# Felimazole® Diagnosis of feline hyperthyroidism

# Diagnosis of feline hyperthyroidism Created in collaboration with Samantha Taylor **BVetMed(Hons) CertSAM DipECVIM-CA MANZCVS FRCVS** Hyperthyroidism suspected based on history, physical examination findings Treat hypertension if identified Measure Total T4 plus basic biochemistry and haematology, +/- urinalysis Measure of systolic blood pressure (Doppler or oscillometric) Total T4 in lower half of reference interval +/- assessment for target organ damage (e.g. retinal examination) Hyperthyroidism is unlikely currently: **Total T4 above reference interval** Look for other causes of clinical signs before further tests for hyperthyroidism (e.g. gastrointestinal disease, Total T4 in upper half of hepatic/pancreatic disease) reference interval: Hyperthyroidism Early/mild hyperthyroidism possible, confirmed or hyperthyroidism present alongside other disease If patient stable, but signs of hyperthyroidism persist consider repeat assessment of Total T4 in 2-4 weeks **OR** Measure free T4\* (at external laboratory if previously measured in-house) if clinical signs still present Free T4 normal Free T4 elevated: **Total T4 above reference interval** Hyperthyroidism likely **Total T4 remains within** but consider comorbidities reference interval: (20% of euthyroid sick cats Hyperthyroidism unlikely or subclinical, have elevated free T4) look for other causes of clinical signs \* At this point TSH could also be assessed as if within the reference interval, hyperthyroidism is unlikely. If TSH is low hyperthyroidism is possible. Contact your diagnostic laboratory or Dechra Veterinary Products for further discussion



Dechra

# SUMMARY OF PRODUCT CHARACTERISTICS

# NAME OF THE VETERINARY MEDICINAL PRODUCT

Felimazole 2.5 mg Coated Tablets for Cats

### QUALITATIVE AND QUANTITATIVE COMPOSITION

Each tablet contains

### Active substance:

Thiamazole Excipients:

Titanium Dioxide (E171)

0.01 mg Erythrosine (E127) For a full list of excipients, see section 6.1.

# PHARMACEUTICAL FORM

Coated tablet.

Pink sugar-coated biconvex tablets, 5.5 mm diameter.

### CLINICAL PARTICULARS

### 4.1 Target species

### Indications for use, specifying the target species

For the stabilisation of hyperthyroidism in cats prior to surgical thyroidectomy. For the long-term treatment of feline hyperthyroidism.

### 4.3 Contraindications

Do not use in cats suffering from systemic disease such as primary liver disease or diabetes mellitus.

Do not use in cats showing signs of autoimmune disease.

Do not use in animals with disorders of white blood cells, such as neutropenia and lymphopenia.

Do not use in animals with platelet disorders and coagulopathies (particularly thrombocytopenia).

Do not use in cats with hypersensitivity to thiamazole or the excipient, polyethylene

Do not use in pregnant or lactating females.

Please refer to section 4.7.

### 4.4 Special warnings

As thiamazole can cause haemoconcentration, cats should always have access to drinking water.

### 4.5 Special precautions for use

### i.Special precautions for use in animals

If more than 10 mg per day is required animals should be monitored particularly carefully.

Use of the product in cats with renal dysfunction should be subject to careful risk: benefit assessment by the clinician. Due to the effect thiamazole can have on reducing the glomerular filtration rate, the effect of therapy on renal function should be monitored closely as deterioration of an underlying condition may occur.

Haematology must be monitored due to risk of leucopenia or haemolytic anaemia. Any animal that suddenly appears unwell during therapy, particularly if they are febrile, should have a blood sample taken for routine haematology and biochemistry. Neutropenic animals (neutrophil counts < 2.5 x 109/l) should be treated with prophylactic bactericidal antibacterial drugs and supportive therapy. Please refer to section 4.9 for monitoring instructions.

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

In the case of accidental ingestion, seek medical advice immediately and show the package insert or the label to the physician.

Thiamazole may cause vomiting, epigastric distress, headache, fever, arthralgia, pruritus and pancytopaenia. Treatment is symptomatic

Wash hands with soap and water after handling litter used by treated animals. Do not eat, drink or smoke while handling the tablet or used litter.

Do not handle this product if you are allergic to antithyroid products. If allergic symptoms develop, such as a skin rash, swelling of the face, lips or eyes or difficulty in breathing, you should seek medical attention immediately and show the package leaflet

Do not break or crush tablets.

As thiamazole is a suspected human teratogen, women of child-bearing age and pregnant women should wear gloves when handling litter of treated cats. Pregnant women should wear gloves when handling the product.

# Adverse reactions (frequency and seriousness)

Adverse reactions have been reported following long term control of hyperthyroidism. In many cases, signs may be mild and transitory and not a reason for withdrawal of treatment. The more serious effects are mainly reversible when medication is stopped. Adverse reactions are uncommon. The most common clinical side effects that are reported include vomiting, inappetance/anorexia, lethargy, severe pruritus and excoriations of the head and neck, bleeding diathesis and icterus associated with hepatopathy, and haematological abnormalities (eosinophilia, lymphocytosis, neutropenia, lymphopenia, slight leucopenia, agranulocytosis, thrombocytopenia or haemolytic anaemia). These side effects resolve within 7-45 days after cessation of thiamazole therapy.

Possible immunological side effects include anaemia, with rare side effects including thrombocytopenia and serum anti-nuclear antibodies, and, very rarely, lymphadenopathy can occur. Treatment should be stopped immediately and alternative therapy considered following a suitable period for recovery.

