

**ANNEX I**  
**SUMMARY OF PRODUCT CHARACTERISTICS**

## 1. NAME OF THE VETERINARY MEDICINAL PRODUCT

Virbactan 150 mg intramammary ointment (AT BE CY CZ DE EE EL ES FR IT LT LU LV NL PL PT SI SK)

Cephaguard DC 150 mg intramammary ointment (UK/NI IE)

## 2. QUALITATIVE AND QUANTITATIVE COMPOSITION

Each 3 g pre-filled syringe contains:

### Active substance:

Cefquinome (as sulphate): 150.0 mg

### Excipients:

Qualitative composition of excipients and other constituents
Silica colloidal hydrophobic
Liquid paraffin

Homogeneous off-white oily intramammary ointment.

## 3. CLINICAL INFORMATION

### 3.1 Target species

Cattle (dry cows).

### 3.2 Indications for use for each target species

For the treatment of subclinical mastitis at drying off and the prevention of new bacterial infections of the udder during the dry period in the dairy cow caused by the following cefquinome susceptible organisms: *Streptococcus uberis*, *Streptococcus dysgalactiae*, *Streptococcus agalactiae*, *Staphylococcus aureus*, coagulase negative staphylococci.

### 3.3 Contraindications

Do not use in cases of hypersensitivity to cephalosporin antibiotics or other  $\beta$ -lactam antibiotics.  
Do not use in cows with clinical mastitis (see section 3.7).

### 3.4 Special warnings

None.

### 3.5 Special precautions for use

Special precautions for safe use in the target species:

Use of the veterinary medicinal product should be based on susceptibility testing of the bacteria isolated from the animal. If it is not possible, therapy should be based on local (regional, farm level) epidemiological information about susceptibility of the target bacteria.

Do not use the cleaning towel on teats with lesions.

In case of erroneous use during lactation the milk should be discarded for 35 days.

The efficacy of the veterinary medicinal product is only established against the pathogens mentioned in section 3.2 “Indications for use”. Consequently, serious acute mastitis (potentially fatal) due to other pathogen species, mainly *Pseudomonas aeruginosa*, can occur after the drying off. Good hygienic practices should be thoroughly respected in order to reduce that risk; cows should be housed in a hygienic paddock far from the milking parlour and regularly checked several days after drying off.

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

Penicillins and cephalosporins may cause hypersensitivity (allergy) following injection, inhalation, ingestion or skin contact. Hypersensitivity to penicillins may lead to cross sensitivity to cephalosporin and vice versa. Allergic reactions to these substances may occasionally be serious.

Do not handle this veterinary medicinal product if you know you are sensitised to penicillins or cephalosporins, or if you have been advised not to work with such preparations.

Handle this veterinary medicinal product with great care to avoid exposure. Personal protective equipment consisting of impervious gloves should be worn when handling the veterinary medicinal product. Wash exposed skin after use.

If you develop symptoms following exposure, such as skin rash, you should seek medical advice and show the package leaflet or the label to the physician. Swelling of the face, lips and eyes or difficulty in breathing are more serious symptoms and require urgent medical attention. Persons developing a reaction after contact with the veterinary medicinal product should avoid handling the product (and other cephalosporin and penicillin containing products) in future.

Wash hands after using the towels and wear protective gloves if skin irritation due to isopropyl alcohol is known or suspected. Avoid contact with eyes because isopropyl alcohol can cause eye irritation.

Special precautions for the protection of the environment:

Not applicable.

### 3.6 Adverse events

Cattle (dry cows):

Very rare (<1 animal / 10,000 animals treated, including isolated reports):	Hypersensitivity reaction
--------------------------------------------------------------------------------	---------------------------

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

### Pregnancy:

There is no evidence of reproductive toxicity (incl. teratogenicity) in cattle. Laboratory studies in rats and rabbits have not produced any evidence of teratogenic, foetotoxic or maternotoxic effects.

The veterinary medicinal product is intended for use during pregnancy. In the clinical trials, no adverse effects on the foetus were observed.

### Lactation:

Do not use during lactation.

## **3.8 Interaction with other medicinal products and other forms of interaction**

See section 4.2 with regard to cross-resistance in the cephalosporin group.

The neutralizing effect of bacteriostatic acting pharmaceuticals (macrolides, sulfonamides and tetracyclines) on bactericidal effect of cefquinome has not been evaluated yet. Therefore there is no information about the safety and efficacy of this kind of association.

