SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE VETERINARY MEDICINAL PRODUCT

Phenoxypen Water Soluble Powder, 325 mg/g powder for oral solution for chickens

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Per gram:

Active substance:

Phenoxymethylpenicillin	293 mg
equivalent to potassium phenoxymethylpenicillin	325 mg

Excipient:
For the full list of excipients, see section 6.1.

3. PHARMACEUTICAL FORM

Powder for oral solution.
White to off-white powder.

4. CLINICAL PARTICULARS

4.1 Target species

Chickens.

4.2 Indications for use, specifying the target species

Prevention of mortality at a group level from necrotic enteritis in chickens caused by *Clostridium perfringens* susceptible to phenoxymethylpenicillin.

4.3 Contraindications

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

4.4 Special warnings for each target species

The administration of the product may lead to an increase in medicated water consumption.

4.5 Special precautions for use

Special precautions for use in animals

Use of the product should be based on susceptibility testing of the bacteria isolated from chickens that have already died on the farm.
The product should not be used to compensate for poor hygiene and management of the chicken houses.

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

Phenoxymethylpenicillin may cause hypersensitivity reactions after injection, inhalation, oral ingestion, skin or eye contact. Hypersensitivity to phenoxymethylpenicillin may lead to cross-sensitivity to other penicillins and cephalosporins, and vice versa. Allergic reactions caused by these substances can sometimes be serious.

In case of accidental ingestion or serious symptoms of hypersensitivity reactions such as skin rash following exposure, swelling of the face, lips or eyes or difficulty with breathing, seek medical advice immediately and show the package leaflet to the physician.

People with known hypersensitivity to penicillins or cephalosporins should avoid contact with the veterinary medicinal product. In case of development of hypersensitivity symptoms following exposure to the product, all further contact with the product (and other medicines containing other penicillins or cephalosporins) should be avoided.

Handle this product with great care to avoid exposure, taking all recommended precautions. Wear protective clothing, impervious gloves and either a disposable half mask respirator conforming to European Standard EN149 or a non-disposable respirator conforming to European Standard EN140 with a filter to EN 143 when mixing and handling the product. Wash hands immediately after handling the product.

4.6 Adverse reactions (frequency and seriousness)

Although no adverse reactions have been seen after the administration of the product, penicillins may cause vomiting, diarrhoea and alter gut flora with selecting resistant bacteria.

4.7 Use during pregnancy, lactation or lay

Studies in laboratory animals and humans have not produced any evidence of effects on reproductive function or foetal development.

4.8 Interaction with other medicinal products and other forms of interaction

Do not combine with bacteriostatic antibiotics.

4.9 Amounts to be administered and administration route

13.5 – 20 mg phenoxymethylpenicillin per kg of body weight per day,
corresponding with,46 – 68 mg of the product per kg of body weight per day,
for 5 days.

Method of administration: oral use, dissolve in drinking water and use within 12 hours. The maximum solubility is 250 g of the product per litre of drinking water.

The following calculation should be made to determine the quantity in gram of the product to be added in 1000 litres of water:

$$\frac{\text{mg product/ kg body weight/day x mean body weight of individual animals (kg) x number of animals}}{}$$

total water consumption of the house (litres) at the previous day

= mg product/l = g product/1000 l water

In dispensing the weight of the product to be used, the use of calibrated weighing equipment is recommended.
Taking into account that sick animals may drink less, it is recommended to start therapy with the higher dose, to compensate for a possible lower intake of medicated water.
To ensure correct dosage, the body weight of the animals should be determined as accurately as possible to avoid underdosing.
No other source of drinking water should be available during the medication period.
In cases of altered drinking water consumption in poultry, the concentration should be adjusted so that the recommended dosage is achieved.

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

Phenoxymethylpenicillin has a high therapeutic index. The administration of the medicated drinking water at two and five times the recommended therapeutic dose for twice the recommended duration of treatment did not reveal any adverse effects. In some individuals, administration of five times the recommended therapeutic dose for twice the recommended duration of treatment led to an increase in water consumption, a decrease in feed intake and watery faeces.

4.11 Withdrawal period(s)

Meat and offal: 2 days.
Eggs: zero days.

