

## **SUMMARY OF PRODUCT CHARACTERISTICS**

### **1. NAME OF THE VETERINARY MEDICINAL PRODUCT**

K-FLOR 100 mg/ml Solution for use in drinking water for pigs

### **2. QUALITATIVE AND QUANTITATIVE COMPOSITION**

Each ml contains:

**Active substance:**

Florfenicol                    100 mg

For the full list of excipients, see section 6.1.

### **3. PHARMACEUTICAL FORM**

Solution for use in drinking water.  
Clear, colourless to yellow solution.

### **4. CLINICAL PARTICULARS**

#### **4.1 Target species**

Pigs

#### **4.2 Indications for use, specifying the target species**

In pigs:

Treatment and metaphylaxis at the group level where clinical signs are present of swine respiratory disease associated with *Actinobacillus pleuropneumoniae* and *Pasteurella multocida* susceptible to florfenicol. The presence of the disease should be established in the herd before initiating metaphylactic treatment.

#### **4.3 Contraindications**

Do not use in boars intended for breeding purposes.

Studies in rats have revealed evidence of potential adverse effects on the male reproductive system.

Do not use in cases of hypersensitivity to the active substance or to any of the excipient.

#### **4.4 Special warnings for each target species**

The treated pigs should be placed under special observation. On each of the five days of treatment, unmedicated drinking water should not be given until the full daily amount of medicated drinking water has been ingested by pigs.

If there are no signs of improvement after three days of treatment, the diagnosis should be reviewed and, if necessary, the treatment changed.

#### **4.5 Special precautions for use**

##### Special precautions for use in animals

The veterinary medicinal product should be used in conjunction with susceptibility testing.

Use of the product deviating from the instructions given in the SPC may increase the prevalence of bacteria resistant to the florfenicol.

Official and local antimicrobial policies should be taken into account when the product is used.

Treatment should not exceed 5 days.

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

Florfenicol and polyethylene glycol may cause hypersensitivity (allergy).

People with known hypersensitivity to florfenicol or polyethylene glycols should avoid contact with the veterinary medicinal product.

This product may cause skin and eye irritation.

In case of accidental spillage onto skin rinse with water. In case of contact with eyes, rinse immediately with copious amounts of water.

Personal protective goggles should be worn when handling the veterinary medicinal product.

Medical advice should be sought if irritation persists.

##### Other precautions

In order to prevent any adverse effects on algae and possible contamination of groundwater, manure from treated pigs must not be spread onto land without dilution with manure from untreated pigs. Manure from treated pigs must be diluted with at least 5 times the weight of manure from untreated pigs before it can be spread onto arable land.

#### **4.6 Adverse reactions (frequency and seriousness)**

A slight reduction of water consumption by the animals, dark brown faeces and constipation may be observed during treatment, very commonly.

Diarrhoea and/or peri-anal and rectal erythema/oedema may occur very commonly (may affect approximately 40% of the animals). These effects are transient. In a few of the affected animals, prolapse of the rectum, that resolves without treatment may be observed.

Neurological signs and death can be observed in the animals treated on rare occasions. In that case withdraw the treatment immediately

The frequency of adverse reactions is defined using the following convention:

- very common (more than 1 in 10 animals treated displaying adverse reaction(s))
- common (more than 1 but less than 10 animals in 100 animals treated)
- uncommon (more than 1 but less than 10 animals in 1,000 animals treated)
- rare (more than 1 but less than 10 animals in 10,000 animals treated)
- very rare (less than 1 animal in 10,000 animals treated, including isolated reports).

#### **4.7 Use during pregnancy, lactation or lay**

Studies in laboratory animals have not revealed any evidence of potential embryotoxic or foetotoxic effect of florfenicol.

The safety of the veterinary medicinal product in sows has not been established during pregnancy and lactation.

The use is not recommended during pregnancy and lactation.

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

No data available.

#### **4.9 Amounts to be administered and administration route**

In drinking water use.

10 mg florfenicol per kg bodyweight per day in drinking water for 5 consecutive days. Based on the recommended dose, and the number and weight of the animals to be treated, the exact daily amount of the veterinary product should be calculated according to the following formula:

$$\frac{\text{X ml veterinary product/ kg b.w./day} \times \text{Mean body weight (kg) of animals to be treated}}{\text{Mean daily water consumption (litre) per animal}} = \text{X ml veterinary product per litre drinking water}$$

The appropriate quantity of medicated water should be prepared based on the daily water consumption. To ensure a correct dosage body weight should be determined as accurately as possible. In order to avoid under- and over-dosing, treated animals should be divided into groups of similar bodyweight and the dose should be calculated for each group individually.

#### **For Bulk Tank:**

To treat pigs drinking 10% of their bodyweight, at the dose of 10 mg/kg: add the florfenicol solution to the drinking water in the bulk tank. Use one bottle (500 ml) of florfenicol solution for every 500 L of water, one bottle (1L) of florfenicol solution for every 1000 L of water or use one barrel (5L) of florfenicol solution for every 5000 L of water and mix thoroughly.

