Summary of Product Characteristics

1 NAME OF THE VETERINARY MEDICINAL PRODUCT

API-Bioxal, 886 mg/g powder for in-hive use

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each gram contains:

Active substance:
Oxalic acid dihydrate 886 mg (equal to 632.70 mg of anhydrous)

For a full list of excipients, see section 6.1

3 PHARMACEUTICAL FORM

Powder for in-hive use.
White fine powder.

4 CLINICAL PARTICULARS

4.1 Target Species

Honey bees *(Apis mellifera*)

4.2 Indications for use, specifying the target species

Bees (*Apis mellifera*)
Treatment of varroosis (*Varroa destructor*, parasite of *Apis mellifera*).

4.3 Contraindications

None

4.4 Special warnings for each target species

For greatest efficacy, the product should only be used when the quantity of brood in the colony is non-existent or at its lowest levels. Oxalic acid does not penetrate wax so will not kill mites within capped brood and therefore the presence of brood may noticeably reduce the efficacy of the product. As such, the product should be used in winter or following manipulation of the colony to produce a broodless state in summer (e.g. by queen caging). With regard to summer treatments following queen caging, highest levels of efficacy were achieved when a caging period of at least 25 days was used, at which point the colonies were completely broodless. Despite proper treatment, seriously damaged colonies may not survive due to the effects of varroa infestation.

Integrated Pest Management
The efficacy may vary between colonies due to the conditions of use (residue presence of brood, temperature, reinfestations etc.). The product should therefore be used as a treatment amongst others within an Integrated Pest Management program, and mite drop regularly monitored.

4.5 Special precautions for use

Special precautions for use in animals
Administer the treatment without supers. All colonies in the same apiary should be treated simultaneously to avoid reinfestations. Avoid disturbance to the hives during the days after the treatment. Use of the sublimation method of administration is not recommended in summer.

Special precautions to be taken by the person administering the veterinary medicinal product to animals
Because of possible contact dermatitis and irritation of the skin, eyes and respiratory tract, direct skin and, eye contact and inhalation of the powder should be avoided. When handling the powder (both during vaporisation phase and pre-treatment phases) wear protective mask conforming to European Standard EN149 (type FFP2), gloves and protective glasses. After application, wash hands and the material being in contact with the product with soap and water. In case of skin contact, wash thoroughly the affected area with soap and water. In case of eye contact, wash the eyes thoroughly with copious amounts of clean running water and seek medical advice. Do not inhale. In case of accidental inhalation, breathe fresh air. If the individual has difficulty breathing seek immediate medical advice and show the product label. In case of ingestion, don’t induce vomiting and seek medical advice and show the doctor this warning. Do not eat, drink or smoke while handling the product.

4.6 Adverse reactions (frequency and seriousness)

The colony may become slightly agitated during treatment. Increased adult bee mortality may be observed after treatment with the product.

4.7 Use during pregnancy, lactation or lay

Not applicable

4.8 Interaction with other medicinal products and other forms of interaction

Do not use simultaneously with other acaricides.

4.9 Amounts to be administered and administration route

In-hive use, the product must be used as follows:

A) Posology and method of administration by trickling:
Open the sachet wearing proper protective mask, gloves and glasses. Pour all the powder in the indicated amount of syrup (water and sucrose in a 1:1 ratio) and mix until dissolution. Concentration of the solution: 4,2 % w/v oxalic acid in 60 % w/v sucrose syrup (i.e. one bag of 35 g in 500 ml sucrose syrup that is constituted with 308 ml of water and 308 g of sucrose).

- sachet 35 g: dissolve in 500 ml of syrup (treatment for around 10 beehives).
- sachet 175 g: dissolve in 2.5 l of syrup (treatment for around 50 beehives).
- sachet 350 g: dissolve in 5.0 l of syrup (treatment for around 100 beehives).

The treatment should be made in a single administration. The dosage required is 5 ml per seam (gap between top bars of frames) of bees. The product should be administered using a syringe along the length of each seam of bees. Maximal dose is 50 ml per hive. Up to two treatments per year (winter and/or spring-summer season).

