2021-02-01
2019-0618

GROUP 3 INSECTICIDE

# Klenze 2 Insecticide

Emulsion

For Control of listed pests under each of these sites:
A) CROPS (EXCLUDING FRUIT AND NON-FOOD CROPS);
B) FRUIT CROPS; AND
C) OUTDOOR TREES AND SHRUBS (EXCLUDING WOODLANDS AND FORESTS)

COMMERCIAL

READ THE LABEL BEFORE USING

KEEP OUT OF REACH OF CHILDREN

ACTIVE INGREDIENT: Permethrin … 0.5%

REGISTRATION NUMBER 34037 PEST CONTROL PRODUCTS ACT NET

NET CONTENTS: 1 to 200 L

Eco-Cop Inc.
2800 Scotia Place, 10060 Jasper Ave.
Edmonton, Alberta, T5J 3V9
780 433 0274

DIRECTIONS FOR USE:

RESTRICTIONS:

- Do not apply undiluted.
- A plant back interval of 60 days is required for all food/feed crops not currently listed on the label.
- To protect pollinators, follow the instructions regarding bees in the ENVIRONMENTAL PRECAUTIONS section
- 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 allow effluent or runoff from greenhouses containing this product to enter lakes, streams, ponds or other waters.
- Do not treat firewood.
- Ground application only, DO NOT apply by air.

VEGETATIVE FILTER STRIPS

A Vegetative Filter Strip (VFS) of at least 10 metres wide must be observed. The VFS is required between the field edge and adjacent, downhill aquatic habitats to reduce risk to aquatic organisms from run-off. Aquatic habitats include, but are not limited to, lakes, reservoirs, rivers, permanent streams, marshes or natural ponds, estuaries, and commercial fish farm ponds.
The VFS is to be composed of grasses and may also include shrubs, trees, or other vegetation. The VFS must be maintained. Additional guidance can be found on the PMRA Environmental Risk Mitigation webpages.
Both VFS and spray drift buffer zones must be observed.

SPRAY DRIFT BUFFER ZONES

Spray drift buffer zones are to protect terrestrial and aquatic habitats from spray drift. Spray drift buffer zones are a separate requirement from VFS which are required to mitigate risks from run-off.

FIELD SPRAYER APPLICATION:

DO NOT apply during periods of dead calm. Avoid application of this product when winds are gusty. DO NOT apply when wind speed is greater than 8 km/h at the site of application. DO NOT apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE S572.1) medium classification. Air-induction nozzles must be used for the ground application of this product. 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.
For tank mixes, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture and apply using the coarsest spray (ASAE) category indicated on the labels for those tank mix partners.
The buffer zones for airblast application of this product can be modified based on weather conditions and spray equipment configuration by accessing the Buffer Zone Calculator on the Pest Management Regulatory Agency web site. Buffer zones for field sprayer application CANNOT be modified using the Buffer Zone Calculator
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.

| Application method | Crop | | Buffer Zones (m) required for the protection of | | | |
|---|---|---|---|---|---|---|
| | | | Freshwater habitat of depths | | Estuarine/Marine habitat of depths | |
| | | | Less than 1 m | Greater than 1 m | Less than 1 m | Greater than 1 m |
| Field sprayer | Cabbage, cauliflower, broccoli, Brussel sprouts, sweet corn, potato | | 35 | 15 | 25 | 10 |
| | Tomato | | 45 | 20 | 25 | 10 |
| Airblast | Apple | Early growth stage | 75 | 65 | 80 | 70 |
| | | Late growth stage | 60 | 55 | 70 | 60 |
| | Grape, nectarine, peach | Early growth stage | 80 | 70 | 80 | 70 |
| | | Late growth stage | 70 | 60 | 70 | 60 |
| | Plum | Early growth stage | 80 | 70 | 80 | 75 |
| | | Late growth stage | 70 | 60 | 70 | 60 |
| | Pear | Early growth stage | 80 | 70 | 90 | 80 |
| | | Late growth stage | 70 | 60 | 80 | 70 |

