

Group	3	Insecticide
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Perm-UP Emulsifiable Concentrate Insecticide

CONTAINS PERMETHRIN

POISON

WARNING: EYE AND SKIN IRRITANT

COMMERCIAL
STORE ABOVE -12°C

GUARANTEE: Permethrin.....384 g/L
REGISTRATION NO. 28877 PEST CONTROL PRODUCTS ACT

KEEP OUT OF REACH OF CHILDREN

READ THE LABEL AND THIS LEAFLET BEFORE USING

NET CONTENTS 1 Litre

United Phosphorus, Inc.
630 Freedom Business Center, Suite 402
King of Prussia, PA 19406, USA
1-800-438-6071

For Chemical Emergency: spill, leak, fire, exposure or accident,
call CHEMTREC 1-800-424-9300

PRECAUTIONS

KEEP OUT OF REACH OF CHILDREN

Harmful if swallowed. Causes eye and skin irritation. **DO NOT** get in eyes or on skin.

Wear coveralls over long-sleeved shirt and long pants, chemical resistant gloves, socks and chemical resistant footwear during mixing, loading, application and clean up and repair. In addition, wear goggles or face shield during mixing/loading. (Coveralls are not required for an applicator in an enclosed cab).

When applying this product in enclosed areas or with equipment capable of producing respirable spray droplets (less than 10 microns in size), an adequate respirator should be worn.

Do not enter or allow worker entry into treated areas during the restricted entry interval of 12 hours.

This product contains a petroleum distillate at 25% which is moderately to highly toxic to aquatic organisms. Avoid contamination of aquatic systems through direct application, disposal of waste or cleaning equipment.

Apply only when the potential for drift to areas of human activity such as houses, cottages, school and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature, application equipment and sprayer settings.

Do not apply to any body of water. Avoid drifting of spray onto any body of water or other non-target areas. Do not apply by any ground application within 15 m or by any aerial application within 100 m of any body of water, especially productive fisheries or waterfowl habitats. This product is very toxic to fish. Do not contaminate ponds lakes, streams or rivers during sprayer filling or rinsing operations or while spraying. This product is very toxic to bees; avoid spraying when bees are foraging. Spray deposit should be dry before bees commence foraging in treated crop.

Cover crop or crop treated with Perm-UP Emulsifiable Concentrate Insecticide should not be used as green feed for animals.

Read and understand the entire label and leaflet before opening this product. If you have questions, call the manufacturer at 1-800-438-6071 or obtain technical advice from the distributor or your provincial agricultural representative.

Refer to leaflet for specific Precautions regarding aerial and ground applications.

FIRST AID

IN CASE OF POISONING Contact a physician or a poison control centre **IMMEDIATELY**.

IF SWALLOWED Call a poison control centre or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give any liquid to the person. 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/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.

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

TOXICOLOGICAL INFORMATION

Contains petroleum distillate. - vomiting may cause aspiration pneumonia.

STORAGE

Store in a cool, dry, well-ventilated area away from food stuffs and out of the reach of children and animals. Keep product from freezing. Store above-12° C.

SPILL CLEAN-UP

Wear appropriate protective equipment (gloves, glasses, apron) when attempting to clean up the spill. If the container is leaking, secure leak and place the container into a drum or heavy gauge plastic bag.

For spills and leaks; contain the liquid with dikes of inert material (soil, clay, kitty litter, etc.) Absorb the spill into the inert material and shovel into a sealable waste container.

On hard surfaces: Sprinkle spill area with detergent and scrub in a small quantity of water with a coarse broom. Let stand 10 minutes then absorb onto an inert material and shovel into the waste container.

On soil: Remove the top 15 cm of soil in the spill area and replace with fresh soil. Dispose of all waste including scrub brush in accordance with provincial requirements. For more information on the disposal of waste and the clean up of spills, contact the Provincial Regulatory Agency or the Manufacturer.

DISPOSAL

1. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
2. Follow provincial instructions 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.

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. The user assumes the risk to persons or property that arises from any such use of this product.

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When applying this product in enclosed areas or with equipment capable of producing respirable spray droplets (less than 10 microns in size), an adequate respirator should be worn.

Do not enter or allow worker entry into treated areas during the restricted entry interval of 12 hours.

This product contains a petroleum distillate at 25% which is moderately to highly toxic to aquatic organisms. Avoid contamination of aquatic systems through direct application, disposal of waste or cleaning equipment.

Apply only when the potential for drift to areas of human activity such as houses, cottages, school and recreational areas is minimal. Take into consideration wind speed, wind direction, temperature, application equipment and sprayer settings.