B) Posology and method of administration by vaporisation
Use an electric resistance device for vaporisation. Fill the pan of the vaporizer with 2.3 g of the product. Place the appliance through the entrance of the hive under the bees, avoiding contact with the honey combs. Seal the entrance of the hive to avoid escape of the bees and smoke. Turn on the vaporizer following the manufacturer's instructions for about 3 minutes and keep the hive shut for another 15 minutes. Cool down and clean the vaporizer after use to remove possible residue (max 6 %, around 0.140 g). Use drinkable water for cooling and/or cleaning. Maximal dose 2.3 g per hive as a single administration. One treatment per year.

It is recommended to follow manufacture's instructions in order to achieve maximum sublimation.

4.10 Overdose (symptoms, emergency procedures, antidotes), if necessary

Significantly higher bee mortality was observed in hives that received double (by sublimation) or triple (by trickling) dosages of product. In addition, when overdosed, the over-wintering capacity of colonies was diminished and there may be detrimental effects on colony development in the future.

4.11 Withdrawal Period(s)

Honey: Zero days.
Do not treat hives with super in position or during honey flow.

5 PHARMACOLOGICAL or IMMUNOLOGICAL PROPERTIES

Pharmacotherapeutical group: Ectoparasiticides for topical use, Incl. insecticides, organic acids, oxalic acid
ATCvet Code QP53AG03

5.1 Pharmacodynamic properties

Oxalic acid is highly effective against phoretic varroa mites. Studies on the mode of action of oxalic acid have indicated that its low pH is a major contributor to the acaricidal effect. Oxalic acid has been shown to concentrate on mite legs and the edges of the exoskeleton, but none was detected in the alimentary system of mites. Therefore, mites are thought to receive the acid by contact.

5.2 Pharmacokinetic properties

Oxalic acid, the active ingredient of the product, is a natural honey constituent and its concentration in honey depends on the botanical source. No increase of oxalic acid residues over the natural content of honey is to be expected as a consequence of proper product administration. After product treatments, oxalic acid distributes into the anatomic structures of honeybees where its concentrations rises temporarily. When 4.2 % oxalic acid (in 60 % sucrose syrup) was administered by trickling, peak contamination of worker bees occurred within 4 days post-treatment, declining to 9 % and 2 % of the maximum value at 7 and 11 days post-treatment, respectively. Oxalic acid was detected in the alimentary system and haemolymph of bees. Administration of oxalic acid by sublimation resulted in lower intestinal levels and a faster decline of total levels compared to trickling.

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Colloidal silica hydrate
Glucose monohydrate

6.2 Incompatibilities

In the absence of compatibility studies, this veterinary medicinal product should not be used simultaneously with other acaricides.

6.3 Shelf-life

Shelf-life of the veterinary medicine as packaged for sale: 3 years.
Shelf-life after first opening the immediate packaging: 3 months.
Shelf-life after dissolution according to directions: 24 hours

6.4 Special precautions for storage

Do not refrigerate or freeze.
Store in the original packaging, tightly closed, in order to protect from light and moisture.
Store away from foodstuffs.
Do not use this veterinary medicinal product after the expiry date which is stated on the label after EXP. The expiry date refers to the last day of that month.

6.5 Nature and composition of immediate packaging

Multilayer polyester-Aluminium-Polyethylene laminated bags, heat sealed, containing 35 g, 175 g and 350 g of powder.
Available in pack sizes of 1 x 35 g, 1 x 175 g and 1 x 350 g.
Not all pack sizes may be marketed.

6.6 Special precautions for the disposal of unused veterinary medicinal products or waste materials

Any unused veterinary medicinal product or waste materials derived from such veterinary medicinal products should be disposed of in accordance with local requirements.
The product should not be allowed to contaminate water courses as this may be dangerous for fish and other aquatic organisms.

7 MARKETING AUTHORISATION HOLDER

Chemicals Laif S.P.A.
Viale dell ’Artigianato 13 - Vigonza (PD)
35010
Italy

8 MARKETING AUTHORISATION NUMBER(S)

VPA 10388/001/001

9 DATE OF THE FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

Date of first authorisation: 7th April 2017

10 DATE OF REVISION OF THE TEXT