

Veterinary Package Insert

TP-DOXY 500MG/G POWDER (50% Doxycycline Hyclate)

PRODUCT DESCRIPTION

Yellow colour powder, which contains 50% of doxycycline hyclate in 500gm or 1kg sachet.

PHARMACODYNAMICS & PHARMACOKINETICS

Pharmacodynamics:

Doxycycline is a semisynthetic tetracycline derivative. It acts by inhibiting protein synthesis at the ribosomal level, predominantly by binding to the 30S ribosomal subunits of bacteria. Doxycycline is a broad-spectrum antibiotic. It exhibits a wide range of activity against gram-positive and gram-negative, aerobic and anaerobic pathogens, especially against *Pasteurella multocida* and *Mycoplasma hyopneumoniae* isolated from pig respiratory infections and *Mycoplasma gallisepticum* associated with clinical respiratory infections in chickens and turkeys.

Pharmacokinetics:

After oral administration to pigs, doxycycline is substantially absorbed from the gastrointestinal tract. The binding rate to plasma proteins is 93%. It is widely distributed in the organisms.

Pharmacokinetics of doxycycline after single oral administration to chickens is characterised by a quite rapid and substantial absorption from the gastrointestinal tract providing peak plasma concentrations between 0.4 and 3.3 hours depending on age and the presence of food.

Pharmacokinetics of doxycycline after single oral administration to turkeys is characterised by a quite rapid and substantial absorption from the gastrointestinal tract providing peak plasma concentrations between 1.5 and 7.5 hours depending on age and the presence of food. The protein binding ratio at therapeutic plasma concentrations is in the range of 70-85%. The bioavailability may vary between 25 and 64%, also depending on the age and feeding. The presence of food in the gastrointestinal tract determines a lower bioavailability compared to that obtained in the fasted state.

INDICATION

Pigs (fattening pigs after weaning):

Treatment of clinical respiratory infections caused by *Mycoplasma hyopneumoniae* and *Pasteurella multocida* susceptible to doxycycline.

Chickens (broilers, broiler breeders) and turkeys (broilers, breeders):

Treatment of clinical respiratory infections associated with *Mycoplasma gallisepticum* susceptible to doxycycline.

Route of Administration

Orally.

RECOMMENDED DOSAGE AND ADMINISTRATION

It is to be given orally. To be administered in drinking water.

In Pigs and Chickens:

23.1 mg doxycycline hyclate per kg of body weight daily (equivalent to 46.2 mg product per kg of body weight), administered in the drinking water for 5 consecutive days.

In Turkeys:

28.8 mg doxycycline hyclate per kg of body weight daily (equivalent to 57.6 mg product per kg of body weight), administered in the 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 product should be calculated according to the following formula:

$$\frac{\text{...g product per kg body weight per day}}{\text{Mean body weight (kg) animals to be treated}} \times \text{Mean daily water consumption (l) per animal} = \text{...g of product per l drinking water}$$

Mean daily water consumption (l) per animal

CONTRAINDICATIONS

Do not use in case of hypersensitivity to the active substance or to any of the excipients.

Do not use in animals with hepatic dysfunction.

WARNINGS & PRECAUTIONS.

Special precautions for use in animals

Inappropriate use of the product may increase the prevalence of bacteria resistant to tetracycline due to the potential for cross resistance.

Use of the product should be based on susceptibility testing and take into account official and local antimicrobial policies.

The safety of the product has not been established in piglets before weaning.

Avoid administration in oxidized drinking equipment.

Do not use when tetracycline resistance has been detected in the herd/flock due to the potential for cross resistance.

Due to variability (time, geographical) in susceptibility of bacteria for doxycycline, bacteriological sampling and susceptibility testing of micro-organisms from diseased birds on farm are highly recommended.

A high resistance rate of E.coli, isolated from chickens, against tetracyclines has been documented. Therefore the product should be used for the treatment of infections caused by E.coli only after susceptibility testing has been carried out.

As eradication of the target pathogens may not be achieved, medication should therefore be combined with good management practices, e.g. good hygiene, proper ventilation, no overstocking.

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

During preparation and administration direct contact of the product with the skin, eyes and mucous membranes and inhalation of dust particles should be avoided.

People with known hypersensitivity to tetracyclines should avoid contact with the veterinary medicinal product.

Wear protective gloves (e.g. rubber or latex), goggles and an appropriate dust mask (either a disposable half-mask respirator or a non-disposable respirator, when reconstituting or administering the solution. Wash exposed skin after preparation. In case of accidental projection into the eyes, rinse abundantly with water. Do not smoke, eat or drink when handling the product.

In case of accidental ingestion, seek medical advice immediately and show the package leaflet or the label to the physician. Inflammation of the face, lips or eyes or respiratory difficulties are the most serious signs which require urgent medical attention.

INTERACTIONS WITH OTHER MEDICATIONS

Do not administer concurrently with feed overloaded with polyvalent cations such as Ca²⁺, Mg²⁺, Zn²⁺ and Fe³⁺ because the formation of doxycycline complexes with these cations is possible. Do not administer together with antacids, kaolin and iron preparations as tetracyclines are bacteriostatic antimicrobials, do not administer in conjunction with bactericidal antibiotics like beta-lactams. It is advised that the interval between administration of other products containing polyvalent cations should be 1-2 hours because they limit the absorption of tetracycline.

Doxycycline increases the action of anticoagulants.

PREGNANCY AND LACTATION

Laboratory studies in rats and rabbits have not produced any evidence of a teratogenic, foetotoxic, maternotoxic effects.

The safety of the product has not been established in pregnant or lactating sows. The use is not recommended during pregnancy and lactation.

Do not use in birds in lay and within 4 weeks before the onset of the laying period.

ADVERSE EFFECTS

As for all tetracyclines, on rare occasions allergic reactions and photosensitivity may occur. If suspected adverse reactions occur, treatment should be discontinued.

OVERDOSE & TREATMENT

During the target animal tolerance study, no adverse effect was observed even at the fivefold therapeutic dose administered for two times the recommended duration in either target animal species.

If suspected toxic reactions do occur due to extreme overdose, the medication should be discontinued and appropriate symptomatic treatment should be initiated if necessary.

WITHDRAWAL PERIOD

Meat and offal: Pigs: 4 days
Chickens: 5 days
Turkeys: 12 days

Not permitted for use in laying birds producing eggs for human consumption.

MAXIMUM RESIDUAL LIMIT (MRL)

Substance	Food	Maximum Residue Limits in food µg/kg
Doxycycline	Muscle (poultry and pig)	100
	Liver (poultry and pig)	300
	Kidney	600

STORAGE CONDITION

Store below 30 °C. Protect from direct sunlight.

SHELF LIFE

2 years.

After 1st opening, reconstitution or dilution, use within 24 hours.

PACKING

500g

1kg

THYE PHARMA SDN. BHD.

(manufacturer & product registration holder)

No.2 Lorong Industri Ringan Permatang

Tinggi 8,

Kawasan Industri Ringan Permatang Tinggi,

14000 Bukit Mertajam,

Pulau Pinang.

Revised July 2022