Do not apply to any body of water. Avoid drifting of spray onto any body of water or other non-target areas. Do not apply by any ground application within 15 m or by any aerial application within 100 m of any body of water, especially productive fisheries or waterfowl habitats. This product is very toxic to fish. Do not contaminate ponds lakes, streams or rivers during sprayer filling or rinsing operations or while spraying. This product is very toxic to bees; avoid spraying when bees are foraging. Spray deposit should be dry before bees commence foraging in treated crop.

Cover crop or crop treated with Perm-UP Emulsifiable Concentrate Insecticide should not be used as green feed for animals.

Read and understand the entire label and leaflet before opening this product. If you have questions, call the manufacturer at 1-800-438-6071 or obtain technical advice from the distributor or your provincial agricultural representative.

Aerial Application

Apply only by fixed-wing or rotary aircraft equipment which has been functionally and operationally calibrated for the atmospheric conditions of the area and the application rates and conditions of this label.

Label rates, conditions and precautions are product specific. Read and understand the entire label before opening this product. Apply only at the rate recommended for aerial application on the label. Where no rate for aerial application appears for specific use, this product cannot be applied by any type of aerial equipment.

Ensure uniform application. To avoid streaked uneven or overlapped application, use appropriate marking devices.

Use Precautions - Aerial Application

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.

DO NOT APPLY TO ANY BODY OF WATER. TO AVOID DRIFTING OF SPRAY ONTO ANY BODY OF WATER OR OTHER NON-TARGET AREAS. DO NOT APPLY BY ANY AERIAL APPLICATION WITHIN 100 M OF ANY BODY OF WATER, ESPECIALLY PRODUCTIVE FISHERIES WATER OR WATERFOWL HABITATS.

DO NOT USE HUMAN FLAGGERS.

Coarse sprays are less likely to drift, therefore, avoid combinations of pressure and nozzle type that will result in fine particles (mist). Do not apply when weather conditions favour drift from the target area. Do not apply during periods of dead calm or when wind velocity and direction pose a risk of spray drift (greater than 10 KPH). Do not spray when the wind is blowing toward a nearby sensitive crop, garden, terrestrial habitat (such as shelter-belt) or aquatic habitat.

Operator Precautions-Aerial Application

Do not allow the pilot to mix chemicals to be loaded onto the aircraft. Loading of premixed chemicals with a closed system is permitted.

It is desirable that the pilot have communication capabilities at each treatment site at the time of application.

The field crew and the mixer/loaders must wear chemical resistant gloves, coveralls and goggles or face shield during the mixing/loading, cleanup and repair. Follow the more stringent label precautions in cases where the operator precautions exceed the generic label recommendations on the existing ground boom label.

All personnel on the job site must wash hands and face thoroughly before eating and drinking. Protective clothing, aircraft cockpit and vehicle cabs must be decontaminated regularly.

DIRECTIONS FOR USE

Perm-UP Emulsifiable Concentrate Insecticide is a synthetic pyrethroid insecticide of low mammalian toxicity. It is a stomach and contact insecticide with no systemic or fumigant effect. Therefore, it is very important to obtain excellent spray coverage. Apply by ground equipment only unless otherwise noted.

CROP	PESTS	mL/1000 LITRES	mL/ HECTARE	REMARKS
ASPARAGUS, BEETS, CANOLA (RAPE), CARROTS, CEREALS, COLE CROPS, CORN, FLAX, LENTILS, LETTUCE, ONIONS, PEAS, PEPPERS, POTATOES, SUGAR BEETS, SUNFLOWERS	Cutworms- Army, Black Dark sided, Pale Western, Red backed, White		180-390	Ground Application: To control these insects attacking seedlings (up to 5 leaves) and/or transplants of these crops, apply 180 mL/ha in sufficient water for good coverage. Under dry soil conditions or on muck soil, apply 295 to 390 mL/ha. Where cutworms are large (near full maturity - 2.5 - 4 cm) use 295 to 390 mL/ha. Applications should be made under warm, moist conditions in the evening or at night when cutworm activity is highest. DO NOT DISTURB THE SOIL SURFACE FOR 5 DAYS AFTER TREATMENT. Note: Perm-UP Emulsifiable Concentrate Insecticide will only control surface feeding or climbing stages of cutworms.
	Pale Western Cutworm		180-390	Aerial Application: To control this insect attacking seedlings; specifically crops meeting the criteria of seedlings up to 5 leaves, apply 180 mL/ha in sufficient water for good coverage. Under dry soil conditions or where cutworms are large (near full maturity - 2.5 to 4 cm) use 295 - 390 mL per hectare. Can only be applied by air once per season.