## **3.9 Administration routes and dosage**

Intramammary use.

Single intramammary administration of 150 mg cefquinome.

The content of one syringe should be instilled gently into the teat of each quarter, immediately after the last milking.

Before instillation, the udder should be milked out completely. The teat and its orifice should be thoroughly cleaned and disinfected with the cleaning towel provided. Care should be taken to avoid contamination of the injector nozzle. Gently insert either about 5mm or the total length of the nozzle and instil the content of one syringe into each quarter. Disperse the product by gentle massage of the teat and udder.

The syringe must only be used once.

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

Not relevant.

## **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**

Meat and offal: 2 days.

Milk: 1 day after calving when dry period is more than 5 weeks.

36 days after treatment when dry period is 5 weeks or less.

# **4. PHARMACOLOGICAL INFORMATION**

## **4.1 ATCvet code: QJ51DE90.**

## 4.2 Pharmacodynamics

The antibacterial drug cefquinome is a broad spectrum cephalosporin of the fourth generation which acts by inhibition of cell wall synthesis. It is bactericidal and is characterised by its broad therapeutic spectrum of activity and a high stability against penicillinases and beta-lactamases.

In vitro activity has been demonstrated against common Gram positive and Gram negative bacteria including *Escherichia coli*, *Citrobacter* spp., *Klebsiella* spp., *Pasteurella* spp., *Proteus* spp., *Salmonella* spp., *Serratia marcescens*, *Arcanobacterium pyogenes*, *Corynebacterium* spp., *Staphylococcus aureus*, coagulase negative *Staphylococci*, *Streptococcus dysgalactiae*, *Streptococcus agalactiae*, *Streptococcus uberis*, *Streptococcus bovis*.

Following bacterial species: *Staphylococcus aureus*, coagulase negative *Staphylococci*, *Streptococcus uberis*, *Streptococcus dysgalactiae* and *Streptococcus agalactiae* isolated from a field study conducted between 2000 and 2002 in Germany, France, Belgium and the Netherlands proved to be susceptible to cefquinome with MIC values between  $\leq 0.008$   $\mu\text{g/ml}$  and 2.0  $\mu\text{g/ml}$ .

An overview of the MIC<sub>90</sub> of each bacterial pathogen is presented in the table below:

Bacterial species isolated	MIC <sub>90</sub> ( $\mu\text{g/ml}$ )
<i>Staphylococcus aureus</i>	0.5
coagulase negative <i>Staphylococci</i>	0.5
<i>Streptococcus uberis</i>	0.063
<i>Streptococcus dysgalactiae</i>	$\leq 0.008$
<i>Streptococcus agalactiae</i>	0.032

Cefquinome as a fourth generation cephalosporin combines high cellular penetration and  $\beta$ -lactamase stability. In contrast to cephalosporins of previous generations, cefquinome is not hydrolysed by chromosomally–encoded cephalosporinases of the Amp-C type or by plasmid mediated cephalosporinases of some enterobacterial species. However, some extended spectrum beta-lactamases (ESBL) can hydrolyse cefquinome and cephalosporins of other generations. The potential for resistance development against cefquinome is rather low. High-level resistance to cefquinome would require the coincidence of two genetic modifications, i.e. hyperproduction of specific  $\beta$ -lactamases as well as decreased membrane permeability.

No cross-resistance has been described for the mechanism of alteration of penicillin binding protein encountered in Gram positive bacteria. Resistance due to changes in membrane permeability might result in cross-resistance.

## 4.3 Pharmacokinetics

Resorption of cefquinome from the udder to the systemic circulation is insignificant. The cefquinome concentrations reach a peak in the dry udder secretions after 7 to 14 days and slowly decrease during the dry period.

## 5. PHARMACEUTICAL PARTICULARS

### 5.1 Major incompatibilities

None known.

### 5.2 Shelf life

Shelf-life of the veterinary medicinal product as packaged for sale: 2 years

### 5.3 Special precautions for storage

Do not store above 25 °C.

#### **5.4 Nature and composition of immediate packaging**

Pre-filled syringe consisting of:

- barrel made from high density polyethylene (HDPE)
- plunger made from low density polyethylene (LDPE)
- cap made from low density polyethylene (LDPE)

Box of 1 sachet of 4 applicators and 4 cleaning towels.

Box of 5 sachets of 4 applicators and 20 cleaning towels.

Box of 6 sachets of 4 applicators and 24 cleaning towels.