**Restricted Entry Intervals**

| Crop | Activity | REI* |
|---|---|---|
| apple, nectarine, peach, pear, plum, potatoes, tomatoes, broccoli, Brussels sprouts, cabbage, cauliflower, ornamentals, greenhouse tomato | All activities | 12 hours |
| Grape | Girdling, turning | 15 days |
| | Tying/training, hand harvesting, leaf pulling by hand | 2 days |
| | All other activities | 12 hours |
| Sweet Corn | Hand detasseling, hand harvest | 8 days |
| | All other activities | 12 hours |

REI = restricted-entry intervals

*: 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 conducted on every farm for every crop. The REIs specified for an activity must be followed only if that activity is being performed.

SHAKE WELL BEFORE USING.

Mix with water at the rates listed below. Spray for thorough coverage of upper and lower leaf surfaces or treated area. Apply when insects or damage first appears. Treatment must only be repeated if pest problem persists or re-occurs. Klenze 2 Insecticide has no conspicuous odour. Water, not petroleum distillates, is used as the diluent.

NOTE: 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 permethrin.

FRUIT CROPS

For all crops, unless indicated otherwise: TOXIC TO BEES. DO NOT apply during the crop blooming period.

| Crop | Pest | Concentration (mL of product/ 10 L of water) | Product rate (L of product/ hectare) | Minimum reapplication interval | Maximum number of applications per year | Preharvest interval | Remarks |
|---|---|---|---|---|---|---|---|
| APPLE | Eastern Tent Caterpillar, Eyespotted Bud Moth, Plum Curculio, White Apple Leafhopper | 250 | Do not apply more than 40 L of product (200 g a.i.) per hectare | N/A | 1 | DO NOT APPLY less than 7 days before harvest. | |
| | Tentiform Leafminer, Apple Maggot, Codling Moth, Leafrollers, Tarnished Plant Bug, Mullein Plant Bug, Lesser Appleworm | 500 | | | | | |
| PEAR (Eastern Canada only) | Pear Psylla (adults & nymphs), Codling Moth, Green Fruitworm | 500 | Do not apply more than 85 L of product (425 g a.i.) per hectare in a single application.<br><br>Do not apply more than 85 L of product (425 g a.i.) per hectare per year | 7 days | 2 | DO NOT APPLY less than 7 days before harvest when applying 40 L of product/ha (200 g g.i./ha) or less; DO NOT APPLY less than 14 days before harvest when applying greater than 40 L of product/ha (200 g a.i./ha). | |
| PEACHES NECTARINES | Oriental Fruit Moth, Plum Curculio, Plant Bugs | 500 | Do not apply more than 40 L of product (200 g a.i.) per hectare in a single application.<br><br>Do not apply more than 80 L of product (400 g a.i.) per hectare per year | 14 days | 2 | DO NOT APPLY less than 7 days before harvest. | |
| PLUMS | Plum Curculio | 500 | Do not apply more than 42.5 L of product (212.5 g a.i.) per hectare in a single application.<br><br>Do not apply more than 85 L of product (425 g a.i.) per hectare per year | 14 days | 2 | DO NOT APPLY less than 7 days before harvest. | |
| GRAPES | Grape Berry Moth | 370 | Do not apply more than 27.6 L of product (138.2 g a.i.) per hectare in a single application.<br><br>Do not apply more than 110 L of product (553 g a.i.) per hectare per year | 7 days | 4 | DO NOT APPLY less than 21 days before harvest. | Toxic to bees. 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. When using managed bees for |

| Crop | Pest | Concentration (mL of product/ 10 L of water) | Product rate (L of product/ hectare) | Minimum reapplication interval | Maximum number of applications per year | Preharvest interval | Remarks |
|---|---|---|---|---|---|---|---|
| | Grape Leafhopper | 185 | Do not apply more than 27.6 L of product (138.2 g a.i.) per hectare in a single application.<br><br>Do not apply more than 110 L of product (553 g a.i.) per hectare per year | | | | pollination services, DO NOT apply during the crop blooming period. |
| NOTE: Repeated applications are not advised in orchards where integrated pest management is in effect. Severe reductions of beneficial insects may result. | | | | | | | |

