

## SPECIFIC PRECAUTIONS FOR THE DISPOSAL OF UNUSED PRODUCTS OR WASTE MATERIALS, IF ANY

Do not contaminate ponds, waterways and ditches with the strip or used packaging. Any unused veterinary medicinal product or waste materials derived from such veterinary medicinal products should be disposed of in accordance with local requirements.

## DATE ON WHICH THE PACKAGE LEAFLET WAS LAST APPROVED

May 30 2014

## OTHER INFORMATION

Formic acid from the product acts by fumigation, or vapour action.

Formic acid is active against mites on adult bees and is known to kill mite nymphs within capped brood cells. In addition variable activity against male and female adult mites under the brood cap has been shown which may have consequences for mite reproduction since mating and fertilisation take place within cells.

The mode of action of formic acid has not been fully elucidated. The available data suggest that impairment of *Varroa destructor* may result from local effects that are due to the corrosive action of formic acid vapours. In addition, absorbed formic acid may cause acidosis and may impair the mite's energy supply through inhibition of the mitochondrial respiratory chain.

The pharmacokinetics of formic acid in honeybees has not been studied.

## Distribution and elimination in the beehive:

The formic acid volatilises slowly from the strips into the hive cavity. The honey bees determine the concentration of formic acid in the hive air by ventilating the brood area to their comfort level. Excess levels of formic acid vapour in the hive air are quickly replaced by fresh incoming air to the hive. Formic acid is naturally occurring in honey. Formic acid is not lipophilic and so does not leave residues in the honeycomb.



IE only  
VPA number: 10428/001/001  
**LM** Licensed Merchant

UK only  
Vm 40476/4000 **AVM-GSL**

MT:  
OTC  
VMA 00029



**Active substance:** Each Beehive Strip contains:

Formic Acid 68.2g

Each strip is an off-white to caramel coloured gel wrapped in white laminated biodegradable paper. Each strip is approximately 10 x 20 x 0.4 cm, weighing 146g

## INDICATIONS

Treatment of Varroosis caused by *Varroa destructor* in honey bees (*Apis mellifera*)

## CONTRAINDICATIONS

Do not use at temperatures outside the specified range (10 to 29.5°C). Do not use for treatment of smaller colonies than those listed on the label (*single or double brood-chamber, standard Langstroth equipment or equivalent full-sized honey beehives, honey bee colony cluster covering a minimum of 6 brood frames, (approximately 10,000 bees)*).

## ADVERSE REACTIONS

Formic acid will initially disturb colony activities and may, within one day of application, result in queen rejection or slight increase in observed adult bee mortality. Brood mortality may occur in the initial stage of treatment. At recommended outside temperatures (see Special Warnings section) overall colony health is not expected to be negatively affected, with colony activity returning to normal after the treatment period. However in one study, during which outside temperatures peaked at 37.5°C on the day of application, colony death was observed. If you notice any serious effects or other effects not mentioned in this package leaflet, please inform your veterinary surgeon.

**TARGET SPECIES:** Honey Bee

**DOSE:** 1 sachet (2 strips) per hive.

The treatment period is 7 days. Allow a minimum of one month between applications. **In-Hive use.**



**NAME AND ADDRESS OF THE MARKETING AUTHORISATION HOLDER AND OF THE MANUFACTURING AUTHORISATION HOLDER RESPONSIBLE FOR BATCH RELEASE, IF DIFFERENT:**

Marketing Authorisation Holder:  
NOD Europe Ltd.  
5 St. Paul's Square, Old Hall Street Liverpool, L3 9AE  
United Kingdom info@nodglobal.com

Manufacturing Authorisation Holder responsible for batch release:

BASF plc  
St. Michael's Industrial Estate  
Widnes, Cheshire  
WA8 8TJ

An innovative  
solution for honey  
bee health in  
cooperation with

**BASF**  
The Chemical Company



### TIME OF APPLICATION:

The product should only be used as part of an integrated varroa control programme.

Apply the product on single or double brood-chamber standard Langstroth equipment or equivalent full-sized honey beehives, honey bee colony cluster covering a minimum of 6 brood frames (approximately 10,000 bees). Outside daytime temperature highs should be between 10 - 29.5°C on day of application.

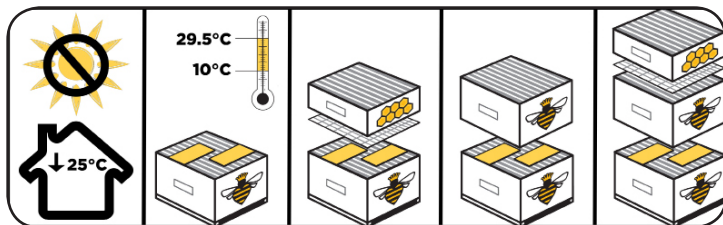
### APPLICATION:

Carefully remove the two product strips from the sachet by cutting across one end, then lift the seal so the plastic comes away from the strips, and cut along the seal line the whole length of the sachet. Carefully separate the strips. **DO NOT REMOVE PAPER WRAPS.**

**For hives with single brood chambers**, lay two strips across the top bars of the frames of the brood chamber, staggering them so they lie flat and across the full width of the hive body, with approximately 5cm between strips and 10cm between the ends of the brood chamber and the outer edges of the strips.

