# SUMMARY OF PRODUCT CHARACTERISTICS

## 1. NAME OF THE VETERINARY MEDICINAL PRODUCT

Pulmotil G100 Premix for Medicated Feedingstuff

## 2. QUALITATIVE AND QUANTITATIVE COMPOSITION

**Active substance:**
Tilmicosin (as phosphate) 100 g/kg

For a full list of excipients, see section 6.1.

## 3. PHARMACEUTICAL FORM

Premix for medicated feeding stuff.

A yellowish tan to reddish tan free-flowing granular material.

## 4. CLINICAL PARTICULARS

### 4.1 Target species

Pigs and rabbits.

### 4.2 Indications for use, specifying the target species

Pigs: Prevention and treatment of respiratory disease caused by *Actinobacillus pleuropneumoniae, Mycoplasma hyopneumoniae, Pasteurella multocida* and other organisms sensitive to tilmicosin.

Rabbits: Prevention and treatment of respiratory disease caused by *Pasteurella multocida* and
*Bordetella bronchiseptica*, susceptible to tilmicosin.

### 4.3 Contraindications

Horses or other Equidae, must not be allowed access to feeds containing tilmicosin. Horses fed with tilmicosin medicated feeds may present signs of toxicity with lethargy, anorexia, reduction of feed consumption, loose stools, colic, distension of the abdomen and death.

Do not use in case of hypersensitivity to tilmicosin or to any of the excipients

### 4.4 Special warnings for each target species

Under practical conditions, the management of respiratory disease outbreaks recognises that acutely ill animals are inappetant and require parenteral therapy.

## 4.5 Special precautions for use

i) Special precautions for use in animals

Inappropriate use of the product may increase the prevalence of bacteria resistant to tilmicosin and may decrease the effectiveness of treatment with tilmicosin related substances.

Official, national and regional antimicrobial policies should be taken into account when the product is used.

Due to the likely variability (time, geographical) in the occurrence of the resistance of bacteria for
tilmicosin, bacteriological sampling and susceptibility testing are recommended

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

Tilmicosin may induce irritation. Macrolides, such as tilmicosin, may also cause hypersensitivity (allergy) following injection, inhalation, ingestion or contact with skin or eye. Hypersensitivity to tilmicosin may lead to cross reactions to other macrolides and vice versa. Allergic reactions to these substances may occasionally be serious and therefore direct contact should be avoided.

To avoid exposure during preparation of the medicated feed, wear overalls, safety glasses, impervious gloves and wear either a disposable half mask respirator conforming to European Standard EN149 or a non-disposable respirator to European Standard EN140 with a filter to EN143. Do not eat, drink or smoke when handling this product. Wash hands after use.

In the case of accidental ingestion, wash out mouth immediately with water and seek medical advice. In the event of accidental skin contact, wash thoroughly with soap and water. In case of accidental eye contact, flush the eyes with plenty of clean, running water.

Do not handle the product if you are allergic to ingredients in the product.

If you develop symptoms following exposure, such as skin rash, you should seek medical advice and show the physician this warning. Swelling of the face, lips and eyes or difficulty in breathing are more serious symptoms and require urgent medical attention.

## 4.6 Adverse reactions (frequency and seriousness)

In very rare cases, feed intake may decrease (including feed refusal) in animals receiving medicated feed. This effect is transient.

## 4.7 Use during pregnancy, lactation or lay

The safety of tilmicosin has not been established in boars used for breeding purposes.

## 4.8 Interaction with other medicinal products and other forms of interaction

None known.

## 4.9 Amounts to be administered and administration route

The uptake of medicated feed depends on the clinical condition of the animals. In order to obtain a correct dosage, the concentration of tilmicosin has to be adjusted accordingly.

Use the following formula:

$$\text{Kg Premix/tonne feed} = \frac{\text{Dose rate (mg/kg bodyweight) x bodyweight (kg)}}{\text{Daily feed intake (kg) x premix strength (g/kg)}}$$

**Pigs**
Administer in the feed at a dose of 8 to 16 mg/kg body weight/day of tilmicosin (equivalent to 200 to 400 ppm in the feed) for a period of 15 to 21 days.

| Indication | Dose of tilmicosin | Duration of treatment | Inclusion rate in feed |
|---|---|---|---|
| Prevention and treatment of respiratory disease | 8-16 mg/kg bodyweight /day | 15-21 days | 2-4 kg Pulmotil G100 Premix/tonne |

**Rabbits**
Administer in the feed at 12.5 mg/kg body weight/day of tilmicosin (equivalent to 200 ppm in the feed) for 7 days.

| Indication | Dose of tilmicosin | Duration of treatment | Inclusion rate in feed |
|---|---|---|---|
| Prevention and treatment of respiratory disease | 12.5 mg/kg bodyweight /day | 7 days | 2 kg Pulmotil G100 Premix/tonne |

To ensure thorough dispersion of the product, it should first be mixed with a suitable quantity of feed ingredients (20-50 kg) before incorporation into the finished feed.

This product can be incorporated into pelleted feed, preconditioned for the minimum time-period at a temperature not exceeding 75°C.

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

No symptoms of overdose have been seen in pigs fed a ration containing levels of tilmicosin up to 80 mg/kg bodyweight (equivalent to 2000 ppm in the feed or ten times the recommended dose) for 15 days.