ASPARAGUS	Cutworms		180	To control cutworms during the cutting season, make 1 broadcast application by ground to bare soil after cutting when damage is first noticed. Apply in sufficient water for good coverage. Apply in the evening or at night when cutworm activity is highest. Do not apply within 2 days of harvest.
CANOLA (RAPE)	Crucifer Flea Beetle		90-180	Ground Application: Apply in sufficient water for good coverage when insects are present. Application should be made when the beetles are actively feeding. For severe infestations, use 180 mL per hectare.
				Aerial Application: Application by air is permitted, provided there is no hazard of drift to other crops or to areas occupied by people or livestock. Apply specified rate in 11-35 L water/ha. Can only be applied by air once per season.
CABBAGE, CAULIFLOWER, BROCCOLI, BRUSSELS SPROUTS	Cabbage Looper, Imported Cabbage Worm, Diamondback Moth Larvae, Crucifer Flea Beetle		90-180	Apply with ground application in 400-650 L of water/ha when insect damage first appears. For severe infestations, use 180 mL per hectare. Add AGRAL® 90 wetting agent at 300 mL per 1000 L of water to improve wetting and coverage. May be applied up to 3 days before harvest of cabbage, cauliflower and brussels sprouts and up to 7 days before harvest of broccoli.

CHINESE BROCCOLI	Cabbage Looper, Diamondback Moth Larvae, Imported Cabbage Worm		90-180	Apply with ground application in 400-675 L of water/ha on a 7 to 10 day schedule when insects or insect damage first appear. Add AGRAL® 90 wetting agent at 300 mL per 1000 L of water to improve wetting and coverage. For severe infestation, use 180 mL per hectare. May be applied up to 7 days before harvest. Do not make more than 4 applications per year.
SWEET CORN	European Corn Borer, Corn Earworm		275-375	<p>Ground Application: Apply specified dosage in 325-450 L of water/ha using a boom and nozzle arrangement that ensures thorough spray coverage. Use the higher rate when severe insect pressure is anticipated. Spray no later than when first feeding is seen on the foliage. For second brood borers in late plantings, apply before tassels show. For control of corn earworm, direct the spray to ensure coverage of ears and silks. For the number and timing of repeat applications, follow the customary spray schedule in your region. Consult the provincial spray calendar.</p> <p>Aerial Application: Application by air is permitted, provided there is no hazard of drift to other crops or to areas occupied by people or livestock. Apply specified rate in 11-35 L water/ha. Do not apply more than twice per year by air. Perm-UP Emulsifiable</p>

				Concentrate Insecticide may be applied up to 1 day before harvest.
	Fall Armyworm		180	Aerial or Ground Application: See above for specific instructions. This treatment will not prevent internal cob damage if insect has penetrated ear. Do not apply within one day of harvest.
CEREALS: Wheat, Barley, Oats, Rye	Pale Western Cutworm		180-390	Ground Application: Apply once in a specified dosage in enough water to ensure thorough coverage. Apply 180 mL/ha of product to control this insect attacking seedlings up to the 5 leaf stage. Under dry soil conditions or where cutworms are large (2.5-4 cm) use 290-390 mL/ha of product. Applications should be made under warm, moist conditions in the evening or at night when cutworm activity is highest. Do not disturb the soil surface for 5 days after treatment. Perm-UP Emulsifiable Concentrate Insecticide will only control surface feeding or climbing stages of cutworms. Aerial Application: Application by air is

				permitted, provided there is no hazard of drift to other crops or to areas occupied by people or livestock. Apply specified rate in 11-35 L of water/ha. Do not apply more than once per year by air. Apply when wind is less than 10 km/h. Do not apply to seedlings of the crops specified here when they are larger than the 5-leaf stage.
CUCUMBER (Greenhouse)	Greenhouse Whitefly	260		Apply to thoroughly cover all foliage. Repeat as necessary. May be applied up to the day before harvest.
GINSENG	Cutworms: Army, Black, Pale, Western, Red backed, White, Variegated		180-390	Ground Application: Apply in sufficient water to give thorough coverage of the plants. Use the higher rate if the infestation is heavy; maximum of two applications per year. Apply when scouting indicates presence of cutworms. Under Dry Conditions: Apply 295 to 390 mL/ha. Where cutworms are large (near full maturity - 2.4-4 cm) use 295-390 mL/ha. Applications should be made under warm, moist conditions in the evening or at night when cutworm activity is highest.
	Four lined Plant Bug		180-260	Ground Application: Apply a maximum of 2 applications per year. May be applied up to 40 days to harvest.

