Group 3 Insecticide

TENGARD[®] Emulsifiable Concentrate Insecticide

TENGARD Emulsifiable Concentrate Insecticide is to be used for the control of listed pests for:
A) FRUIT CROPS;
B) OUTDOOR TREES AND SHRUBS (EXCLUDING WOODLANDS AND FORESTS);
C) INSIDE OF FARM BUILDINGS AND FOOD PROCESSING PLANTS;
D) OUTDOOR TREATMENTS ON THE EXTERIOR SURFACES OF LISTED BUILDINGS;

WARNING: <<<Skull and Crossbones in a diamond>>> POISON

EYE AND SKIN IRRITANT

COMMERCIAL STORE ABOVE -12°C

REGISTRATION NO. 29886 PEST CONTROL PRODUCTS ACT

KEEP OUT OF REACH OF CHILDREN

READ THE LABEL AND LEAFLET BEFORE USING

NET CONTENTS 1 - 4 L

UPL AgroSolutions Canada Inc. PO Box 12219 Research Triangle Park, NC 27709 For Product Use Information Call 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.

Do not leave mixing tank or hoses containing TENGARD Emulsifiable Concentrate Insecticide unattended during mixing or treatment. Harmful if swallowed, inhaled or absorbed through skin. Causes skin irritation. Avoid skin contact. Avoid breathing vapours or spray mist.

- For mechanically-pressurized handheld sprayer for mists and aerosols applications, or entering treated areas before venting, wear chemical-resistant coveralls with a chemical-resistant hood over long pants, and long-sleeved shirt, chemical-resistant gloves, socks, chemical-resistant footwear, 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.
- For mechanically pressurized handgun applications, wear cotton coveralls over longsleeved shirt, long pants, chemical-resistant gloves, socks, and shoes during mixing, loading, application, clean-up and repair.
- For other application equipment wear long pants, long-sleeved shirt, chemical-resistant gloves, shoes, and socks during mixing, loading, application, clean-up and repair, unless otherwise specified.

Restrictions:

- 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.
- DO NOT apply undiluted.
- DO NOT apply to people, pets, livestock, or sources of electricity.
- DO NOT apply when people, pets, or livestock are present.
- DO NOT allow people, pets or livestock to enter treated areas until sprays have dried.
- DO NOT allow spray to drip or allow drift onto non-target surfaces.
- DO NOT apply to furniture, mattresses, linens, toys or clothing.
- DO NOT apply to overhead areas or in confined spaces without appropriate respiratory and eye protection.
- In indoor areas, ventilate treated areas after application either by opening windows and doors or using fans, where required, to aid in the circulation of air. Air exchange/ventilation systems confirmed to be operational may also be used.
- For structural applications, use a coarse droplet size and low pressure spray not exceeding 345 kPa (50 psi) to avoid splashing onto non-target surfaces.
- Apply only when the potential for drift to non-target areas of human habitation and human activity is minimal. Take into consideration wind speed, wind direction, temperature inversions, application equipment, and sprayer settings.
- DO NOT apply as a space spray.
- Where multiple applications are allowed, treatment must only be repeated if pest problem persists or reoccurs. DO NOT exceed the application rate and number applications per year for each use. Follow the re-application interval for each use.
- Do not store near feed or foodstuffs.
- Do not plant food crops in soil adjacent to building where there has been a TENGARD Emulsifiable Concentrate Insecticide application.
- Do not use, pour, spill, or store near heat or open flame.
- Do not formulate with any diluent other than clean water.
- Do not use concentrate or emulsion in fogging equipment.

- Firewood is not to be treated.
- Do not apply this product in nurseries, patient rooms or any rooms occupied by elderly or infirm.
- Do not apply to classrooms when in use.

DO NOT APPLY USING AERIAL APPLICATION EQUIPMENT.

ENVIRONMENTAL PRECAUTIONS:

Toxic to aquatic organisms. Toxic to birds and other wildlife. Toxic to bees. Bees may be exposed through direct spray, spray drift, and residues on leaves, pollen and nectar in flowering crops and weeds. Minimize spray drift to reduce harmful effects on bees in habitatsclose to the application site. Avoid applications when bees are foraging in the treatment area in ground cover containing blooming weeds. To further minimize exposure to pollinators, refer to the complete guidance "Protecting Pollinators during Pesticide Spraying – Best Management Practices" on the Health Canada website (www.healthcanada.gc.ca/pollinators).Follow crop specific directions for application timing.

