SUMMARY OF PRODUCT CHARACTERISTICS

1. NAME OF THE VETERINARY MEDICINAL PRODUCT

Colfen 300 mg/ml Solution for Injection for Cattle and Pigs

2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each ml contains:

Active substance:
Florfenicol……300 mg

Excipient(s):

For a full list of excipients, see section 6.1.

3. PHARMACEUTICAL FORM

Solution for injection.
A light yellow to yellow, clear, viscous liquid practically free from particles.

4. CLINICAL PARTICULARS

4.1 Target species

Cattle and pigs.

4.2 Indications for use, specifying the target species

Cattle: diseases caused by florfenicol susceptible bacteria.
Preventive and therapeutic treatment of respiratory tract infections in cattle due to *Mannheimia haemolytica, Pasteurella multocida* and *Histophilus somni*. The presence of the disease in the herd should be established before preventive treatment.

Pigs: treatment of acute outbreaks of respiratory disease caused by strains of *Actinobacillus pleuropneumoniae* and *Pasteurella multocida* susceptible to florfenicol.

4.3 Contraindications

Do not administer to boars and adult bulls intended for breeding purposes.
Do not use in cases of known hypersensitivity to the active substance or to any of the excipients.
Do not use in cases of known resistance to the active substance.

4.4 Special warnings for each target species

None.

4.5 Special precautions for use

i. Special precautions for use in animals

Swab the stopper before removing each dose. Use a dry, sterile syringe and needle.
This product is self-preserving and does not contain a preservative.
Do not use in piglets of less than 2 kg.
The product should be used in conjunction with susceptibility testing and take into account official and local antimicrobial policies.

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

Care should be taken to avoid accidental self-injection.
In case of accidental self-injection, seek medical advice and show the label to the doctor.
Do not use the product in known cases of sensitivity to propylene glycol and polyethylene glycols.
In case of accidental contact with eyes, rinse immediately with plenty of water.

4.6 Adverse reactions (frequency and seriousness)

Cattle
A decrease in food consumption and transient softening of the faeces may occur during the treatment period. The treated animals recover quickly and completely upon termination of treatment.
Administration of the product by the intramuscular route may cause swelling at the injection site. Inflammation at the injection site may persist up to 32 days after administration.

Administration of the product by the subcutaneous route may cause swelling and inflammation at the injection site which may persist at least for 41 days.

Pigs
Commonly observed adverse effects are transient diarrhoea and/or peri-anal and rectal erythema/ oedema which may affect 50% of the animals. These effects can be observed for one week.
Transient swelling lasting up to 5 days may be observed at the site of injection. Inflammatory lesions at the injection site may be seen up to 28 days. Under field conditions approximately 30% of treated pigs presented with pyrexia (40 °C) associated with either moderate depression or moderate dyspnea a week or more after administration of the second dose.

4.7 Use during pregnancy, lactation or lay

Studies in laboratory animals have not revealed any evidence of embryo- or foetotoxic potential for florfenicol.

Cattle: the effect of florfenicol on bovine reproductive performance and pregnancy has not been assessed. Use only accordingly to the benefit/risk assessment by the responsible veterinarian.

Pigs: the safety of the product in sows during pregnancy and lactation has not been demonstrated. Use of the product during pregnancy and lactation is therefore not recommended.

4.8 Interaction with other medicinal products and other forms of interaction

None known.

4.9 Amounts to be administered and administration route

Cattle:
For treatment:
IM route: 20 mg/kg bodyweight (1 ml/15 kg) to be administered twice 48 hours apart using a 16 gauge needle.
SC route: 40 mg/kg bodyweight (2 ml/15 kg) to be administered once only using a 16 gauge needle.

For prevention:
SC route: 40 mg/kg bodyweight (2 ml/15 kg) to be administered once only using a 16 gauge needle.

The dose volume given at any one injection site should not exceed 10 ml.
The injection should only be given in the neck.
To ensure a correct dosage body weight should be determined as accurately as possible to avoid underdosing.

Pigs:
15 mg/kg bodyweight (1 ml per 20 kg) by intramuscular injection into the neck muscle twice at 48-hour intervals using a dry, sterile 16-gauge needle.
The volume administered per injection site should not exceed 3 ml.
It is recommended to treat animals in the early stages of disease and to evaluate the response to treatment within 48 hours after the second injection.
If clinical signs of respiratory disease persist 48 hours after the last injection, treatment should be changed using another formulation or another antibiotic and continued until clinical signs have resolved.

To ensure a correct dosage body weight should be determined as accurately as possible to avoid underdosing.

