

## 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 35g: dissolve in 500 ml of syrup (treatment for around 10 beehives).
- sachet 175g: dissolve in 2.5 l of syrup (treatment for around 50 beehives).
- sachet 350g: 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 2.3g 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

Don't treat hives with super in position or during honey flow.

## **5. PHARMACOLOGICAL IMMUNOLOGICAL PROPERTIES**

Pharmacotheapeutic 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 particulars**

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 product or waste materials derived from the use of such products**

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.

V.le dell'Artigianato n° 13

35010 Vigonza (PD), Italy

**8. MARKETING AUTHORISATION NUMBER(S)**

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**9. DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION**

Date of the first authorisation: 24/06/2011

**10. DATE OF REVISION OF THE TEXT**

May 2016

**PROHIBITION OF SALE, SUPPLY AND/OR USE**

Not pertinent

**DISTRIBUTION PATTERN OF DRUG**

The sale is not only reserved to the chemist's and the product does not need to be sold by veterinary prescription

## PACKAGE LEAFLET AND LABELLING FOR:

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

### 1. NAME AND ADDRESS OF THE MARKETING AUTHORISATION HOLDER

CHEMICALS LAIF S.P.A.

Viale dell'Artigianato 13

35010 Vigonza (PD), Italy

### NAME AND ADDRESS OF THE MANUFACTURING AUTHORISATION HOLDER RESPONSIBLE FOR BATCH RELEASE

CHEMIFARMA SPA

Via Don Eugenio Servadei, 16

47100 Forlì (FC), Italy

### 2. NAME OF THE VETERINARY MEDICINAL PRODUCT

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

### 3. STATEMENT OF THE ACTIVE SUBSTANCE(S) AND OTHER INGREDIENT(S)

Powder for in-hive use.

White fine powder.

Each gram contains:

#### Active substance:

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

### 4. INDICATION(S)

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

### 5. CONTRAINDICATIONS

None

### 6. ADVERSE REACTIONS

The colony may become slightly agitated during treatment. Increased adult bee mortality may be observed after treatment with the product. If you notice any serious effects or other effects not mentioned in this leaflet, please inform a veterinary surgeon.

### 7. TARGET SPECIES

Honeybees (*Apis mellifera*)

### 8. DOSAGE FOR EACH SPECIES, ROUTE(S) AND METHOD OF ADMINISTRATION

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 )".

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## **B) Posology and method of administration by vaporization:**

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

## **9. ADVICE ON CORRECT ADMINISTRATION**

Not pertinent

## **10. WITHDRAWAL PERIOD**

Honey: Zero days

Don't treat hives with super in position or during honey flow.

## **11. SPECIAL STORAGE PRECAUTIONS**

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.

## **12. SPECIAL WARNING(S)**

**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.

## **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 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. Keep out of sight and reach of children.

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

Do not use simultaneously with other acaricides.

#### **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.

#### **Incompatibilities**

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

#### **13. SPECIAL PRECAUTIONS FOR THE DISPOSAL OF UNUSED PRODUCT OR WASTE MATERIALS, IF ANY**

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 watercourses, as this may be dangerous for fish and other aquatic organisms.

#### **14. THE WORDS “FOR ANIMAL TREATMENT ONLY” AND CONDITIONS OR RESTRICTIONS REGARDING SUPPLY AND USE, IF APPLICABLE**

For animal treatment only.

The sale is not only reserved to the chemist's and the product does not need to be sold by veterinary prescription

#### **15. DATE ON WHICH THE PACKAGE LEAFLET WAS LAST APPROVED**

May 2016

#### **16. OTHER INFORMATION**

For any information about this veterinary medicinal product, please contact the marketing authorisation holder

#### **17. MARKETING AUTHORISATION NUMBER(S)**

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#### **18. MANUFACTURER'S BATCH NUMBER**

<Batch><Lot> {number}

#### **19. EXPIRY DATE**

<EXP {month/year}>

Shelf-life after first opening the immediate packaging: 3 months

Shelf-life after dissolution according to directions: 24 hours. Discard unused material.

#### **Packaging size: Not all pack sizes may be marketed**

- sachet of 35g
- sachet of 175g
- sachet of 350g