Box of 15 sachets of 4 applicators and 60 cleaning towels.

Box of 30 sachets of 4 applicators and 120 cleaning towels.

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**

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 THE MARKETING AUTHORISATION HOLDER**

VIRBAC

#### **7. MARKETING AUTHORISATION NUMBER(S)**

#### **8. DATE OF FIRST AUTHORISATION**

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

#### **10. CLASSIFICATION OF VETERINARY MEDICINAL PRODUCTS**

Veterinary medicinal product subject to prescription.

Detailed information on this veterinary medicinal product is available in the [Union Product Database \(https://medicines.health.europa.eu/veterinary\)](https://medicines.health.europa.eu/veterinary).

**ANNEX III**  
**LABELLING AND PACKAGE LEAFLET**

## **A. LABELLING**



**PARTICULARS TO APPEAR ON THE OUTER PACKAGE**

**Carton box**

**1. NAME OF THE VETERINARY MEDICINAL PRODUCT**

Virbactan 150 mg intramammary ointment (AT BE CY CZ DE EE EL ES FR IT LT LU LV NL PL  
PT SI SK)  
Cephaguard DC 150 mg intramammary ointment (UK/NI IE)

**2. STATEMENT OF ACTIVE SUBSTANCES**

Each 3 g pre-filled syringe contains:  
Cefquinome (as sulphate): 150.0 mg

**3. PACKAGE SIZE**

Box of 1 sachet with 4 applicators and 4 cleaning towels.  
Box of 5 sachets with 4 applicators and 20 cleaning towels.  
Box of 6 sachets with 4 applicators and 24 cleaning towels.  
Box of 15 sachets with 4 applicators and 60 cleaning towels.  
Box of 30 sachets with 4 applicators and 120 cleaning towels.

**4. TARGET SPECIES**

Cattle (dry cows).

**5. INDICATIONS**

**6. ROUTES OF ADMINISTRATION**

Intramammary administration.



**7. WITHDRAWAL PERIODS**

Meat and offal: 2 days  
Milk: 1 day after calving when dry period is more than 5 weeks  
36 days after treatment when dry period is 5 weeks or less

**8. EXPIRY DATE**

Exp. {mm/yyyy}

**9. SPECIAL STORAGE PRECAUTIONS**

Do not store above 25 °C.

**10. THE WORDS “READ THE PACKAGE LEAFLET BEFORE USE”**

Read the package leaflet before use.

**11. THE WORDS “FOR ANIMAL TREATMENT ONLY”**

For animal treatment only.

**12. THE WORDS “KEEP OUT OF THE SIGHT AND REACH OF CHILDREN”**

Keep out of the sight and reach of children.

**13. NAME OF THE MARKETING AUTHORISATION HOLDER**

VIRBAC

**14. MARKETING AUTHORISATION NUMBERS**

**15. BATCH NUMBER**

Lot {number}

**PARTICULARS TO APPEAR ON THE IMMEDIATE PACKAGE**

**Sachet / Label**

**1. NAME OF THE VETERINARY MEDICINAL PRODUCT**

Virbactan 150 mg intramammary ointment (AT BE CY CZ DE EE EL ES FR IT LT LU LV NL PL PT SI SK)  
Cephaguard DC 150 mg intramammary ointment (UK NI IE)

**2. STATEMENT OF ACTIVE SUBSTANCES**

Each 3 g pre-filled syringe contains:  
Cefquinome (as sulphate): 150.0 mg

**3. TARGET SPECIES**

Cattle (dry cows).

**4. ROUTES OF ADMINISTRATION**

Read the package leaflet before use.

Intramammary administration.

**5. WITHDRAWAL PERIODS**

Meat and offal: 2 days  
Milk: 1 day after calving when dry period is more than 5 weeks  
36 days after treatment when dry period is 5 weeks or less

**6. EXPIRY DATE**

Exp. {mm/yyyy}

**7. SPECIAL STORAGE PRECAUTIONS**

Do not store above 25 °C.