<p>MUSHROOM (Mushroom house and adjacent premise areas)</p>	<p>Mushroom flies- Sciarid and Phorid adults</p>		<p>Apply a fogging or aerosol treatment at the rate of 65 to 85 mL per 1 L of water per 1000 m³. Preparation of the building prior to fogging:</p> <ol style="list-style-type: none"> 1. Close all doors, windows and ventilators. 2. Lock or barricade all entrances, turn off pilot lights, post warning signs and take precautions to prevent persons and animals from entering the area. Use prior to filling, during cool down, during spawning, up to pinning and between breaks. <p>NOTE: Do not apply more than two applications between each break, with maximum of 10 applications during cropping. Do not apply within one day of harvest. Do not use when air temperature is less than 12°C or greater than 30°C. Use above 30°C could reduce the effectiveness of Perm-UP Emulsifiable Concentrate Insecticide. Depending on fly populations and crop stage, treat once daily or as needed. However do not make more than 20 applications prior to pinning of first break. Routine procedures for reducing fly populations need to be carefully followed to ensure adequate adult fly control in the crop and to reduce the necessity for pesticide applications. Consult provincial mushroom specialist for details of integrated Pest Management programs to</p>
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				be followed for Sciarid and Phorid fly control. Length of exposure time should be limited to one hour, then ventilate the mushroom houses. Use fans to ventilate mushroom houses that to not have forced air circulation.
PAK-CHOI CHINESE CABBAGE	Cabbage Looper, Imported Cabbage Worm, Diamondback Moth Larvae		180	Apply by ground application in 400-675 mL of water/ha on a 7- 10 day schedule when insects or insect damage first appears. Add AGRAL® wetting agent at 300 mL per 1000 L of water to improve wetting and coverage. May be applied up to 3 days before harvest. Do not make more than 4 applications per season.
PEANUTS	Potato Leafhopper		180	Apply by ground application in sufficient water for thorough coverage when infestation exceeds 2 leafhoppers per plant. Repeat as required. Do not apply within 14 days of harvest.
PEPPERS	European Corn Borer		180	Apply by ground application when borer is first noticed between end of July to mid-September. Repeat every 7 days. Do not apply within one day of harvest.
POTATO	Colorado Potato Beetle, Potato Flea Beetle, Potato Leafhopper, Tarnished Plant Bug		180-260	Ground Application: Apply in sufficient water for thorough coverage. Use the higher rate for heavy infestations. Repeat as necessary. May be applied up to the day before harvest.

				Aerial Application: Apply in 20 to 45 L of water for thorough coverage. Use the higher rate for heavy infestations. May be applied up to the day before harvest. Can be applied by air once per season.
	Variegated (Climbing) Cutworm		180	Apply by ground application when insects or damage appears - usually late July or during August, depending on location. Good control is dependent on spray penetration of dense foliage.
	European Corn Borer		180	Ground Application: Apply in sufficient water for good coverage. Apply when egg masses begin to hatch. Consult your crop specialists for appropriate spray schedule. Aerial Application: Application by air is permitted, provided there is no hazard of drift to other crops or to areas occupied by people or livestock. Apply specified rate in 11-35 L water/ha. Can only be applied by air once per season.
RADISH	Crucifer Flea Beetle		180	Apply by ground application when insects or insect damage appears. Repeat if required but do not apply within 2 days of harvest.
HORSE-RADISH	Crucifer Flea Beetle		180	Apply by ground application when insects or insect infestation appears. Repeat if required but do not apply within 2 days of harvest.
SNAP BEANS	European Corn Borer		260	Ground Application: Apply at the first sign of infestation. Repeat if

				necessary. Do not apply within 7 days of harvest.
				Aerial Application: Apply in 20 to 45 L of water at the first sign of infestation. Do not apply within 7 days of harvest. Can be applied by air twice per season.
TOBACCO (Field)	Darksided Cutworm, White Cutworm		175	Make ground applications using a total spray volume of 220-450 L per hectare using nozzle pressure of 175-350 kPa. Cutworm activity is greatest during the late evening and night. Application of Perm-UP Emulsifiable Concentrate Insecticide should be timed as close as possible to insect feeding activity.
TOBACCO COVER CROP TREATMENT			175	Apply once to a rye or wheat cover crop when the crop is 10-15 cm high, 4 to 5 days before plough down. Application should also be made to fence rows and a 15 metre strip into nearby cover crop. Cover crops treated with Perm-UP Emulsifiable Concentrate Insecticide should not be used as a green feed for animals.
TOBACCO-SOIL TREATMENT			175-350	Apply once 5 days before transplanting. Use the higher rate when the top 1 cm or more of soil is dry. Do not incorporate. Application should also be made to fence rows and a 15 metre strip into nearby cover crop. Do not disturb the soil surface for at least 5 days after treatment.

