PHENOXYPEN ®

TECHNICAL BULLETIN 2026

Solubility, stability and practical application of Phenoxypen® in drinking water

Phenoxymethylpenicillin (*penicillin V*) is a white, crystalline powder. It dissolves very well in water. Phenoxypen® contains 293 mg phenoxymethylpenicillin equivalent to 325 mg potassium phenoxymethylpenicillin. The solubility of the product is 250 g/liter water.

This amount dissolves quickly within one minute, even in hard water, and results in a clear/transparent, colorless solution without any precipitation. The pH at maximum solubility ranges between 6.0 – 7.4 dependent on the pH of the drinking water. Medicated drinking water should be refreshed every 12 hours.

Practical administration

Phenoxypen® is indicated for treatment and metaphylaxis of infections, caused by *Streptococcus suis* in swine. The dosage is 15 mg phenoxymethylpenicillin per kg of body weight per day, corresponding to 51 mg of the product per kg of body weight (BW) per day, for five consecutive days. Streptococcal disease is most common in weaned piglets of 4-8 weeks of age. Piglets of this age have a body weight of approximately 7-20 kg and, dependent on the environmental circumstances, these animals have a daily water uptake of 15% of their bodyweight. Taking the dosage of 51 mg Phenoxypen®/kg BW into account, treatment and metaphylaxis via drinking water results in a concentration of 340 g Phenoxypen® per 1000 liter drinking water.

Phenoxypen® is indicated for treatment and metaphylaxis of infections, caused by Streptococcus suis in swine.

In modern swine production the use of dosing systems for the administration of medicated drinking water is common. These systems require the use of a concentrated stock-solution which is further diluted via the dosing system to the correct concentration of medicated drinking water. If, in this example, 340 g Phenoxypen® is needed for 1000 liter drinking water and if the dosing system is set at 1% this will result in a stock-solution of 340 g Phenoxypen® in 10 liter water.

A fresh stock-solution must be prepared twice a day. This may be achieved by dividing the total daily dose and the daily water consumption by 2 to reach the same concentration of medicated water as if calculated over 24 hours.

To assure that the stock solution is fully finished within 12 hours, usually only 90% of the calculated volume is used.

Dopharma

Step-by-step approach for correct use of Phenoxypen® via a dosing system

1. Calculate the total body weight of the target pigs as accurately as possible.
2. Calculate the daily amount of Phenoxypen® needed to treat all target pigs (0.051 g Phenoxypen® per kg body weight) and divide by 2.
3. Estimate the total daily drinking water intake of the target animals and divide by 2.
4. Calculate the volume of the stock-solution by multiplying the setting of the dosing system (%) by 90% of the volume calculated in step 3.
5. Add the amount of Phenoxypen® calculated at in step 2 to the volume of stock solution calculated in step 4. Stir the stock solution until all Phenoxypen® is dissolved. Start the dosing system.
6. Repeat step 1 to 5 every 12 hours for five consecutive days.
7. Clean the drinking water system after the treatment has ended.

Example calculation

- 444 piglets
- 15 kg body weight (BW)
- Setting of the dosing system at 1%

1. Total BW of the target pigs: 444 x 15 kg = 6660 kg BW
2. 6660 kg BW x 0,051 g Phenoxypen® / 2 = 170 g Phenoxypen® for every 12 hours.
3. 15% x 6660 kg BW / 2 = 500 liter water consumed during every 12 hours.
4. 1% x 90% x 500 liter = 4.5 liter stock solution for every 12 hours.
5. Add 170 g Phenoxypen® up to 4.5 liter stock solution.
   Stir the solution until it becomes clear. Start the dosing system.
6. Repeat step 1 to 5 every 12 hours for five consecutive days.
7. Clean the drinking water system.

V-april 2026

Scan the QR-code for more information.

Dopharma