Do not broach the vial more than 25 times. Use a suitable draw-off needle or automatic dosing syringe to avoid excessive puncturing of the closure.

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

Cattle
A decrease in food consumption and transient softening of the faeces may occur during the treatment period. The treated animals recover quickly and completely upon termination of treatment.

Pigs
After administration of 3 times the recommended dose or more a reduction in feeding, hydration and weight gain has been observed.
After administration of 5 times the recommended dose or more vomiting has also been noted.

4.11 Withdrawal period(s)

Cattle

Meat and offal:	by IM (at 20 mg/kg bodyweight, twice): 30 days
	by SC (at 40 mg/kg bodyweight, once): 44 days
Milk:	Not permitted for use in lactating animals producing milk for human consumption.

Pigs

Meat and offal:	18 days

5. PHARMACOLOGICAL PROPERTIES

Pharmacotherapeutic group: Antibacterials for systemic use

ATCVet Code: QJ01BA90

5.1 Pharmacodynamic properties

Florfenicol is a synthetic broad spectrum antibiotic effective against most Gram-positive and Gram-negative bacteria isolated from domestic animals. Florfenicol acts by inhibiting protein synthesis at the ribosomal level and is bacteriostatic. However, bactericidal activity has been demonstrated *in-vitro* against *Actinobacillus pleuropneumoniae*, *Pasteurella multocida, Mannheimia haemolytica* and *Histophilus somni*.

In-vitro testing has shown that florfenicol is active against the bacterial pathogens most commonly isolated in respiratory diseases in pigs, including *Actinobacillus pleuropneumoniae* and *Pasteurella multocida*. Laboratory tests have also shown that florfenicol is active against the most commonly isolated bacterial pathogens involved in bovine respiratory disease which include *Mannheimia haemolytica, Pasteurella multocida and Histophilus somni.*

Acquired resistance to florfenicol is mediated by efflux pump resistance associated with a *floR* gene. Such resistance has not yet been identified in the target pathogens except for *Pasteurella multocida* and *Actinobacillus pleuropneumoniae*. Cross resistance with chloramphenicol can occur.

Resistance to florfenicol and other antimicrobials has been identified in the food-borne pathogen *Salmonella typhimurium* and co-resistance with the third-generation cephalosporins has been observed in respiratory and digestive *Escherichia coli.*

5.2 Pharmacokinetic particulars

Cattle
Intramuscular administration at the recommended dose of 20 mg/kg maintains efficacious blood levels in cattle for 48 hours. Maximum mean plasma concentration (Cmax) of 3.86 µg/ml occurs at 5 hours (Tmax) after dosing. The mean plasma concentration 24 hours after dosing was 1.56 µg/ml.
The harmonic mean elimination half life was 18.8 hours.

After subcutaneous administration of the recommended dose of 40 mg florfenicol/kg b.w., maximum plasma concentration (Cmax) of approximately 3.5 µg/ml occurs approximately 7.0 hours (Tmax) after dosing. The mean plasma concentration 24 hours after dosing is approximately 2 µg/ml.
The harmonic mean elimination half life was 39.7 hours.

Pigs
After single intramuscular administration of the recommended dose of 15mg/kg to pigs maximum mean plasma concentration (Cmax) of 2.08 µg/ml occurs at 2 hours (Tmax) after dosing.

The harmonic mean elimination half life was 10.37 hours.

After administration to pigs by the intramuscular route, florfenicol is rapidly excreted, primarily in urine. Florfenicol is extensively metabolised.

Serum concentrations persist above 1 µg/ml for 12 to 24 hours following IM administration. Florfenicol concentrations achieved in lung tissue reflect plasma concentrations, with a lung: plasma concentration ratio of approximately 1.

6. PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Propylene glycol
Dimethyl sulfoxide
Macrogol 400

6.2 Incompatibilities

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

6.3 Shelf life

Shelf-life of the veterinary medicinal product as packaged for sale: 3 years.
Shelf-life after first opening the immediate packaging: 28 days.

6.4 Special precautions for storage

This veterinary medicinal product does not require any special storage conditions.

6.5 Nature and composition of immediate packaging

50ml, 100 ml and 250 ml Type I amber glass vials with bromobutyl rubber closure and aluminium overseal in cardboard box.

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 local requirements.

7. MARKETING AUTHORISATION HOLDER

Zoetis UK Limited
5th Floor, 6 St. Andrew Street
London
EC4A 3AE

8. MARKETING AUTHORISATION NUMBER

Vm 42058/4018

9. DATE OF FIRST AUTHORISATION

Date: 28 December 2011

10. DATE OF REVISION OF THE TEXT

Date: August 2013

Approved: 16/08/2013