TOBACCO-POST TRANSPLANTING TREATMENT			175	Apply once to transplants immediately prior to anticipated cutworm feeding damage. Under conditions of severe insect pressure, applications should also be made to fence rows and a 15 metre strip into nearby cover crops. Do not apply within 55 days of harvest.
TOMATOES (Greenhouse)	Greenhouse Whitefly		260	Apply to cover all foliage thoroughly. Repeat as necessary. May be applied up to the day before harvest.
TOMATOES (Field)	Colorado Potato Beetle, Potato Flea Beetle, Tomato Hornworm, Variegated (Climbing) Cutworm		180-260	Apply by ground application in sufficient water to give thorough coverage.
	Tomato Fruitworm (Corn Earworm)		260-365	Apply by ground application using the higher rate for heavy infestations. NOTE: Tomato Fruit worm that has entered the fruit will not be controlled. Repeat above sprays as needed. Do not apply within 1 day of harvest.
TURNIP	Crucifer Flea Beetle		180	Apply by ground application at the 2-8 leaf stage when insects or insect damage appears. Repeat if required but not later than the 8-leaf stage.

FRUIT: For the fruit crops listed below, mL per 1000 L is for use as a dilute foliar spray. Millilitres per hectare is for use with concentrate sprays. Follow provincial spray calendars for optimum timing of spray applications. Where a rate range is suggested use the higher rate where heavy insect pressure is anticipated. Use sufficient water for thorough coverage. Ground application only.

NOTE: Repeat applications are not advised in orchards where integrated pest management is in effect because severe reductions of beneficial arthropods may result.

CROP	PESTS	mL/1000 LITRES	mL/ HECTARE	REMARKS
APPLE	Winter Moth, Eastern Tent Caterpillar	90-175	260-520	DO NOT APPLY less than 7 days before harvest.
	Eye-spotted Bud Moth	90-175	260-520	
	Plum Curculio, White Apple Leaf-hopper	125-175	360-520	
	Tentiform Leafminer, Fruit worm, Apple Maggot, Codling Moth, Leafrollers, Tarnished Plant Bug, Mullein Plant Bug, Lesser Apple worm	175	520	
	Apple Bark Borer, Dogwood Bark Borer			Mix 22 mL in 100 L of water with 2 L of oil. When monitoring indicates adult pests are active (late June to early August) apply to apple trunks as drench spray to runoff using a knapsack, handgun, or air blast sprayer. A second application may be applied 14 days later if adult pests continue to be present. Do not apply within 7 days of harvesting.
BLUEBERRIES (Vegetative year only)	Thrips		180	Note: 70 mL ai/ha. Make on application between mid-May and early June when plants are 1-2 cm tall.
PEAR (Eastern Canada only)	Pear Psylla (adults & nymphs) Codling Moth, Green Fruit worm	175	520	DO NOT APPLY less than 7 days before harvest.
PEAR (British Columbia)	Pre-Bloom Pear Psylla (over Wintering adults)	175	520	Apply up to 1 cm green stage of pear foliage growth. DO NOT USE in B.C. for control of nymphal stages of Pear Psylla.

	Post-Bloom Pear Psylla	175-350	520-1000	DO NOT APPLY less than 7 days before harvest at the 175 mL rate and less than 14 days before harvest at the 350 mL rate.
	Codling Moth	175	520	DO NOT APPLY less than 7 days before harvest.
PEACHES, NECTARINES	Oriental Fruit Moth	90-175	275-520	DO NOT APPLY less than 7 days before harvest.
	Plum Curculio, Plant Bugs	175	520	DO NOT APPLY less than 7 days before harvest.
PLUMS	Plum Curculio	175	520	DO NOT APPLY less than 7 days before harvest.
GRAPES	Grape Berry Moth	175	360	DO NOT APPLY less than 21 days before harvest.
	Grape Leaf-hopper	90	175	DO NOT APPLY less than 21 days before harvest.
	Climbing Cutworm		180-360	Apply in a minimum volume of 450 L/ha. Maximum 2 applications per year, 7-10 days apart. Apply at the first sign of cutworm damage in the spring. Apply spray mixture to the trunk and soil surface within a radius of 0.5 metres of the trunk base in the evening. Use low rate for small cutworms and high rate for larger cutworms (2-3 cm). Do not disturb soil for 5 days after application. DO NOT harvest crop within 21 days of application.

ORNAMENTAL TREES, SHRUBS AND COMMERCIAL NURSERIES: For insect control on trees and shrubs for ornamental use only (excluding woodlands).

CROP	PESTS	mL/1000 LITRES	mL/ HECTARE	REMARKS
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BALSAM FIR, DOUGLAS FIR, LARCH (Tamarack), PINE TREES, SPRUCE	Douglas Fir Tussock Moth, White- Marked Tussock Moth, Spruce Budworm, Cone worm, Open Feeding Sawflies		45-90	Apply using application equipment available and dilutions suitable to equipment. Make one application per season. Applications should be calculated and made on the basis of volume per tree to ensure proper coverage while limiting off-target spray.
OTHER CONIFEROUS TREES & SHRUBS	Douglas Fir Tussock Moth, White-Marked Tussock Moth, Spruce Budworm, Cone worm, Open Feeding Sawflies		45-90	Control of the listed insects on coniferous tree and shrub species not listed is acceptable provided the species is tested for phytotoxic effect prior to use. Spray a small, inconspicuous portion of the tree or shrub under test and wait for 24 hours to see if any adverse effects appear.
DECIDUOUS TREES & SHRUBS	Eastern Tent Caterpillar Euonymus Webworm Fall Webworm Forest Tent Caterpillar are Open Feeding Aphids	90		Apply as a dilute spray (for mist blowers use 75 L of water). Apply when insects are first noticed.
SEEDING TREE NURSERIES	Cutworm		180	Application should be made under warm, moist conditions when larvae are small (up to 2.5 cm)

