1. NAME OF THE VETERINARY MEDICINAL PRODUCT

HYPERSOL 500 mg/g Powder for use in Drinking water

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each g of product contains:

Active substance :
Oxytetracycline (as hydrochloride) 500 mg

Excipient :

Qualitative composition of excipients and other constituents
Citric acid, anhydrous

Yellow powder for use in drinking water

3. CLINICAL INFORMATION

3.1. Target species

Chickens (broilers, breeding hens) and pigs.

3.2. Indications for use for each target species

Treatment and metaphylaxis at the group level of septicaemia, respiratory and gastrointestinal infections caused by bacteria sensitive to oxytetracycline.

The presence of disease in the group should be established before the veterinary medicinal product is used.
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3.3. Contraindications

Do not use in cases of hypersensitivity to oxytetracycline or any other substance from tetracyclines group.
Do not use in cases of known tetracycline resistance.

3.4. Special warnings

None.

3.5. Special precautions for use

Special precautions for safe use in the target species:

This powder should be dissolved in water, before use.

Use of the veterinary medicinal product should be based on identification and susceptibility testing of the target pathogen(s). If not possible, therapy should be based on local epidemiological information and knowledge of susceptibility of the target pathogens at farm level, or at local/regional level.

Use of the veterinary medicinal product should be in accordance with official, national and regional antimicrobial policies. Use of the veterinary medicinal product deviating from the instructions given in the SPC may increase the prevalence of bacteria resistant to the oxytetracycline and may decrease the effectiveness of treatment with tetracyclines, due to the potential for cross-resistance.

Prolonged or repeated use should be avoided as these practises can enforce development and spread of the bacterial resistance. This is particularly likely in enterobacteria and *Salmonella spp.*, many of which are already resistant.
As eradication of the target pathogens may not be achieved, medication should be combined with good management practices, e.g. good hygiene, proper ventilation, no overstocking.

Extensive resistance to oxytetracycline has been recognised in porcine and poultry isolates of strains form *E. Coli*, *Salmonella spp*., *Campylobacter spp*., and *Enterococcus spp*. The veterinary medicinal product should only be used where culture and sensitivity testing have demonstrated that it is likely to be effective.

Sick animals may have a reduced appetite and an altered drinking pattern and should, if necessary, be medicated parenterally.

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

People with known hypersensitivity to tetracyclines should avoid contact with the veterinary medicinal product.
Avoid inhaling dust when handling the veterinary medicinal product until complete solubilisation in water. Use in a well-ventilated area away from draughts.
Avoid contact with skin and eyes.
Personal protective equipment consisting of latex and nitrile gloves, eye protection dust mask (either a disposal half-mask respirator conforming to European Standard EN 149 or a non-disposable respirator to European Standard EN 140 with a filter to EN 143) and suitable protective clothing should be worn when handling the veterinary medicinal product. In case of accidental eye or skin contact, rinse the affected area with large amounts of clean water. If irritation occurs, seek medical advice immediately and show the label to the physician.
Swelling of the face, lips or eyes, or difficulty with breathing are more serious symptoms and require urgent medical attention.
Wash hands and contaminated skin immediately after handling the veterinary medicinal product.
Do not smoke, eat or drink while handling the veterinary medicinal product.

Special precautions for the protection of the environment:

Not applicable.

3.6. Adverse events

Chickens and pigs:

Very rare (<1 animal / 10,000 animals treated, including isolated reports):	Allergic and photosensitivity reactions[1]

Undetermined frequency (cannot be estimated from the available data).	Digestive tract disorder[1]

[1]Common effect for all tetracyclines.

Reporting adverse events is important. It allows continuous safety monitoring of a veterinary medicinal product. Reports should be sent, preferably via a veterinarian, to either the marketing authorisation holder or its local representative or the national competent authority via the national reporting system. See the package leaflet for respective contact details.

3.7. Use during pregnancy, lactation or lay

Laboratory studies in animals have not produced any evidence of embryotoxicity or teratogenic effects.

Pregnancy and lactation
In mammals, oxytetracycline passes the placental barrier, resulting in staining of teeth and slow foetal growth.
Tetracyclines are found in breast milk.

Use only according to the benefit/risk assessment by the responsible veterinarian.

3.8. Interaction with other medicinal products and other forms of interaction

Divalent or trivalent cations (Mg, Fe, Al, Ca) may chelate with tetracyclines. The tetracylines should not be administered with antacids, gels containing aluminium, preparations containing vitamins or minerals as insoluble complexes will be formed, which decreases the absorption of the antibiotic.

3.9. Administration routes and dosage

In drinking water use.

The uptake of medicated drinking water depends on the clinical and physiological conditions of the animals. In order to obtain the correct dosage, the concentration of oxytetracycline must be adjusted by calculating the required mean daily water consumption.
The duration of treatment is 3 to 5 days, for both chickens and pigs.
Dosing is presented in the following table:

Species	**Expressed in mg of oxytetracycline / kg of bodyweight / day**	**Expressed in mg of ORAL POWDER / 10 kg of bodyweight / day**	**Estimated water consumption (L / kg of bodyweight)**	**Expressed in mg of ORAL POWDER / L of drinking water**
Pigs	20 mg	400 mg of ORAL POWDER	1 L / 10 kg of bodyweight	400 mg of ORAL POWDER
Chickens	20 mg	400 mg of ORAL POWDER	1 L / 5 kg of bodyweight	200 mg of ORAL POWDER

Based on the recommended dose, and the number and weight of the animals to be treated, the exact daily amount of oxytetracycline should be calculated according to the following formula:

$$\frac{\text{mg of veterinary medicinal product / kg body weight / day} \times \text{average body weight (kg) of animals to be treated}}{\text{average daily water consumption (L/animal)}} = \text{mg veterinary medicinal product per litre of drinking water}$$

To ensure a correct dosage, body weight should be determined as accurately as possible.

