

Conditions of Use For:

## OXALIC ACID DIHYDRATE

For Control of Varroa Mite in Honey Bee Colonies.

The PMRA has reviewed the information submitted by the Canadian Honey Council on the safety and efficacy of oxalic acid for control of varroa mites (*Varroa destructor*) in honey bee colonies. They have made an interim determination that oxalic acid can be safely used to control varroa mites in beehives provided that the limitations and precautions specified below are respected.

### CONDITIONS OF USE:

#### 1. Purity of Oxalic Acid

Sources of oxalic acid dihydrate used must have a purity of 99.6% minimum.

#### 2. Required Directions for Use

Users must take note of the following information and use the product as follows:

### PRECAUTIONS

#### KEEP OUT OF REACH OF CHILDREN

Fatal or poisonous if swallowed.

May be harmful if inhaled.

May be harmful if absorbed through the skin.

Corrosive to eyes and skin by direct contact.

May be a skin sensitizer.

DO NOT ingest.

DO NOT inhale/breathe dust.

DO NOT get in eyes.

DO NOT get on skin.

Wear protective goggles, dust/mist filter, chemically resistant gloves, long-sleeved shirt, pants, shoes, and socks whenever handling, mixing, and loading oxalic acid dihydrate and when performing clean-up and maintenance activities.

Wear a full-face respirator or a half-face respirator and protective goggles, fitted with organic acid filter, chemically resistant gloves, long-sleeved shirt, pants, shoes, and socks whenever applying oxalic acid dihydrate with a vapourizer.

Wear protective goggles, chemically resistant gloves, long-sleeved shirt, pants, shoes, and socks whenever applying oxalic acid dihydrate by the solution method.

All clean-up and maintenance activities should be performed in a well ventilated area, preferably outdoors.

Wash skin thoroughly with soap and water after handling oxalic acid dihydrate. Remove clothing immediately if contaminated by splash or spill.

Store and wash contaminated clothing separately from household laundry. The handling of oxalic acid dihydrate should only be performed in a well ventilated area.

The application of oxalic acid dihydrate is limited to outdoor use only.

DO NOT use in enclosed overwintering areas.

If this control product is to be used on a commodity that may be exported to the U.S. and you require information on acceptable residue levels in the U.S., contact [www.cropro.org/](http://www.cropro.org/).

### DIRECTIONS FOR USE

Oxalic acid is for the control of Varroa mites in honey bee colonies. Apply in late fall to early spring when monitoring indicates treatment is necessary.

**CAUTION:** Oxalic Acid may damage bee brood. Oxalic Acid will not control Varroa mites in capped brood. Use only in late fall to early spring when little or no brood is present. Do not use when honey supers are in place to prevent contamination of marketable honey.

### SOLUTION METHOD

**NOTE:** To completely dissolve oxalic acid dihydrate, use warm syrup.

Dissolve 35 g of oxalic acid dihydrate in 1 litre of syrup made from a 1:1 sugar : water (weight:volume) mixture of sugar and water. Smoke bees down from the top bars. With a syringe or an applicator, trickle 5 mL of this solution directly onto the bees in each occupied bee space in each brood box. The maximum dose is 50 mL per colony whether bees are in nucs, single, or multiple brood chambers. Under certain unfavourable conditions, e.g., weak colonies, unfavourable overwintering conditions, this application method may cause some bee mortality or overwintering bee loss.

## **VAPOURIZER METHOD**

Apply only to outdoor colonies with a restricted lower hive entrance. Seal all upper hive entrances and cracks with tape to avoid escape of oxalic acid vapour. When possible, treat while hives are wrapped to ensure they are properly sealed. Smoke bees up from the bottom board. Place 2.0 g oxalic acid dihydrate powder into vapourizer. Follow the vapourizer manufacturer's directions for use. Insert the vapourizer apparatus through the bottom entrance. Apply heat until all oxalic acid dihydrate has sublimated.

## **FIRST AID**

**SKIN:** Remove contaminated clothing immediately. Wash the affected area(s) for 15-20 minutes with plenty of water. If chemical burns develop, cover the area with a sterile, dry dressing and bandage securely. Contact a physician or poison control centre immediately.

**EYES:** Wash eye(s) immediately with a large amount of water. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye(s). Cover with sterile bandages. Contact a physician or poison control centre immediately.

**INGESTED:** Do not induce vomiting. Drink large quantities of water or milk. If vomiting occurs, administer fluids repeatedly. Never give anything by mouth to an unconscious person. Contact a physician or poison control centre immediately.

**INHALED:** Remove victim to a safe, uncontaminated area with fresh air. Rest. Keep warm. If breathing is shallow, give oxygen. Contact a physician or poison control centre immediately. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.

**GENERAL:** Ensure that large amounts of clean water are available to wash skin and eyes if contact with oxalic acid dihydrate occurs.

Have this label with you when calling a poison control centre or doctor, or going for treatment.

## **3 TOXICOLOGICAL INFORMATION**

Treat symptomatically. Probable mucosal damage may contraindicate the use of gastric lavage.

## **STORAGE**

Keep away from food, drink, and bee feeds.

## **DISPOSAL**

Do not contaminate irrigation/ drinking water supplies or aquatic habitats by disposal of unused product.

Dispose of any unused oxalic acid dihydrate-sugar-water solution immediately after application in accordance with provincial requirements.

Dispose of the container in accordance with provincial requirements. For information on disposal of unused, unwanted product, contact the provincial regulatory agency. Contact the provincial regulatory agency in case of a spill, and for clean-up of spills.

Note: The Canadian Honey Council (CHC) is willing to act as a contact for those who may wish to obtain information concerning the use of oxalic acid. The CHC may be contacted as follows:

Canadian Honey Council  
Suite 236, 234-5149 Country Hills Blvd NW  
Calgary, Alberta  
T3A 5K8