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. Permethrin may impact predatory and parasitic arthropod species used in IPM programs within the treatment area. Unsprayed refugia for beneficial species of at least 1 metre from treatment area will help maintain beneficial arthropod populations.

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 filter strip between the treated area and the edge of the water body.

For applications to apples, pears, nectarines, peaches and plums, or when using managed bees for pollination services, do not apply during the crop blooming period.

For applications to all other crops, avoid application during the crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are not foraging.

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. Skin exposure may cause transient sensations (tingling, burning, itching, numbness). Treat symptomatically.

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.

<u>On hard surfaces</u>: 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.

<u>On soil</u>: 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 emptied 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.

RESISTANCE MANAGEMENT RECOMMENDATIONS

For resistance management, TENGARD Emulsifiable Concentrate Insecticide contains a Group 3 insecticide. Any insect population may contain individuals naturally resistant to TENGARD 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 fields. Other resistance mechanisms that are not linked to site of action but are specific for individual chemicals, such as enhanced metabolism, may also exist. Appropriate resistance-management strategies should be followed.

To delay insecticide resistance:

- Where possible, rotate the use of TENGARD Emulsifiable Concentrate Insecticide or other Group 3 insecticides with different groups that control the same pests.
- Use tank mixtures with insecticides/acaricides from a different group that is effective on the target pest when such use is permitted.
- Insecticide use should be based on an IPM program that includes scouting and 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 UPL AgroSolutions Canada Inc. at 1-800- 438-6071.

- Restricted Lifety filter vals					
Сгор	Activity	REI ^a			
apple, nectarine, peach, pear, plum, ornamentals	all activities	12 hours			
	girdling, turning	15 days			
grape	tying/training, hand harvesting, leaf pulling by hand	2 days			
	all other activities	12 hours			

Restricted Entry Intervals

REI = restricted entry intervals

^a If the REI for hand harvesting and the PHI are different, follow the longer of the two intervals for both the REI and PHI. If the crop is harvested mechanically, with no contact with the treated foliage or crop, follow the PHI. Some of the activities in the REI table are not routinely conductedon every farm for every crop. The REIs specified for an activity must be followed only if that activity is being performed.

DIRECTIONS FOR USE:

General Information:

TENGARD Emulsifiable Concentrate Insecticide is a synthetic pyrethroid insecticide. 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. Where multiple applications are allowed, treatment must only be repeated if pest problem persists or reoccurs. DONOT exceed the application rate and number of applications per year for each use. Follow the re- application interval for each use. To protect pollinators, follow the instructions regarding bees in the ENVIRONMENTAL PRECAUTIONS section.

TENGARD Emulsifiable Concentrate Insecticide is to be used for the control of listed pests for:

A) FRUIT CROPS;

B) OUTDOOR TREES AND SHRUBS (EXCLUDING WOODLANDS AND FORESTS);
C) INSIDE OF FARM BUILDINGS AND FOOD PROCESSING PLANTS;
D) OUTDOOR TREATMENTS ON THE EXTERIOR SURFACES OF LISTED BUILDINGS; The pests controlled are listed in the accompanying sections.

TENGARD Emulsifiable Concentrate Insecticide contains permethrin, which is a synthetic pyrethroid. Permethrin has low mammalian toxicity and rapid knockdown of insects. Although the synthetic process has increased the stability of permethrin giving it residual properties, it is still degraded by the ultraviolet rays of the sun. This results in a relatively short residual life in the presence of sunlight; however, when protected from the sun, permethrin found in TENGARD Emulsifiable Concentrate Insecticide will provide residual activity.

Shake Well Before Using.

DO NOT TANK MIX THIS PRODUCT WITH ANY OTHER PRODUCT.

Caution for Vinyl and Aluminum Siding: The application of TENGARD Emulsifiable Concentrate Insecticide to vinyl and aluminum siding (particularly lightly colored, aged, weathered or otherwise damaged) may result in staining, bleaching or discoloration. Factors such as extreme heat and direct sunlight can promote damage when using emulsifiable concentrates. Before applying TENGARD Emulsifiable Concentrate Insecticide to vinyl or aluminum siding, treat a small area and evaluate 30 minutes later to allow any potential staining to occur. Regardless of the test results, do not apply to vinyl or aluminum siding while exposed to direct sunlight or during the heat of the day.