5. PHARMACOLOGICAL PROPERTIES

Pharmacotherapeutic group: Beta-lactam antibacterials, penicillins

ATCvet-code: QJ01CE02

5.1 Pharmacodynamic properties

Phenoxymethylpenicillin is a narrow-spectrum penicillin with activity mainly against gram-positive bacteria.

Phenoxymethylpenicillin as all other penicillins, exerts a bactericidal action on bacteria during the stage of active multiplication. It forms an irreversible binding to penicillin-binding-proteins (PBPs), enzymes that facilitate the formation of cross-links of peptidoglycan chains in the synthesis of the bacterial cell wall. This results in abnormal cell growth and cytolysis of the cell.

Phenoxymethylpenicillin is an acid-stable derivate of benzylpenicillin and has a largely comparable spectrum of activity.

Development of resistance is mainly based on the formation of beta-lactamase, an enzyme that breaks open the beta-lactam ring, rendering the antibiotic ineffective. Cross resistance exists between phenoxymethylpenicillin and other beta-lactam antibiotics.

Minimum Inhibitory Concentrations (MICs) of phenoxymethylpenicillin were determined against *Clostridium perfringens* isolates from clinical cases of necrotic enteritis in chickens during 1998 and 1999. The MIC for *C. perfringens* isolated from faeces, liver and caecum samples were < 0.01 – 0.05 µg/ml.

5.2 Pharmacokinetic particulars

The most important advantage of phenoxymethylpenicillin in comparison with penicillin G is that it is more stable in an acid environment and it is therefore better absorbed from the gastrointestinal tract.
Following oral use, phenoxymethylpenicillin for the most part escapes decomposition by gastric juices, as it is stable at a low pH.
Phenoxymethylpenicillin is well distributed over most of the tissues, leading to a high concentration in the kidneys and the liver. Phenoxymethylpenicillin is partially decomposed in the gastrointestinal tract. A small portion of the absorbed amount is metabolised in the body. For the most part, phenoxymethylpenicillin is excreted in unaltered active form in urine and faeces.

Following a single administration of the product in poultry at a dose of 15 mg of phenoxymethylpenicillin potassium/kg bodyweight by oral gavage, maximum plasma concentrations of 0.40 ± 0.15 mg/l are achieved within 1.7 ± 1.0 hours after administration. Phenoxymethylpenicillin is well absorbed and has an absolute bioavailability of 69%.

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Lactose monohydrate

6.2 Major incompatibilities

Do not mix with any other veterinary medicinal products.
Contact of penicillin containing solutions with metals and the use of metal systems for their administration is known to adversely influence penicillin stability. Therefore such systems should be avoided and they should not be used for the storage of solutions.

6.3 Shelf life

Shelf life of the veterinary medicinal product as packaged for sale:
- Securitainer: 3 years.
- Composite can: 3 years.
- Bucket: 2 years.

Shelf life after first opening of the immediate packaging: 3 months.
Shelf life after reconstitution in drinking water according to directions: 12 hours.

6.4 Special precautions for storage

Store below 25 ºC.
Do not refrigerate or freeze.
Protect from frost.
Store in the original package.

6.5 Nature and composition of immediate packaging

- Securitainer: white PP cylindrical container, with white HDPE/LDPE closure, with thumb-tab for opening. This type of container has two different sizes (650 ml, 1875 ml) with a content of 250 g, 1000 g product respectively.
- Composite can: three-layered rectangular container, which consists of a cardboard base with an inner lining of aluminium-paper and with label on the outside. This type of container has a content of 1 kg of product.
- Bucket: white polypropylene bucket provided with a polypropylene lid. The bucket contains 1, 2.5 or 5 kg of product.

Not all pack sizes may be marketed

6.6 Special precautions for the disposal of unused veterinary medicinal products 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.

7. MARKETING AUTHORISATION HOLDER

Dopharma Research B.V.
Zalmweg 24
4941 VX Raamsdonksveer
The Netherlands

8. MARKETING AUTHORISATION NUMBER

Vm 28365/4000

9. DATE OF THE FIRST AUTHORISATION

15 December 2006

10. DATE OF REVISION OF THE TEXT

July 2020

Approved: 07 July 2020