV CONCENTRATE is used undiluted in specially designed aircraft or ground equipment capable of applying ultra low volumes for control of the insects indicated. Aerial applications should be made at altitudes of 3-8m. **DO NOT** make application when winds exceed 10-15 km/h.

Mist blowers and boom sprayers utilizing a controlled air flow to facilitate particle size and spray deposition may be used at a vehicle speed of 5-15 km/h.

For information concerning aircraft or ground application equipment suitable for applying GARDEX MALATHION ULV CONCENTRATE contact Gardex Chemicals Ltd.

Apply only when meteorological conditions at the treatment site allow for complete and even crop coverage. Apply only under conditions of good practice specific to aerial application as outlined in the **National Aerial Pesticide Application Manual, developed by the Federal /Provincial/Territorial Committee on Pest Management and Pesticides.**

**PRECAUTIONS: KEEP OUT OF REACH OF CHILDREN AND DOMESTIC ANIMALS.** Harmful by swallowing, inhalation or skin contact. Avoid breathing spray mist. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Change contaminated clothing. **DO NOT** contaminate food, feed, fertilizers or seed. This product is toxic to fish. **DO NOT** contaminate any body of water by direct application, cleaning of equipment or disposal of wastes and containers. This product is also toxic to bees exposed to direct treatment or residues on crops.

If this pest control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S., visit CropLife Canada's web site at: [www.croplife.ca](http://www.croplife.ca).

**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 Pest Control Product Registration Number with you when seeking medical attention.

**TOXICOLOGICAL INFORMATION: antidote:** If accidental poisoning occurs, atropine is antidotal. Give 2 to 4 mg of atropine sulfate intramuscularly or intravenously immediately and every hour as required until pupils dilate.

**Symptoms of Poisoning:** headache, weakness, sweating, giddiness, blurred vision, nausea, abdominal cramps, diarrhea and discomfort in chest.

**DISPOSAL:** 1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank. 2. Follow provincial instruction for any required additional cleaning of the container prior to its disposal. 3. Make the empty container unsuitable for further use. 4. Dispose of the container in accordance with provincial requirements. 5. For information on disposal of unused, unwanted product, contact the manufacturer or the 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.

### AGRICULTURAL USES

Repeat applications should be made as necessary unless otherwise indicated.

Crop	Pests Controlled	Litres/Hectare	Days to Harvest Or Grazing	Directions for Use
Alfalfa	Alfalfa weevil larvae	1.1L	5	Apply when temperatures are expected to exceed 18°C and when 50-75% of leaves show feeding damage. DO NOT apply to seed alfalfa or when alfalfa is in bloom.
Cereal crops (barley, oats, wheat)	Armyworm	425-550 mL	7 (cereal crops)	Apply when worms appear.
Grasses or legumes grown for hay corn	Cereal Leaf Beetle	275-550 mL		Apply when adult beetles are active. Repeat applications at the higher rate within 2-14 days for control of adults and young larvae.
Clover	Greenworms	550 mL	7	DO NOT apply when clover is in bloom.
Grass: Pasture and range	Grasshoppers	550-850 mL	0	May be grazed or harvested on day of application.
Rapeseed	Diamondback moth larvae	275-425 mL	7	
Feedlots Stabling areas Pastures	Houseflies Stable flies Mosquitoes	425-550 mL		
Non-agricultural land for insect control on wild host plants.	Leafhoppers	425-550 mL		

**Resistance-Management Recommendations:** For resistance management, please note that Malathion ULV Concentrate contains a Group 1B insecticide. Any of the listed insect/mite populations may contain individuals naturally resistant to Malathion ULV Concentrate and other Group 1B insecticides. The resistant individuals may dominate the insect/mite populations if this group of insecticides is used repeatedly in the same fields. Other resistant mechanisms that are not linked to site of action but are specific for individual chemicals, such as enhanced metabolism, may also exist.

**To delay insecticide resistance:**

- Where possible, rotate the use of Malathion ULV Concentrate or other Group 1B insecticides/acaricides with different groups that control the same pests in a field.
- Use tank mixtures with insecticides/acaricides from a different group when such use is permitted.
- Insecticide/acaricide 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 Gardex Chemicals Ltd. at 1-800-561-7302.

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