



Lannate™ Insecticide

GROUP	1A	INSECTICIDE
-------	----	-------------

Soluble Powder

RESTRICTED

READ THE LABEL AND BOOKLET BEFORE USING

ACTIVE INGREDIENT: Methomyl 90%

REGISTRATION NO. 10868 PEST CONTROL PRODUCTS ACT

NET CONTENTS 5.4 kg (24 x 225g water soluble bag)

Do not subject to temperatures below 0 °C

DANGER



POISON

KEEP OUT OF REACH OF CHILDREN.

Tessengerlo Kerley, Inc.

2910 N. 44th., Suite 100 Phoenix, AZ, USA

85018

(602) 889-8397

PRECAUTIONS

- ◆ KEEP OUT OF REACH OF CHILDREN
- ◆ May be fatal if swallowed, inhaled or absorbed through the skin or eyes.
- ◆ Do not breathe dust or spray mist.
- ◆ Do not get in eyes, on skin, or on clothing.
- ◆ Apply only when the potential for drift to areas of human habitation or areas of human activity (house, cottages, schools and recreational areas) is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment and sprayer settings.
- ◆ Do not sell water-soluble bags separately.
- ◆ Do not puncture water soluble packets for any reason.
- ◆ Wear clean clothes daily.
- ◆ Wash thoroughly after handling and before eating or smoking.
- ◆ Do not apply this product in such a manner as to directly or through drift expose workers, other persons or animals. The area being treated must be vacated by unprotected persons.
- ◆ Follow manufacturer's instructions for cleaning/maintaining personal protective equipment (PPE). If no instructions are available, wash PPE using detergent and hot water. Keep and wash PPE separately from other laundry.
- ◆ Discard clothing or other materials that have been drenched or heavily contaminated with this product. Do not reuse them.
- ◆ Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- ◆ Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- ◆ Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.
- ◆ Wear coveralls over long sleeved shirt and long pants, chemical resistant gloves, socks, chemical resistant footwear, goggles or face shield, and a respirator with a NIOSH approved organic-vapour-removing cartridge with a prefilter approved for pesticides OR a NIOSH approved canister approved for pesticides during mixing, loading, application, clean up and repair.
- ◆ **Handheld Application:** For mechanically-pressurized handguns: Do not handle more than 2.36 kg ai in a day (485 L at the rate of 0.486 kg a.i./ha and spray volume of 100 L/ha). These restrictions are in place to minimize exposure to individual applicators. Application may need to be performed over multiple days or using multiple applicators.

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 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.

If inhaled, move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control centre or doctor for further 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.

Take container, label or product name and Pest Control Product Registration Number with you when seeking medical attention.

TOXICOLOGICAL INFORMATION

ATROPINE IS AN ANTIDOTE - SEEK MEDICAL ATTENTION AT ONCE IN ALL CASES OF SUSPECTED POISONING.

Methomyl is a carbamate which is a cholinesterase inhibitor. Typical symptoms of overexposure to cholinesterase inhibitors include malaise, muscle weakness, dizziness and sweating. Headache, salivation, nausea, vomiting, abdominal pain and diarrhea are often prominent. 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). However, if a blood sample is taken several hours after exposure, it is unlikely that blood cholinesterase activities will be depressed, due to rapid reactivation of cholinesterase. Atropine, only by injection, is the preferable antidote. Do not use pralidoxime. 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.

WARNING SYMPTOMS -- Methomyl poisoning produces effects associated with anticholinesterase activity which may include weakness, blurred vision, headache, nausea, abdominal cramps, discomfort in the chest, constriction of pupils, sweating, slow pulse, muscle tremors.

TREATMENT -- Atropine sulphate should be used for treatment. Administer repeated doses, 1.2 to 2.0 mg intravenously every 10 to 30 minutes until full atropinization is achieved. Maintain atropinization until the patient recovers. Artificial respiration or oxygen may be necessary. Allow no further exposure to any cholinesterase inhibitor until recovery is assured.

Do not use 2-PAM for exposure to Lannate Insecticide alone. However, for exposure to combinations of Lannate Insecticide and organophosphorous insecticides, 2-PAM may be used as required to supplement the atropine sulphate treatment. Do not use morphine.

ENVIRONMENTAL HAZARDS

This product is toxic to fish, birds and other wildlife. Keep out of any body of water. Do not apply where runoff is likely to occur. Do not apply when weather conditions favour drift from areas treated. Do not contaminate water by cleaning of equipment, or disposal of wastes.

This product is toxic to bees exposed to direct application. Do not apply this product when bees are actively visiting the treatment area. Time applications to coincide with periods of minimum bee activity.