Following long-term treatment with thiamazole in rodents, an increased risk of neoplasia in the thyroid gland has been shown to occur, but no evidence is available in cats.

# 4.7 Use during pregnancy, lactation or lay

Laboratory studies in rats and mice have shown evidence of teratogenic and embryotoxic effects of thiamazole. The safety of the product was not assessed in pregnant or lactating cats. Do not use in pregnant or lactating females

# Interaction with other medicinal products and other forms of interaction

Concurrent treatment with phenobarbital may reduce the clinical efficacy of thiamazole. Thiamazole is known to reduce the hepatic oxidation of benzimidazole wormers and may lead to increases in their plasma concentrations when given concurrently. Thiamazole is immunomodulatory, therefore this should be taken into account when considering vaccination programmes

### 4.9 Amounts to be administered and administration route

For oral administration only.

For the stabilisation of feline hyperthyroidism prior to surgical thyroidectomy and for the long term treatment of feline hyperthyroidism, the recommended starting dose is 5 mg per day. Wherever possible, the total daily dose should be divided into two and administered morning and evening. Tablets should not be split.

If, for reasons of compliance, once daily dosing with a 5 mg tablet is preferable, then this is acceptable although the 2.5 mg tablet given twice daily may be more efficacious in the short term. The 5 mg tablet is also suitable for cats requiring higher dose rates. Haematology, biochemistry and serum total T4 should be assessed before initiating treatment and after 3 weeks, 6 weeks, 10 weeks, 20 weeks, and thereafter every 3 months. At each of the recommended monitoring intervals, the dose should be titrated to effect according to the total T4 and to clinical response to treatment. Dose adjustments should be made in increments of 2.5 mg and the aim should be to achieve the lowest possible dose rate.

If more than 10 mg per day is required animals should be monitored particularly carefully.

The dose administered should not exceed 20 mg/day.

For long term treatment of hyperthyroidism the animal should be treated for life.

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

In tolerance studies in young healthy cats, the following dose-related clinical signs occurred at doses of up to 30 mg/animal/day: anorexia, vomiting, lethargy, pruritus and haematological and biochemical abnormalities such as neutropenia, lymphopenia reduced serum potassium and phosphorus levels, increased magnesium and creatinine levels and the occurrence of anti-nuclear antibodies. At a dose of 30 mg/day some cats showed signs of haemolytic anaemia and severe clinical deterioration. Some of these signs may also occur in hyperthyroid cats treated at doses of up to 20 mg per day. Excessive doses in hyperthyroid cats may result in signs of hypothyroidism. This is however unlikely, as hypothyroidism is usually corrected by negative feedback mechanisms. Please refer to Section 4.6 Adverse reactions.

If overdosage occurs, stop treatment and give symptomatic and supportive care.

### 4.11 Withdrawal periods

Not applicable

### PHARMACOLOGICAL PARTICULARS

Pharmacotherapeutic group: antithyroid preparations: sulphur-containing imidazole

ATC Vet Code: QH03BB02

# 5.1 Pharmacodynamic properties

Thiamazole acts by blocking the biosynthesis of thyroid hormone in vivo. The primary action is to inhibit binding of iodide to the enzyme thyroid peroxidase, thereby preventing the catalysed iodination of thyroglobulin and T3 and T4 synthesis.

### Pharmacokinetic particulars

Following oral dosing in healthy cats, thiamazole is rapidly and completely absorbed with a bioavailability of >75%. However, there is a considerable variation between animals. Elimination of the drug from cat plasma is rapid with a half life of 3.5-4.0 hours. Peak plasma levels occur approximately 1-2 hours after dosing. Cmax is approximately 0.8 µg/ml.

In rats thiamazole has been shown to be poorly bound to plasma protein (5 %); 40 % was bound to red blood cells. The metabolism of thiamazole in cats has not been investigated, however, in rats thiamazole is rapidly metabolised in the thyroid gland. About 64 % of the administered dose being eliminated in the urine and only 7.8 %excreted in faeces. This is in contrast with man where the liver is important for the metabolic degradation of the compound. The drug residence time in the thyroid gland is assumed to be longer than in the plasma

From man and rats it is known that the drug can cross the placenta and concentrates in the foetal thyroid gland. There is also a high rate of transfer into breast milk.

# PHARMACEUTICAL PARTICULARS

# 6.1 List of excipients

# Tablet core:

Lactose monohydrate, Povidone, Sodium starch glycolate, Magnesium stearate

# Coating:

Sucrose, Povidone, Erythrosine, Macrogol, Purified talc, White beeswax, Carnauba wax, Shellac, Titanium dioxide (E171), Sodium methyl, parahydroxybenzoate (E219)

# 6.2 Incompatibilities None known.

# Shelf life

Shelf life of the veterinary medicinal product as packaged for sale: 3 years.

# 6.4 Special precautions for storage

Do not store above 25°C

Keep the container tightly closed in order to protect from moisture.

Keep the container in the outer carton.

# 6.5 Nature and contents of immediate packaging

White polypropylene tub with white low density polyethylene tamper evident lid containing 100 tablets.

# 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 products should be disposed of in accordance with local

# MARKETING AUTHORISATION HOLDER

Dechra Limited, Dechra House, Jamage Industrial Estate, Talke Pits, Stoke-on-Trent, Staffordshire, ST7 1XW, UK

### MARKETING AUTHORISATION NUMBERS UK: Vm 10434/4050

IE: VPA 10799/15/001

### DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION UK: 19/11/2004 IE: 20/02/2009

### 10. DATE OF ANY REVISION OF THE TEXT April 2012

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