**8. NAME OF THE MARKETING AUTHORISATION HOLDER**

VIRBAC

**9. BATCH NUMBER**

Lot {number}

**MINIMUM PARTICULARS TO APPEAR ON SMALL IMMEDIATE PACKAGING UNITS**

**3 g pre-filled syringe**

**1. NAME OF THE VETERINARY MEDICINAL PRODUCT**

Virbactan (AT BE CY CZ DE EE EL ES FR IT LT LU LV NL PL PT SI SK)  
Cephaguard DC (UK/NI IE)

**2. QUANTITATIVE PARTICULARS OF THE ACTIVE SUBSTANCES**

150.0 mg

**3. BATCH NUMBER**

Lot {number}

**4. EXPIRY DATE**

Exp.{ mm/yyyy}

**B. PACKAGE LEAFLET**

## PACKAGE LEAFLET

### 1. Name of the veterinary medicinal product

Virbactan 150 mg intramammary ointment (AT BE CY CZ DE EE EL ES FR IT LT LU LV NL PL PT SI SK)

Cephaguard DC 150 mg intramammary ointment (UK/NI IE)

### 2. Composition

Each 3 g pre-filled syringe contains:

#### Active substance

Cefquinome (as sulphate): 150.0 mg

Homogeneous off-white oily intramammary ointment.

### 3. Target species

Cattle (dry cows).

### 4. Indications for use

For the treatment of subclinical mastitis at drying off and the prevention of new bacterial infections of the udder during the dry period in the dairy cow caused by the following cefquinome susceptible organisms: *Streptococcus uberis*, *Streptococcus dysgalactiae*, *Streptococcus agalactiae*, *Staphylococcus aureus*, coagulase negative staphylococci.

### 5. Contraindications

Do not use in cases of hypersensitivity to cephalosporin antibiotics or other  $\beta$ -lactam antibiotics.  
Do not use in cows with clinical mastitis.

### 6. Special warnings

Special precautions for safe use in the target species:

Use of the veterinary medicinal product should be based on susceptibility testing of the bacteria isolated from the animal. If it is not possible, therapy should be based on local (regional, farm level) epidemiological information about susceptibility of the target bacteria.

Do not use the cleaning towel on teats with lesions.

In case of erroneous use during lactation the milk should be discarded for 35 days.

The efficacy of the veterinary medicinal product is only established against the pathogens mentioned in the section "Indications". Consequently, serious acute mastitis (potentially fatal) due to other pathogen species, mainly *Pseudomonas aeruginosa*, can occur after the drying off. Good hygienic

practices should be thoroughly respected in order to reduce that risk; cows should be housed in a hygienic paddock far from the milking parlour and regularly checked several days after drying off.

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

Penicillins and cephalosporins may cause hypersensitivity (allergy) following injection, inhalation, ingestion or skin contact. Hypersensitivity to penicillins may lead to cross sensitivity to cephalosporin and vice versa. Allergic reactions to these substances may occasionally be serious.

Do not handle this veterinary medicinal product if you know you are sensitised to penicillins or cephalosporins, or if you have been advised not to work with such preparations.

Handle this veterinary medicinal product with great care to avoid exposure. Personal protective equipment consisting of impervious gloves should be worn when handling the veterinary medicinal product. Wash exposed skin after use.

If you develop symptoms following exposure, such as skin rash, you should seek medical advice and show the package leaflet or the label to the physician. Swelling of the face, lips and eyes or difficulty in breathing are more serious symptoms and require urgent medical attention. Persons developing a reaction after contact with the veterinary medicinal product should avoid handling the product (and other cephalosporin and penicillin containing products) in future.

Wash hands after using the towels and wear protective gloves if skin irritation due to isopropyl alcohol is known or suspected. Avoid contact with eyes because isopropyl alcohol can cause eye irritation.

Pregnancy and lactation:

There is no evidence of reproductive toxicity (incl. teratogenicity) in cattle. Laboratory studies in rats and rabbits have not produced any evidence of teratogenic, foetotoxic or maternotoxic effects.

The veterinary medicinal product is intended for use during pregnancy. In the clinical trials, no adverse effects on the foetus were observed.

Do not use during lactation.

Interaction with other medicinal products and other forms of interaction:

The neutralizing effect of bacteriostatic acting pharmaceuticals (macrolides, sulfonamides and tetracyclines) on bactericidal effect of cefquinome has not been evaluated yet. Therefore there is no information about the safety and efficacy of this kind of association.

Overdose:

Not relevant.

Major incompatibilities:

None known.