### For Proportioner:

To treat 5,000 kg of pigs, drinking 10% of their bodyweight, at the dose rate of 10 mg/kg:

1. Empty the content of one bottle/barrel of florfenicol solution in the proportioner and dilute with drinking water as follows:

Bottle/Barrel	Amount of drinking water
500 ml	50 L
1L	100 L
5L	500 L

2. Mix thoroughly.
3. Set the proportioner on 10%
4. Turn on the proportioner.

### Warnings:

Solutions with concentrations higher than 1.2 g of florfenicol per litre may precipitate. Do not use the product with chlorinated water.

The uptake of medicated water depends on several factors including the clinical state of the animals and local conditions such as ambient temperature and humidity. In order to obtain the correct dosage water uptake has to be monitored and the concentration of florfenicol has to be adjusted accordingly. If however it is not possible to obtain sufficient uptake of medicated water animals should be treated parenterally.

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

In case of overdosing, a decrease in weight gain, food and water consumption, perianal erythema and oedema and modification of some haematological and biochemical parameters indicative of dehydration may be observed.

### 4.11 Withdrawal period(s)

Meat and offal: 20 days

## 5. PHARMACOLOGICAL PROPERTIES

Pharmacotherapeutic group: Antimicrobials for systemic use, amphenicols.  
ATCvet code: QJ01BA90

### 5.1 Pharmacodynamic properties

Florfenicol is a broad-spectrum synthetic antibiotic in the phenicol group that is active against most Gram-positive and Gram-negative bacteria isolated from domestic animals. Florfenicol acts by inhibition of protein synthesis at the ribosomal level and is bacteriostatic. However, bactericidal activity has been demonstrated *in-vitro* against *Actinobacillus pleuropneumoniae* and *Pasteurella multocida* for florfenicol.

The latest registered data of florfenicol in the CLSI is from the year 2013 (CLSI VET01-A4 with the supplement VET01-S3-2013) indicating the following data:  $\leq 2 \mu\text{g} / \text{ml}$  (S),  $4 \mu\text{g} / \text{ml}$  (I) and  $\geq 8 \mu\text{g} / \text{ml}$  (R).

In addition, the report published by the Medicines Agency of the Czech Republic (Státní veterinární správa) entitled *Národní program sledování rezistencí k antimikrobikům u veterinárně významných patogenů*, Informační bulletin č. 4/2017, shows that in studies conducted on infected *P. multocida* pigs during 2015 and 2016, for a total of 72 isolates, almost 100% of the strains were sensitive to florfenicol.

Acquired resistance to florfenicol is associated with several genes, including FloR which encodes an efflux pump.

## 5.2 Pharmacokinetic particulars

After administration to pigs by gavage at 15 mg/kg under experimental conditions, absorption of florfenicol was variable but peak serum concentrations of approximately 5  $\mu\text{g}/\text{ml}$  were reached approximately 2 hours after dosing. The terminal half-life was between 2 and 3 hours. When pigs were given free access, for 5 days, to water medicated with the veterinary medicinal product at a concentration of 100 mg florfenicol per litre of water, serum concentrations of florfenicol exceeded 1  $\mu\text{g}/\text{ml}$  for the entire 5 day treatment period except for a couple of short excursions below 1  $\mu\text{g}/\text{mL}$ .

After absorption and distribution, florfenicol is extensively metabolised by pigs and rapidly eliminated, primarily in urine.

After parenteral dosing of florfenicol to pigs, it has been shown that lung concentrations are similar to serum concentrations.

## 6. PHARMACEUTICAL PARTICULARS

### 6.1 List of excipients

Macrogol 300

### 6.2 Major incompatibilities

In the absence of compatibility studies, this veterinary medicinal product must not be mixed with other veterinary medicinal products.

### 6.3 Shelf life

Shelf life of the veterinary medicinal product as packaged for sale: 18 months

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

Shelf life after dilution or reconstitution according to directions: 24 hours

### 6.4 Special precautions for storage

Do not store above 25°C.

## **6.5 Nature and composition of immediate packaging**

Pack sizes: Bottles of 500 ml and 1L and barrels of 5L.  
Containers: White high-density polyethylene (HDPE) bottles and barrels  
Closures: HDPE screw cap with induction sealing.  
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 product should be disposed of in accordance with local requirements. Flortek/K-Flor 100 mg/ml should not enter water courses as this may be dangerous for fish and other aquatic organisms.

## **7. MARKETING AUTHORISATION HOLDER**

Laboratorios Karizoo S.A.  
Polígono Industrial La Borda  
Mas Pujades 11-12  
08140 Caldes de Montbui  
Barcelona  
Spain

## **8. MARKETING AUTHORISATION NUMBER**

Vm 31223/4003

## **9. DATE OF REVISION OF THE TEXT**

May 2019

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

For animal treatment only.  
To be supplied only on veterinary prescription

Approved: 03 May 2019