## 4.11 Withdrawal periods

Pigs: 21 days
Rabbits: 4 days

## 5. PHARMACOLOGICAL PROPERTIES

Pharmacotherapeutic group: antibacterials for systemic use, macrolides
ATC vet code: QJ01FA91.

## 5.1 Pharmacodynamic properties

Tilmicosin is a semi-synthetic antibiotic of the macrolide group, and is believed to affect protein synthesis. It has bacteriostatic action but at high concentrations it may be bactericidal. This antibacterial activity is predominantly against Gram-positive microorganism with activity against certain gram-negative ones and Mycoplasma of a bovine, porcine, ovine and avian origin. In particular its activity has been demonstrated against the following micro-organism:
*Pigs*: *Mycoplasma hyopneumoniae, Pasteurella multocida, Actinobacillus pleuropneumoniae.*
*Rabbits: Pasteurella multocida, Staphylococcus aureus and Bordetella bronchoseptica*

Scientific evidence suggests that macrolides act synergistically with the host immune system. Macrolides appear to enhance phagocyte killing of bacteria. Tilmicosin has been shown to inhibit *in vitro* the replication of the Porcine Reproductive and Respiratory Syndrome virus in alveolar macrophages in a dose dependent fashion.

Cross resistance between tilmicosin and other macrolides and lincomycin has been observed.

## 5.2 Pharmacokinetic particulars

**Pigs:**
Absorption: When administered to pigs via the oral route at a dose of 400 mg tilmicosin/kg feed (equivalent to approximately 21.3 mg tilmicosin/kg bodyweight/day), tilmicosin moves rapidly out of the serum into areas of low pH. The highest concentration in the serum (0.23±0.08 µg/ml) was recorded on day 10 of medication, but concentrations above the limit of quantification (0.10 µg/ml) were not found in 3 out of 20 animals examined. Lung concentrations increased rapidly between days 2 and 4 but no significant changes were obtained following four days of dosing. The maximum concentration in lung tissue (2.59±1.01 µg/ml) was recorded on day 10 of medication.

When administered at a dose of 200 mg tilmicosin/kg feed (equivalent to approximately 11.0 mg/kg/day), plasma concentrations above the limit of quantification (0.10 µg/ml) were found in 3 out of 20 animals examined. Quantifiable levels of tilmicosin were found in lung tissue with the maximum concentration (1.43±1.13 µg/ml) being recorded on day 10 of medication.

Distribution: Following oral administration, tilmicosin is distributed throughout the body with especially high levels found in the lung and in lung tissue macrophages. It is also distributed in the liver and kidney tissues.

**Rabbits:**
Absorption: When administered orally to rabbits at a dose of 12 mg tilmicosin/kg b.w. as a single dose there is a quick absorption. Maximum concentrations were reached in 30 minutes, being the Cmax obtained of 0.35 µg/ml. Tilmicosin plasma concentrations decreased to 0.1 µg/ml within 2 hours and to 0.02 µg/ml after 8 hours. The elimination half-life was 22 hours.

Distribution: Following oral administration, tilmicosin is distributed throughout the body with
especially high levels found in lungs. After 5 days of treatment with medicated feed at a dosage of 200 ppm of Pulmotil, tilmicosin concentrations in lung tissues were of 192 ± 103 µg/g.

**Applicable to both species:**
Biotransformation: Several metabolites are formed, the predominant one being identified as T1. However the bulk of tilmicosin is excreted unchanged.

Elimination: Following oral administration, tilmicosin is excreted mainly via the bile into the faeces, but a small proportion is excreted via the urine.

**Environmental properties**
The primary route of environmental exposure is from manure applied to agricultural land as fertilizer. Tilmicosin degrades/declines slowly in the soil. Therefore, to protect soil and ground water, pig manure not to be spread onto the grass land and when spread onto arable land plough to a depth of 30 cm. Environmental assessments have demonstrated that the use of Pulmotil Premix as indicated is not expected to have any impact on the environment.

## 6. PHARMACEUTICAL PARTICULARS

### 6.1 List of excipients

Ground corn cobs
Soya-bean oil (as stated in the Ph Eur)

### 6.2 Incompatibilities

Not to be incorporated into feeds containing Bentonite.

### 6.3 Shelf life

Shelf life of the veterinary medicinal product as packaged for sale: 2 years.
Shelf life after first opening the immediate packaging: 3 months.
Shelf life after incorporation into meal or pelleted feed: 3 months

### 6.4 Special precautions for storage

Store in a dry place.
Do not store above 25°C.
Protect from direct sunlight.

### 6.5 Nature and composition of immediate packaging

Product containing 100g tilmicosin/kg is packed in either:
1.Polyethylene/polyamide/polyethylene (inner layer) bags containing 10 kg of product, or,
2.Paper/polyethylene/aluminium/polyethylene/paper bags containing 2 kg, 5 kg or 10 kg of product.

Not all pack sizes may be marketed.

### 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 national requirements.

See the environmental properties section.

## 7. MARKETING AUTHORISATION HOLDER

Elanco Europe Ltd.
Form 2, Bartley Way
Bartley Wood Business Park
Hook
RG27 9XA
United Kingdom

## 8. MARKETING AUTHORISATION NUMBER

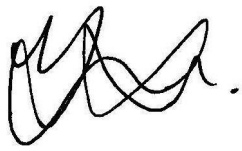
Vm 00879/4169

## 9. DATE OF FIRST AUTHORISATION

17 November 1995

## 10. DATE OF REVISION OF THE TEXT

September 2020



Approved: 24 September 2020