**For hives with two brood chambers** place the strips as described above on the frame top bars of the lower hive body, so the strips are in-between the brood chambers.

Appropriate application of beehive strips for 4 beehive configurations is shown below in the pictograms:



Put on honey super(s) if required to provide adequate space for strong colonies to expand or if a honey flow is anticipated. It is acceptable to have queen excluders in place. The bulk of the formulation ingredients/excipients are food grade sugar and starch with a biodegradable/compostable paper wrap. The strips do not need to be removed from the hive after the application period of 7 days as the honey bees dispose of the spent strips. If they are removed, dispose of by composting.

### WITHDRAWAL PERIOD(S)

**Withdrawal period Honey:** Zero days.

Do not harvest honey during the 7 day treatment period.

### SPECIAL STORAGE PRECAUTIONS

Keep out of the sight and reach of children. Store below 25°C; Protect from direct sunlight; Store in a dry place; Keep the polypropylene tub tightly closed to protect from contamination or product spillage. Store in tightly closed original container in a well-ventilated area, away from sulphuric acid, strong oxidizing agents (e.g nitric acid, peroxides, perchlorates, chlorites), and sources of ignition.

Do not use this veterinary medicinal product after the expiry date which is stated on the label. Shelf-life after opening the immediate packaging (sachet): use immediately.

### SPECIAL WARNINGS

#### Special warnings for the target species

Take care to disturb the colony as little as possible during the application process.

Colonies require adequate ventilation during treatment. Treat all bee colonies in the apiary at the same time. Bee colonies should be monitored routinely for the level of varroa mite infestation. Use according to local treatment recommendations, if available. The product should only be used as part of an integrated varroa control programme.

To ensure sufficient efficacy the product should be used when outdoor temperatures exceed 10°C.

#### Special precautions for use in Animals

The strips may be applied during honey flow; put on honey supers if honey flow is anticipated, to allow adequate space for colony expansion.

Do not disturb the colony for 7 days.

**Temperatures:** Outside daytime temperature highs should be between 10 - 29.5°C on day of application. Temperatures above this range during the first three days of treatment may cause excessive brood mortality and queen loss. If such temperatures coincide with a dearth period (where food is in short supply), there is an elevated risk of queen loss, sudden supercedure, or delay in egg laying. Treatment should be postponed until temperatures drop or nectar flow resumes.

Colonies require adequate access to fresh air during treatment. An entrance must be provided that is the full width of the hive, typically the bottom board entrance. The bottom hive entrance needs to be fully open (full width of the hive and a minimum height of 1.3cm) for the entire duration of treatment (7days). Entrance reducers must be removed to prevent excessive damage to colonies. Disturb colony activity as little as possible during the application process.

Colonies should have good food reserves at time of treatment, and should not be fed during treatment.

Do not destroy queen cells that may be observed prior to, or post treatment. Supercedure, even if thought to be set in motion by treatment, is a natural process, and should be allowed to proceed for the health of the colony. Verify the colony is queen-right one month after treatment. Mother and daughter queens present post treatment are not uncommon.

Colonies are expected to expand the cluster as part of controlling vapour concentration during the first 3 days of treatment; bearding behaviour may be observed.

#### Special precautions to be taken by the person administering the veterinary medicinal product to animals.

When handling and applying the product, wear the usual beekeeping protective clothing. Have water readily available.

In case of accidental eye contact, rinse immediately with plenty of water and seek medical advice and show the package leaflet to the physician.

Avoid contact with skin by wearing chemical resistant gloves (EN 374). In case of accidental skin contact, wash the exposed skin immediately with water and seek medical advice if irritation persists.

Avoid inhalation of vapour. Only open the product container and unwrap strips outdoors, standing upwind of the product. In case of accidental inhalation move to fresh air and seek medical advice if irritation persists.

Keep children well away during application of product. Do not eat, drink or smoke whilst handling and applying the product.

Always wash hands with soap and water directly after use.

#### Interaction with other medicinal products and other forms of interaction

Do not use with other acaricides against varroosis.

#### Overdose

The use of higher dose than recommended could lead to excessive brood loss, adult bee mortality, queen loss, and/or absconding. In case of overdose, increase hive ventilation by creating additional entrances from top to bottom. Do not remove product from hive as this may cause additional stress to the colony. Check for presence of queen 2 weeks after application.

#### Other precautions:

This product is corrosive. Do not allow product to contact metal surfaces.