APPLICATION EQUIPMENT: The control achieved in any spray operation depends on the care taken during application. The correct type of equipment should be selected. Powered, high-pressure sprayers and mist blowers are most suitable for treating large trees (or stands of trees) that are readily accessible from the ground. High-pressure sprayers deliver a large volume of dilute spray mixture, and a sufficient quantity should be used to wet all of the foliage. Mist blowers are designed to apply a low volume of a concentrated insecticide mixture, and only enough should be used to moisten the foliage. Hand-pumped sprayers are usually adequate for treating medium-sized ornamentals up to 4.5 m in height. Mix Perm-UP Emulsifiable Concentrate Insecticide as for dilute spraying.

FORESTRY NURSERY GREENHOUSES	PESTS	mL/1000 LITRES	mL/ha	REMARKS
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<p>CONIFER SEEDLINGS: Spruce, Pine, Cedar, Yew, Juniper</p>	<p>Strawberry Root Weevil</p>		<p>Apply 65 mL of product per 100 L of water to runoff when adults emerge and before laying begins. One application correctly times per season should give control of adults. A second treatment may be made 21 days after monitoring shows continued presence of weevils.</p>
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NATURE OF RESTRICTION: This product is to be used only in the manner authorized, contact local pesticide regulatory authorities about use permits that may be required.

RESTRICTED USES:

COMMERCIAL WOODLAND USE: Apply by ground application only. Use in Christmas tree plantations, high-valued stands used for seed production, and other high-valued woodland areas that are extensively managed. Contact provincial or federal forestry and/or fishery officials for advice before local spraying of woodlands.

This product may be used in woodlands under supervision of provincial or federal forestry officials.

TREES	PESTS	mL/1000 L	mL /HECTARE	REMARKS
BALSAM FIR, DOUGLAS FIR, LARCH (Tamarack), PINE TREES, SPRUCE	Douglas Fir Tussock Moth, White-Marked Tussock Moth, Spruce Budworm, Spruce Cone worm Open Feeding Sawflies		45-90	Apply using application equipment available and dilutions suitable to equipment. Make one application per season. Applications should be calculated and made on the basis of volume per tree to ensure proper coverage while limiting off-target spray.
OTHER CONIFEROUS TREES & SHRUBS	Douglas Fir Tussock Moth, White-Marked Tussock Moth, Spruce Budworm, Spruce Cone worm, Open Feeding Sawflies		45-90	Control of the listed insects on coniferous tree and shrub species not listed is acceptable provided the species is tested for phytotoxic effect prior to use. Spray a small, inconspicuous portion of the tree or shrub under test and wait for 24 hours to see if any adverse effects appear.

DECIDUOUS TREES & SHRUBS	Eastern Tent Caterpillar, Euonymus Webworm, Fall Webworm, Forest Tent Caterpillar, Open Feeding Aphids	90		Apply as a dilute spray (for mist blowers use 75 L of water). Apply when insects are first noticed.
SEEDING TREES FORESTATION AREAS	Cutworm		175	Application should be made under warm, moist conditions when larvae are small (up to 2.5 cm)

APPLICATION EQUIPMENT: The control achieved in any spray operation depends on the care taken during application. The correct type of equipment should be selected. Powered, high-pressure sprayers and mist blowers are most suitable for treating large trees (or stands of trees) that are readily accessible from the ground. High-pressure sprayers deliver a large volume of dilute spray mixture, and a sufficient quantity should be used to wet all of the foliage. Mist blowers are designed to apply a low volume of a concentrated insecticide mixture, and only enough should be used to moisten the foliage. Hand-pumped sprayers are usually adequate for treating medium-sized ornamentals up to 4.5 m in height. Mix Perm-UP Emulsifiable Concentrate Insecticide as for dilute spraying. **PRECAUTION: WHEN USING AS DIRECTED IN WOODLANDS, DO NOT APPLY WITHIN 100 M OF PRODUCTIVE FISHERY WATERS OR WATERFOWL HABITATS. SEE ADDITIONAL PRECAUTIONS ON THIS LABEL.**

FARM BUILDINGS	PESTS	mL/1000 LITRES	mL/ha	REMARKS
Beef Barns, Dairy Barns, Poultry Houses, Stables, Food Processing Plants, Plants such as Dairies, Feedlots	House Fly, Stable Fly	5200 (or 25 mL per 5 L)		RESIDUAL SURFACE SPRAY: Apply at the rate of 5 L per 100 m ² of surface. Do not apply as a space spray. Do not apply directly to animals or poultry. In dairies, apply only when not in operation. Thoroughly clean all milk utensils before resuming operations.