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

Toxic to birds and small wild mammals. Any spilled or exposed granules must be incorporated into the soil or otherwise cleaned-up from the soil surface.

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 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.

Toxic to bees. Bees can be exposed to direct treatment, drift, or residues on flowering crops or weeds.

DO NOT apply this product to flowering crops 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. Integrated Pest Management (IPM) users should use precaution to avoid application of methomyl insecticide coinciding with the presence of beneficial invertebrates.

This product demonstrates the properties and characteristics associated with chemicals detected in ground water. The use of methomyl insecticide in areas where soils are permeable, particularly where the water table is shallow, may result in ground water contamination.

NATURE OF RESTRICTION: This product is to be stored or displayed separate from food or feed.

RESTRICTED USES - DIRECTIONS FOR USE

Lannate Insecticide should be used only in accordance with recommendations on this label. For further details on use of Lannate Insecticide, consult published Tessengerlo Kerley Inc recommendations available through local dealers.

Lannate Insecticide is a dry powder contained within a water-soluble bag, to be dissolved in water for application by ground or air equipment. Use only in commercial plantings.

Do not handle water-soluble bags with bare hands. Use chemical resistant gloves. Do not allow water-soluble bags to become wet prior to adding to the spray tank. Do not puncture bags for any reason. Do not store below 0°C. Allow to warm above 10°C for normal handling.

Do not mix with liquid fertilizers, substances that contain boron or substances that release free chlorine. Mixing the water soluble film with any of these compounds will result in an insoluble substance in the tank.

Not for use in residential areas. Residential areas are defined as sites where bystanders including children may be potentially exposed during or after application. This includes around homes, school, parks, playgrounds, playing fields, public buildings or any other areas where the general public including children could be exposed.

For outdoor use only.

DO NOT enter or allow worker entry into treated areas during the Restricted Entry Interval (REI) of 12 hours.

DO NOT apply methomyl on broccoli, Brussels sprouts, cabbage, cauliflower and sweet corn after August 15th to reduce the potential for this product to enter groundwater.

DO NOT GRAZE OR HARVEST FOR LIVESTOCK FEED

In some cases, tank mixing a pest control product with another pest control product or a fertilizer can result in biological effects that could include, but are not limited to: reduced pest efficacy or increased host crop injury. The user should contact Tessengerlo Kerley Inc. at (602) 889-8397 for information before mixing any pesticide or fertilizer that is not specifically recommended on this label.

SPRAY PREPARATION

Fill spray tank $\frac{1}{4}$ to $\frac{1}{2}$ full of water. Add the appropriate number of Lannate Insecticide water-soluble bags directly to the spray tank, and mix thoroughly; once dissolved continued agitation is not required. Use mechanical or hydraulic means; do not use air agitation.

APPLICATION

Apply at the recommended rates when insects first appear. Apply the low rates on small plants, when insects are small in size and light infestations of insects. Early morning or late evening sprays are recommended.

Ground application: Use sufficient water to obtain thorough, uniform coverage. Suggested water volumes for conventional ground applications are: 250 to 850 L/ha for broccoli, cauliflower, Brussels sprouts and cabbage; 100 to 350 L/ha for succulent shelled peas; and 240 to 900 L/ha for sweet corn.

Product Specific Precautions

Read and understand the entire label before opening this product. If you have questions, call the manufacturer at (602) 889-8397 or obtain technical advice from the distributor or your provincial agricultural representative.

Site(s)	Pest(s)	Product Rate (grams product/ha)	Maximum Number of Applications per Year	PHI	Application Instructions
Broccoli	Cabbage looper, imported cabbageworm, diamondback moth	270-540	1	7	Ground application only. Use only in commercial plantings. Latest application date is August 15. Maximum one application/year.
Brussels sprouts	Cabbage looper, imported cabbageworm, diamondback moth	270-540	1	7	Use sufficient water to obtain thorough, uniform coverage. Suggested water volumes for conventional ground applications are: 250 to 850 L/ha for broccoli, cauliflower, Brussels sprout and cabbage.
Brussels sprouts	Slugs (larvae of grey garden slugs)	775	1	30	Application timing for cabbage looper, imported cabbageworm, diamondback moth: Apply at the recommended rates when insects first appear. Apply the low rates on small plants, when insects are small in size and light infestations of insects. Early morning or late evening sprays are recommended.
Cabbage	Cabbage looper, imported cabbageworm, diamondback moth	270-540	1	1	Application timing for slugs (larvae of grey garden slug): use sufficient water volumes to obtain good coverage. Make application late in the evening.
Cauliflower	Cabbage looper, imported cabbageworm, diamondback moth	270-540	1	7	