A) FRUIT CROPS IN RESIDENTIAL AREAS

Perm-UP Emulsifiable Concentrate Insecticide may be applied to the following fruit crops: DO NOT APPLY BY USING AERIAL APPLICATION EQUIPMENT FOR ANY FRUIT CROPS. Ground application only permitted.

Mix with water as directed below and apply with a sprayer to give a thorough coverage of plants. Apply when insects or damage are first noticed. Not for use in Commercial Crop Production. 5 mL = 1.0 teaspoon, 15 mL = 1 tablespoon.

For the fruit crops listed below, mL per 10 L is for use as a dilute foliar spray.

Provincial spray calendars may assist in determining the optimal timing of spray applications and should be consulted. Where a concentration range is suggested use the higher concentration where heavy insect pressure is anticipated. Use sufficient water for thorough coverage.

NOTE: Repeat applications are not advised because severe reductions of beneficial arthropods may result.

Crop(s)	Pest(s)	Concentration (ml of product/ 10 l of water)	Minimum reapplication interval	Maximum number of applications per year	Preharvest interval	Remarks
APPLE	Winter Moth Eastern Tent Caterpillar Eyespotted Bud Moth	0.9-1.75	14 days	DO NOT make more than 3 applications per year. Of these only	DO NOT APPLY less than 7 days before harvest.	Toxic to bees. DO NOT apply during the crop blooming period.
	Plum	1.25-1.75		Of these only		

Crop(s)	Pest(s)	Concentration (ml of product/ 10 l of water)	Minimum reapplication interval	Maximum number of applications per year	Preharvest interval	Remarks
	Curculio White Apple Leafhopper			2 drench and 1 foliar application are allowed		
	Tentiform Leafminer Green	1.75		per year. Do not exceed		
	Fruitworm Apple Maggot Codling Moth Leafrollers Tarnished Plant Bug Mullein			1400 ml/Ha per season.		
	Plant Bug Lesser Appleworm					
PEAR (Eastern Canada only)	Pear Psylla (adults & nymphs) Codling Moth Green	1.75	7 days	DO NOT make more than 2 applications per year.	DO NOT APPLY less than 7 days before harvest.	Toxic to bees. DO NOT apply during the crop blooming period.
	Fruitworm			Do not exceed 1100 ml/Ha per season.		
PEAR (British Columbia)	Pre-Bloom Pear Psylla (over Wintering adults)	1.75	7 days	DO NOT apply more than 2 applications per year.	DO NOT APPLY less than 7 days before harvest.	Toxic to bees. DO NOT apply during the crop blooming period. Apply up to 1 cm green stage of pear
				Do not exceed 1400 ml/Ha per season.		foliage growth. DO NOT USE in B.C. for control of nymphal stages of Pear Psylla.
PEACHES NECTARINES	Oriental Fruit Moth Plum	0.90-1.75	14 days	DO NOT make more than 2	DO NOT APPLY less than 7 days	Toxic to bees. DO NOT apply during the crop blooming period.
	Curculio Plant Bugs			applications per year	before harvest.	
				Do not exceed 1040 ml/Ha per season.		
PLUMS	Plum Curculio	1.75	14 days	DO NOT make more than 2 applications per year	DO NOT APPLY less than 7 days before harvest.	Toxic to bees. DO NOT apply during the crop blooming period.
				Do not exceed 1100 ml/Ha per season.		
GRAPES	Grape Berry Moth	1.75	7 days	DO NOT make more	DO NOT APPLY less	Toxic to bees. Avoid application during the

Crop(s)	Pest(s)	Concentration (ml of product/ 10 l of water)	Minimum reapplication interval	Maximum number of applications per year	Preharvest interval	Remarks
	Grape Leafhopper	0.9	7 days	than 4 applications per year Do not exceed 1440 ml/Ha per season.	than 21 days before harvest.	crop blooming period. If applications must be made during the crop blooming period, restrict applications to evening when most bees are not foraging. When using managed bees for pollination services, DO NOT apply during the crop blooming period.