**7. Adverse events**

Cattle (dry cows):



Very rare (<1 animal / 10,000 animals treated, including isolated reports):
-----------------------------------------------------------------------------

Hypersensitivity reaction
---------------------------

Reporting adverse events is important. It allows continuous safety monitoring of a product. If you notice any side effects, even those not already listed in this package leaflet or you think that the medicine has not worked, please contact, in the first instance, your veterinarian. You can also report any adverse events to the marketing authorisation holder or the local representative of the marketing authorisation holder using the contact details at the end of this leaflet, or via your national reporting system: {national system details}.

## 8. Dosage for each species, routes and method of administration

Intramammary use.

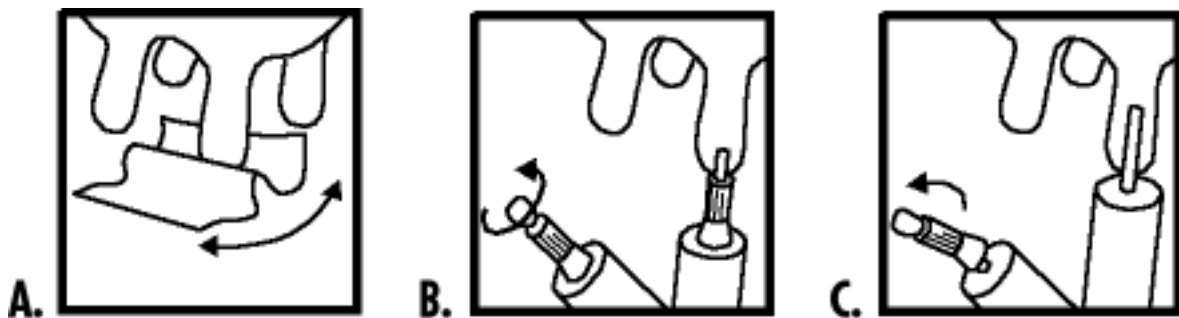
Single intramammary administration of 150 mg cefquinome.

The content of one syringe should be instilled gently into the teat of each quarter, immediately after the last milking.

## 9. Advice on correct administration

Before instillation, the udder should be milked out completely. The teat and its orifice should be thoroughly cleaned and disinfected with the cleaning towel provided. Care should be taken to avoid contamination of the injector nozzle. Gently insert either about 5mm or the total length of the nozzle and instil the content of one syringe into each quarter. Disperse the product by gentle massage of the teat and udder.

The syringe must only be used once.



- A. Clean teat with enclosed cleaning towel
- B. For partial insertion, break top of cap as shown
- C. For full insertion, remove whole cap

Do not touch the tip with your fingers. Infuse the ointment carefully

## 10. Withdrawal periods

Meat and offal: 2 days

Milk: 1 day after calving when dry period is more than 5 weeks  
36 days after treatment when dry period is 5 weeks or less

#### **11. Special storage precautions**

Keep out of the sight and reach of children.

Do not store above 25 °C.

Do not use this veterinary medicinal product after the expiry date which is stated on the label after Exp. The expiry date refers to the last day of that month.

#### **12. Special precautions for disposal**

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 applicable national collection systems. These measures should help to protect the environment.

Ask your veterinary surgeon or pharmacist how to dispose of medicines no longer required.

#### **13. Classification of veterinary medicinal products**

Veterinary medicinal product subject to prescription.

#### **14. Marketing authorisation numbers and pack sizes**

Box of 1 sachet with 4 applicators and 4 cleaning towels.  
Box of 5 sachets with 4 applicators and 20 cleaning towels  
Box of 6 sachets with 4 applicators and 24 cleaning towels.  
Box of 15 sachets with 4 applicators and 60 cleaning towels.  
Box of 30 sachets with 4 applicators and 120 cleaning towels.

Not all pack sizes may be marketed.

#### **15. Date on which the package leaflet was last revised**

Detailed information on this veterinary medicinal product is available in the [Union Product Database \(https://medicines.health.europa.eu/veterinary\)](https://medicines.health.europa.eu/veterinary).

#### **16. Contact details**

Marketing authorisation holder and contact details to report suspected adverse reactions:

VIRBAC  
1<sup>ère</sup> avenue 2065m LID

06516 Carros  
France

Manufacturer responsible for batch release:

VIRBAC  
1<sup>ère</sup> avenue 2065m LID  
06516 Carros  
France

OR

HAUPT PHARMA LATINA  
S.S.156 dei Monti Lepini - Km. 47,600  
04100 Borgo San Michele - Latina  
Italy

Local representatives and contact details to report suspected adverse reactions:

For any information about this veterinary medicinal product, please contact the local representative of the marketing authorisation holder.

--