Sweet Corn	Aphids	430-620	1	3	<p>Ground application only. Latest application date is August 15. Maximum one application/year.</p> <p>Use sufficient water to obtain thorough, uniform coverage. Suggested water volumes for conventional ground applications are: 240 to 900 L/ha.</p> <p>Aphids: Apply during hot weather.</p> <p>Corn earworm: Application to begin when 25% of the ears show silk. Direct sprays to the silks.</p> <p>European corn borer: Application to begin when egg masses begin to hatch, but no later than when the first feeding damage is seen on leaves. Sprays should be directed into the whorl of the plant. After tassels appear, direct spray at the ear zone. In areas where the second generation borers may be a problem, late plantings should be treated before tassels are visible. Latest timing of application is early silk stage.</p>
	Corn earworm	430-625			
	European corn borer	625			
Succulent shelled pea	Alfalfa looper, pea aphid	510	1	1	<p>Ground application only. Maximum one application/year. Use sufficient water to obtain thorough, uniform coverage. Suggested water volumes for conventional ground applications are: 100 to 350 L/ha for succulent shelled peas.</p> <p>Apply when insects first appear. Apply the low rates on small plants, when insects are small in size and light infestations of insects. Early morning or late evening sprays are recommended.</p>

NOTE TO USER: READ THE FOLLOWING BEFORE USING THIS PRODUCT FOR THE INDICATED SPECIAL USE APPLICATIONS;

The DIRECTIONS FOR USE for this product for the uses described below were developed by persons other than Tessenderlo Kerley Inc. and accepted for registration by Health Canada under the User Requested Minor Use Label Expansion program. Tessenderlo Kerley Inc. itself makes no representation or warranty with respect to performance (efficacy) or crop tolerance (phytotoxicity) claims for this product when used on the crop(s) listed below. Accordingly, the buyer and user assume all risks related to performance and crop tolerance, and agree to hold Tessenderlo Kerley Inc. harmless from any claims based on efficacy or phytotoxicity in connection with these uses described below.

FOR SUPPRESSION OF BROWN MARMORATED STINK BUG IN SUCCULENT SHELLED PEAS AND SWEET CORN

Crop/ Method of application Ground Only		Insect	Rate Per Hectare	Max Number of applications per year	Last Application to Harvest (Days)
Peas	G	Brown marmorated stink bug	510 g	1	1
Sweet Corn	G		625 g	1	Latest application date is August 15

Apply when insects first appear.

For outdoor use only.

DO NOT enter or allow worker entry into treated areas during the Restricted Entry Interval (REI) of 12 hours.

DO NOT apply methomyl on broccoli, Brussels sprouts, cabbage, cauliflower and sweet corn after August 15th to reduce the potential for this product to enter groundwater.

DO NOT apply this product directly to freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs and wetlands) or to estuarine/marine habitats.

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) fine classification. 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		Buffer Zones (metres) Required for the Protection of:			
			Freshwater Habitat of Depths:		Estuarine/Marine Habitats of Depths:	
			Less than 1 m	Greater than 1 m	Less than 1 m	Greater than 1 m
Airblast	Balsam fir and spruce in Christmas tree plantations	Early growth stage	45	35	25	15
		Late growth stage	35	25	15	5
Ground boom	Cole Crops		25	10	5	3
	Corn		20	10	5	3
	Peas		15	10	4	2

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

RESISTANCE-MANAGEMENT RECOMMENDATIONS

For resistance management, please note that Lannate Insecticide contains a Group 1A Insecticide. Any insect population may contain individuals naturally resistant to Lannate Insecticide and other Group 1A insecticides. The resistant individuals may dominate the insect population if this group of insecticides are used repeatedly in the same fields. Other resistance mechanisms that are not linked to site of action, but 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 Lannate Insecticide or other Group 1A insecticides with different insecticide groups that control the same pests in a field.
- ◆ Use tank mixtures with insecticides from a different group when such use is permitted
- ◆ 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 specific site and pest problems in your area.
- ◆ For further information or to report suspected resistance, contact your local Tessenderlo Kerley Inc. representative or the Tessenderlo Kerley Inc. hotline at (602) 889-8397 for further information.

STORAGE

Do not subject to temperatures below 0 degrees C. Store product in original container only, away from other pesticides, fertilizer, food or feed. Not for use or storage in or around the home.

DISPOSAL

Do not reuse this container for any purpose. This is a recyclable container, and is to be disposed of at a container collection site. Contact your local distributor/dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site:

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Make the empty, rinsed container unsuitable for further use.

If there is no container collection site in your area, 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.

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.

®/™ Registered trademark/trademarks of Tessengerlo Kerley Inc.

*All other products are trademarks of their respective companies.

060123