B) INSTRUCTIONS FOR OUTDOOR ORNAMENTAL TREES ANDSHRUBS (EXCLUDING FORESTRY AND WOODLANDS) IN RESIDENTIAL AREAS

DO NOT APPLY USING AERIAL APPLICATION EQUIPMENT FOR ANY ORNAMENTAL TREE OR SHRUB. Ground application only permitted.

For control of certain insect on listed ornamental trees and shrubs grown for ornamental value only (excluding woodlands and forests).

Mix with water as directed below and apply with a sprayer to give a thorough coverage of plants. Apply when insects or damage are first noticed. Not for use in Commercial Crop Production5 mL = 1.0 teaspoon, 15 mL = 1 tablespoon.

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 TENGARD Emulsifiable Concentrate Insecticide as for dilute spraying.

To test for phytotoxic effects, spray a small, inconspicuous portion of the tree or shrub under test and wait for 24 hours to see if any adverse effects appear.

Сгор	Pests	mL/1000 Litres	Remarks
Deciduous Trees and Shrubs	Eastern Tent Caterpillar, Euonymus Webworm, Fall Webworm, Forest Tent Caterpillar and Open Feeding Aphids	90	Apply as a dilute spray (for mist blowers use 75 L of water). Apply when insects are first noticed. Make one application per year

C) INSTRUCTIONS FOR INSIDE OF FARM BUILDINGS AND FOOD PROCESSING PLANTS

DO NOT apply in residential areas. Residential areas are defined as any use site where the general public, including children, could be exposed during or after application. For structural uses, in residential sites, this includes homes, schools, restaurants, public buildings, modes of transport in areas where passengers are present, or any other areas where the general public including children may potentially be exposed.

Location	Pests	Rate	Special Instructions
Beef Barns, Dairy Barns, Poultry	House Fly,	25 mL	Residual Surface Spray: Apply at a
Houses, Stables, Food	Stable Fly	per 5 L	rate of 5.0 L per 100 square metres
Processing Plants (nonfood	-		of surface.
areas*), Dairies, Feedlots			Do not apply directly to animals or
			poultry. In dairies, apply only when
			not in operation. Thoroughly clean
			all milk utensils before resuming
			operations.
			For animal housing, maximum of
			12 applications/year, a minimum
			RTI of 14 days. Livestock
			returned to treated areas cannot be
			slaughtered for a minimum of 7
			days after the treatment was
			applied to the livestock facility.

*Non-food/feed areas includes garbage rooms, lavatories, floor drains to sewers, entries and vestibules, offices, locker rooms, machine rooms, garages, mop closets, and storage.

D) INSTRUCTIONS FOR OUTDOOR TREATMENTS ON THE EXTERIOR SURFACES OF LISTED BUILDINGS:

How to Apply:

<u>Spot Application</u>: Spot application is localized to a surface area not more than 0.2 m^2 . Spots are not to be adjoining. The combined area of spots is not to exceed 10% of the total surface area treated.

<u>Outdoor Structural Broadcast:</u> Outdoor broadcast application is to large outdoor structural surfaces (i.e. roofs, walls, doors, windows and foundations.).

For use at barracks, mess halls, drill halls, hangers, warehouses, equipment buildings, farm buildings and other non-residential buildings where cluster flies and spiders have become a nuisance. DO NOT treat patios, porches, decks, gazebos or play structures.

DO NOT apply in residential areas. Residential areas are defined as any use site where the general public, including children, could be exposed during or after application. For structural uses, in residential sites, this includes homes, schools, restaurants, public buildings, modes of transport in areas where passengers are present, or any other areas where the general public including children may potentially be exposed.

Pest(s)	Application method (see how to apply for further information)	Concentration (ml of product/10 l of water)	(maximum) product rate	Notes for specific pests:
Cluster flies	Spot Outdoor Structural Broadcast	Prepare a spray mixture of 130mL in 10 L of water.	DO NOT exceed a rate of 2.45 L of spray mixture per 100 m ² .	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. Spray this mixture to the outside walls, including under the eaves, soffits and window trim. The effective time of application is between mid-August and the end of September depending on weather conditions.
Spiders	Spot Outdoor Structural Broadcast	Mix 130 mL in 10 L of water and spray.	DO NOT exceed 2.45 L of spray mixture per 100 m ² .	Apply to the exterior surfaces of buildings where spiders congregate especially under eaves and soffits of buildings. Apply when heavy infestations of spiders are observed.

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