## VEGETABLE CROPS

For all crops unless indicated otherwise: Toxic to bees. 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. When using managed bees for pollination services, DO NOT apply during the crop blooming period.

| Crop | Pest | Concentration (mL of product/ 1 L of water) | Product rate (L of product/ hectare) | Minimum reapplication interval | Maximum number of applications per year or crop cycle | Minimum preharvest interval | Remarks |
|---|---|---|---|---|---|---|---|
| CABBAGE, CAULIFLOWER, BROCCOLI, BRUSSELS SPROUTS | Cabbage Looper, Imported Cabbage Worm, Diamondback Moth Larvae, Crucifer Flea Beetle | 125 | Do not apply more than 30 L of product (150 g a.i.) per hectare in a single application.<br><br>Do not apply more than 60 L of product (300 g a.i.) per hectare per year | 7 days | 4 | Cabbage, cauliflower and Brussel sprouts: 3 days<br><br>Broccoli: 7 days | |
| SWEET CORN | European Corn Borer, Corn Earworm, Corn Sap Beetle | 250 | Do not apply more than 28.8 L of product (144 g a.i.) per hectare in a single application.<br><br>Do not apply more than 115 L of product (576 g a.i.) per hectare per year | 3 days | 4 | DO NOT apply within 1 day of harvest. | European corn borer: Apply before tassels show. Treat at 5-day intervals until early silk stage, but do not exceed 4 applications per year.<br><br>Corn earworm: When 25% of ears show silk, start spraying and fully cover ears and silks. Make three more treatments at 4-day intervals (3-day intervals in hot weather).<br><br>Corn sap beetle: Apply when pink spotted beetles first appear. |
| POTATO | Colorado Potato Beetle, Potato Flea Beetle, Potato Leafhopper | 185 | Do not apply more than 30 L of product (150 g a.i.) per hectare in a single application.<br><br>Do not apply more than 120 L of product (600 g a.i.) per hectare per year | 7 days | 4 | DO NOT apply within 1 day of harvest. | |
| TOMATOES (Greenhouse) | Greenhouse Whitefly | 185 | Do not apply more than 30 L of product (150 g a.i.) per hectare in a | 10 days | 6 | Do not apply within 1 day of harvest. | Toxic to bees and other beneficial insects. May harm bees and other |

| Crop | Pest | Concentration (mL of product/ 1 L of water) | Product rate (L of product/ hectare) | Minimum reapplication interval | Maximum number of applications per year or crop cycle | Minimum preharvest interval | Remarks |
|---|---|---|---|---|---|---|---|
| | | | single application.<br><br>Do not apply more than 180 L of product (900 g a.i.) per hectare per year | | | | beneficial insects including those used in greenhouse production. Do not apply when bees or other beneficial insects are foraging in the treatment area. 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. When using managed bees for pollination services, DO NOT apply during the crop blooming period |
| TOMATOES (Field) | Tarnished plant bug, Potato leafhopper, White fly | 185 | Do not apply more than 28 L of product (140 g a.i.) per hectare in a single application.<br><br>Do not apply more than 140 L of product (700 g a.i.) per hectare per year | 7 days | 5 | Do not apply within 1 day of harvest. | |

OUTDOOR ORNAMENTALS**:** TREES AND SHRUBS

Toxic to bees. 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. When using managed bees for pollination services, DO NOT apply during the crop blooming period.

For control of certain insect on listed ornamental trees and shrubs grown for ornamental value only (excluding woodlands and forests), including those grown in commercial nurseries.