CLUSTER FLIES: Cluster flies are members of the fly family (Diptera) and resemble house flies. They are distinguished by their sluggish and erratic behaviour and by wings that overlap when at rest. They derive their name from their habit of entering a building in the fall and clustering together to overwinter. The search for protected places to overwinter begins as days shorten in mid-August. Warm sunny walls draw the flies as the climate cools during this search. This offers an opportunity to control the fly population outside the building.

OUTDOOR CONTROL: Cluster Flies: Prepare a spray mixture of 130 mL in 10 L of water. Spray this mixture to the outside walls, including under the eaves, soffits and window trim where applicable, of barracks, mess halls, drill halls, hangers, warehouses, equipment buildings, farm buildings and other buildings where cluster flies have become a nuisance. Apply at the approximate rate of 10 L of spray mixture per 100 m². The effective time of application is between mid-August and the end of September depending on weather conditions.

SPIDERS: Mix 130 mL in 10 L of water and spray this mixture where spiders congregate especially under eaves and soffits of buildings. Apply when heavy infestation of spiders is observed.

TOPICAL APPLICATIONS FOR BEEF CATTLE, NON-LACTATING DAIRY CATTLE AND POULTRY

1. SPRAY APPLICATION

DAIRY CATTLE - Non-Lactating:

Do not apply within 30 days of freshening.

Leave a 7 day interval between last sprayer and slaughter.

INSECTS	RATE	APPLICATION
HORN FLIES, FACE FLIES, BLACK FLIES	Mix 125 mL with 100 L water in a sprayer.	Apply 1 to 2 L of spray per animal over whole body. For horn and face flies, retreat as needed, but not more than once every two weeks. For black flies, repeat applications may be required after 8 days.
HORN FLIES, FACE FLIES	Mix 13 mL with 1 L water in a low pressure sprayer.	Apply 25 to 50 mL of spray mix per animal. Apply to face and shoulders. Repeat as needed, but not more than once every two weeks.
LICE	Mix 125 mL with 400 L water in a sprayer.	Spray until entire animal is thoroughly covered. A second treatment at 14 to 21 days is recommended.

BEEF CATTLE:

INSECTS	RATE	APPLICATION
HORN FLIES, FACE FLIES, LICE BLACK, FLIES	Mix 125 mL with 400 L water in a sprayer.	Spray until entire animal is thoroughly covered. For lice, a second treatment at 14 to 21 days is recommended. For black flies, repeat applications may be required after 8 days. Leave a seven day interval between last spray and slaughter.

POULTRY:

INSECTS	RATE	APPLICATION
NORTHERN, FOUL MITES	Mix 125 mL with 100 L water in a sprayer.	Apply 4 L of spray mix to each 100 birds. Spray from below to ensure thorough treatment of the vent area. Do not slaughter within 7 days of treatment.

2. BACK-RUBBER/SELF-TREATMENT OILERS (Pest-Doom, Lewis)

For treatment of beef cattle in pasture or range situations with oilers placed under free or forced use conditions. Not for use with lactating dairy cattle.

BEEF CATTLE:

BLACK FLIES	Dilute 125 mL with 10 L lightweight oil.	Calibrate self-treatment oilers so the rate per animal does not exceed 0.125 g permethrin per animal per day. Utilize a one day holding period between termination of use and slaughter.
SHEEP:		
SHEEP KED	Mix 125 mL with 50 litres water in a sprayer.	Spray until entire animal is thoroughly covered. Do not exceed a maximum of 150 mL of spray solution per animal. One application per year; treatment is in fall or winter before lambing and shearing. Do not treat sick animals. Do not contaminate feed or watering area. Do not apply to lambs or sheep within 90 days of slaughter.

GREENHOUSE ORNAMENTALS

PLANTS	INSECTS	RATE	APPLICATION
ASPIDISTRA, BEGONIA, BOSTON FERN, CHRYSANTHEMUMS, CORDYLINE, DIEFFENBACHIA, DRACAENA, FICUS, FUCHSIA, GERANIUM, GEBERA, IMPATIENS, PETUNIA, SPHILODENDRON, POINSETTIAS, ROSES, SANSEVERIA, SPIDER PLANTS	Greenhouse Whitefly	Mix 26 mL of Perm-UP Emulsifiable Concentrate Insecticide in 100 L of water.	Apply to cover all foliage thoroughly. Repeat application as necessary to maintain control. Although no damage has been recorded, it is advisable to keep spray off open blooms in greenhouses.
	Chrysanthemum Leafminer	Mix 26 mL of Perm-UP Emulsifiable Concentrate Insecticide in 100 L of water.	Apply using conventional spraying equipment when insect populations develop. Repeat applications weekly as needed.