The use of suitability calibrated weighing equipment is recommended if part packs are used. The daily amount is to be added to the drinking water such that all medication will be consumed in 24 hours. Medicated drinking water should be freshly prepared every 24 hours.

For full advantages of solubility qualities, it is recommended to prepare a concentrated pre-solution – approximately 400 grams veterinary medicinal product per litre drinking water – and to dilute this further to therapeutic concentrations if required. Alternatively, the concentrated solution can be used in a proportional water medicator.

3.10. Symptoms of overdose (and where applicable, emergency procedures and antidotes)

None known

3.11. Special restrictions for use and special conditions for use, including restrictions on the use of antimicrobial and antiparasitic veterinary medicinal products in order to limit the risk of development of resistance

Not applicable

3.12. Withdrawal periods

Pigs:
Meat and offal: 7 days

Chickens:
Meat and offal: 7 days
Eggs: not for use in laying birds producing eggs intended for human consumption

4. PHARMACOLOGICAL INFORMATION

4.1. ATCvet code
QJ01AA06.

4.2. Pharmacodynamics

The oxytetracycline links reversibly to the ribosomal subunit 30S receptors, this leading to a blockage of the union between aminoacyl-tRNA to the site corresponding to the mRNA-ribosome complex messenger.
It results in an inhibition of the protein synthesis and inhibits bacterial growth. The mainly bacteriostatic activity of oxytetracycline involves uptake of the substance into the bacterial cell which occurs by both passive and active diffusions. The main mechanism of resistance is due to the possible presence of a R factor responsible for a decrease in the active transport of oxytetracycline.

Oxytetracycline is a broad-spectrum antibiotic. It is mainly active against Gram-positive and Gram negative bacteria, aerobic and anaerobic, as well as against mycoplasma, the Chlamydia and Rickettsiae.

Acquired resistance to oxytetracycline has been reported. This resistance is usually of plasmid origin. Cross-resistance to other tetracyclines is possible. The prolonged or repeated use of oxytetracycline as well as continuous treatment with low doses of oxytetracycline may also cause increased resistance to other antibiotics due to potential co-resistance with other antimicrobials

Four resistance mechanisms acquired by microorganisms against tetracyclines in general have been reported: decreased accumulation of tetracyclines (decreased permeability of the bacterial cell wall and

active efflux), protein protection of the bacterial ribosome, enzymatic inactivation of the antibiotic and rRNA mutations (preventing the tetracycline binding ribosome).

4.3. Pharmacokinetics

The oral absorption of oxytetracycline is low. The mean values of oral absorption of oxytetraycline are 3-5% in pigs and 48% in turkeys.

This bioavailability can be reduced in the presence of food in the stomach as oxytetracycline leads to the formation of insoluble chelates with divalent or trivalent cations (Mg, Fe, Al, Ca).
In pigs, the influence of food is negligible on the bioavailability of oxytetracycline which is less than 5%.
The oxytetracycline binds variably to plasma proteins according to the species (75%). Its distribution is large. The oxytetracycline diffuses throughout the body, the highest concentrations have been found in the kidneys, liver, spleen and lungs. The oxytetracycline crosses the placental barrier.

Oxytetracycline is excreted unchanged mainly via urine. It is also excreted via bile but a high proportion of oxytetracycline is reabsorbed by the small intestine (enterohepatic cycle).

5. PHARMACEUTICAL PARTICULARS

5.1. Major incompatibilities

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

5.2. Shelf-life

Shelf life of the veterinary medicinal product as packaged for sale:
- 1 kg jar and 5 kg bucket: 2 years
- 5 kg and 10 kg bags: 18 months

Shelf life after first opening of the immediate packaging:
- 1 kg jar and 5 kg bucket: 6 months
- 5 kg and 10 kg bags: 3 months

Shelf life after dissolution in drinking water: 24 hours

5.3. Special precautions for storage

For 10 kg bag: Do not store above 25°C
For 1 kg jar, 5 kg bucket and 5 kg bag: These veterinary medicinal products do not require any special storage conditions.

5.4. Nature and composition of immediate packaging

- 1 kg jar: Jar made of high density polyethylene (in contact with the veterinary medicinal product) with a screw cap made of low density polyethylene / aluminium / cardboard operculum / polypropylene
- 5 kg bucket: internal bag made of low density polyethylene (in contact with the veterinary medicinal product) in a bucket made of polypropylene – cover made of polypropylene

- 5 kg bag: Bag made of polyethylene (in contact with the veterinary medicinal product / aluminium / polyamide)
- 10 kg bag: Bag made of low density polyethylene (in contact with the veterinary medicinal product) / paper / paper

Not all pack sizes may be marketed.

5.5. Special precautions for the disposal of unused veterinary medicinal products or waste materials derived from the use of such products, if appropriate

Medicines should not be disposed of via wastewater or household waste.
Use take-back schemes for the disposal of any unused veterinary medicinal product or waste materials derived thereof in accordance with local requirements and with any national collection systems applicable to the veterinary medicinal product concerned.

6. NAME OF MARKETING AUTHORISATION HOLDER

HUVEPHARMA SA

7. MARKETING AUTHORISATION NUMBER(S)

VPA10453/001/001

8. DATE OF FIRST AUTHORISATION

31/05/2013

9. DATE OF THE LAST REVISION OF THE SUMMARY OF THE PRODUCT CHARACTERISTICS

18/04/2025

10. CLASSIFICATION OF VETERINARY MEDICINAL PRODUCTS

Veterinary medicinal product subject to prescription.

Details information on his veterinary medicinal product is available in the Union Product Database (https://medicine.health.europa.eu/veterinary).