Application Equipment: The control achieved in any spray operation depends on the care taken during application. The correct type of equipment for the job 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.

| Crop | Pest | Concentration (ml of product/ 1 L of water) | Maximum product rate (L of product/ hectare) | Maximum number of applications per year | Remarks |
|---|---|---|---|---|---|
| CONIFEROUS TREES & SHRUBS (needle varieties) | Douglas Fir Tussock Moth, White Marked Tussock Moth, Spruce Budworm, Spruce Coneworm, Open Feeding Sawflies | 125 | Do not apply more than 14 L of product (70 g a.i.) per hectare | 1 | Apply at first sign of damage. |
| DECIDUOUS TREES & SHRUBS (leafy varieties) | Eastern Tent Caterpillar, Euonymus Webworm, Fall Webworm, Forest Tent Caterpillar, Open Feeding Aphids, Gypsy moth | 175 | Do not apply more than 14 L of product (70 g a.i.) per hectare | 1 | Apply at first sign of feeding. |
| **NOTE:** Test all tree and shrub species for phytotoxicity prior to application of permethrin. Spray an inconspicuous part of the tree or shrub. Wait 24 hours to see if any adverse effect occurs. | | | | | |

RESISTANCE MANAGEMENT RECOMMENDATIONS:

For resistance management, please note that Klenze 2 Insecticide contains a Group 3 insecticide. Any insect population may contain individuals naturally resistant to Klenze 2 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 Klenze 2 Insecticide or other Group 3 insecticides with different groups that control the same pests.
- Use tank mixtures with insecticides 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 Eco-Cop Inc. at 780 433 0274.

PRECAUTIONS:

KEEP OUT OF THE REACH OF CHILDREN. DO NOT use as a space spray. Avoid splashing concentrate in eyes or on hands. 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.

For mechanically pressurized handgun applications, wear cotton coveralls over long- sleeved shirt, long pants, chemical-resistant gloves, socks, and shoes during mixing, loading, application, clean-up and repair.

For truck-mounted mistblower or airblast applications, wear a long-sleeved shirt, long pants, chemical-resistant gloves, and a chemical-resistant hat that covers the neck (e.g Sou'Wester) during mixing, loading, application, clean-up and repair, or use a closed cab (for example, tractor cab/truck with windows rolled up). Gloves are not required during application within a closed cab.

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. When applying this product in an enclosed area or with equipment capable of producing respirable spray droplets (less than 10 microns in size), an adequate respirator should be worn. Avoid contamination of food, feed, cooking utensils or drinking water. Wash thoroughly before eating, drinking and smoking.

ENVIRONMENTAL PRECAUTIONS:
Toxic to aquatic organisms. Observe buffer zones specified under DIRECTIONS FOR USE.
Toxic to birds.
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 habitats close 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.
To reduce risk to aquatic organisms from run-off, a vegetative filter strip of at least 10 metres wide between the field edge and adjacent, downhill aquatic habitats must be observed, as specified under DIRECTIONS FOR USE.
Greenhouse use: Toxic to bees and other beneficial insects. May harm bees and other beneficial insects, including those used in greenhouse production. Do not apply when bees or other beneficial insects are foraging in the treatment area.

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 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 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. Have person sip a glass of water if able to swallow. 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:

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

STORAGE:
Store in a cool, dry, well-ventilated area away from foodstuffs and out of the reach of children and animals. Keep product from freezing.

SPILL CLEANUP:
Wear protective glasses, rubber gloves, apron and overalls. Put leaking containers in overpack drum. Use absorbent material to soak up spill. Put contaminated absorbent material in a plastic bag in overpack drum. Label drum. Clean up hard surface with strong detergent and water. On soil, remove top 15 cm, place in plastic bag and place in overpack drum.

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:
Triple-or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank. 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 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.

*OPTIONAL MARKETING STATEMENTS*
*Insecticide*
*Water-based*
*For food and ornamental crops*
*Non-staining*

*Low odour*