NOTE FOR GREENHOUSE USE: Do not mix Perm-UP Emulsifiable Concentrate Insecticide with other pesticides, as many plant varieties may respond differently to mixtures of chemicals. On waxy leaf ornamentals, the use of a spreader sticker may improve the effectiveness of Perm-UP Emulsifiable Concentrate Insecticide.

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 United Phosphorus, Ltd. and accepted for registration by Health Canada under the User Requested Minor Use Label Expansion program. United

Phosphorus, Ltd. itself makes no representation or warranty with respect to performance (efficacy) and/or crop tolerance (phytotoxicity) claims for this product when used on the crops listed below. Accordingly, the Buyer and User assume all risks related to performance and crop tolerance arising, and agree to hold United Phosphorus, Ltd harmless, from any claims based on efficacy and/or phytotoxicity in connection with the uses described below.

DIRECTION FOR USE: Suppression of Small Hive Beetle (*Aethina tumida*) around honeybee colonies.

Mix 1.16 ml product in 1 L water, and apply as a light soil drench in an area 45 – 60 cm wide in front of each hive known to have small hive beetle infestations. Applications are made in late evening, after bees become inactive. Alternatively, applications can be made as a pre-placement cleanup of the apiary, applied to ground surface 24 to 48 hours prior to hive placement.

Make a maximum of two applications per year, one in the spring and one in the fall.

The ground where application is to be made should be mowed or bare soil prior to application. Ensure no pooling of drench solution where bees could potentially collect contaminated water. For best beekeeping practices, hives must be elevated on hive stands and a landing surface must be provided after application, such as a landing platform attached to the hive entrance. Monitoring activities as part of a good IPM strategy is recommended.

NOTE: Permethrin is highly toxic to bees and extreme caution must be taken to avoid Perm-up contact with the bees or hive through spray, spray drift or any residual exposure on any surfaces that bees may contact. When hives are present, applications may only be made by a soil drench application. Hand pump sprayers may only be used when hives are not present and only for pre-placement cleanup of apiary. Do not contaminate any food or water source that may be in the area or apply during windy conditions. For better soil penetration and improved efficacy, cut grass or create bare soil exposure around hive prior to application.

RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, please note that Perm-UP Emulsifiable Concentrate Insecticide contains a Group 3 insecticide. Any insect population may contain individuals naturally resistant to Perm-UP Emulsifiable Concentrate Insecticide and other Group 3 insecticides. The resistant individuals may dominate the insect population if this group of insecticides is used repeatedly in the same field. 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 Perm-UP Emulsifiable Concentrate Insecticide or other Group 3 insecticides with different groups that control the same pests in a field.
- Avoid application of more than the maximum number listed in the label and consecutive sprays of Perm-UP Emulsifiable Concentrate Insecticide or other insecticides in the same group in a season.

- 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 the specific site and pest problems in your area.

For further information or to report suspected resistance, contact United Phosphorus Inc at 1-800-438-6071.

FIRST AID

IN CASE OF POISONING Contact a physician or a poison control centre **IMMEDIATELY**.

IF SWALLOWED Call a poison control centre or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control centre or doctor. Do not give any liquid to the person. 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/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.

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

TOXICOLOGICAL INFORMATION

Contains petroleum distillate. - vomiting may cause aspiration pneumonia.

STORAGE

Store in a cool, dry, well-ventilated area away from food stuffs and out of the reach of children and animals. Keep product from freezing. Store above-12° C.

SPILL CLEAN-UP

Wear appropriate protective equipment (gloves, glasses, apron) when attempting to clean up the spill. If the container is leaking, secure leak and place the container into a drum or heavy gauge plastic bag.

For spills and leaks; contain the liquid with dikes of inert material (soil, clay, kitty litter, etc.) Absorb the spill into the inert material and shovel into a sealable waste container.

On hard surfaces: Sprinkle spill area with detergent and scrub in a small quantity of water with a coarse broom. Let stand 10 minutes then absorb onto an inert material and shovel into the waste container.

On soil: Remove the top 15 cm of soil in the spill area and replace with fresh soil. Dispose of all waste including scrub brush in accordance with provincial requirements. For more information on the disposal of waste and the clean up of spills, contact the Provincial Regulatory Agency or the Manufacturer.

DISPOSAL

5. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank.
6. Follow provincial instructions for any required additional cleaning of the container prior to its disposal.
7. Make the empty container unsuitable for further use.
8. 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. The user assumes the risk to persons or property that arises from any such use of this product.

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