

Approval Date: May 27, 2009

FREEDOM OF INFORMATION SUMMARY

**ORIGINAL ABBREVIATED NEW ANIMAL
DRUG APPLICATION**

ANADA 200-420

**Ceftiofur Sodium Sterile Powder
(ceftiofur sodium)**

**The treatment of various bacterial diseases in dogs, horses, cattle,
swine, sheep, goats, day-old chickens, and day-old turkey poults.**

Sponsored by:

Cephazone Pharma, LLC

FREEDOM OF INFORMATION SUMMARY

1. GENERAL INFORMATION:

- | | |
|----------------------------------|---|
| a. File Number | ANADA 200-420 |
| b. Sponsor: | Cephazone Pharma, LLC
250 E. Bonita Avenue
Pomona, CA 91767

Drug Labeler Code: 068330 |
| c. Established Name: | Ceftiofur sodium |
| d. Proprietary Name: | Ceftiofur Sodium Sterile Powder |
| e. Dosage Form: | Injectable solution |
| f. How Supplied: | 1 gram vial
4 gram vial |
| g. How Dispensed: | Rx |
| h. Amount of Active Ingredients: | Each mL contains ceftiofur sodium equivalent to 50 mg ceftiofur |
| i. Route of Administration: | Intramuscular or subcutaneous injection |
| j. Species/Class: | Cattle, swine, sheep, goats, horses, dogs, day-old chickens & day-old turkey poults |
| k. Recommended Dosage: | Cattle
Administer to cattle by intramuscular or subcutaneous injection at the dosage of 0.5 to 1.0 mg ceftiofur per pound (1.1. to 2.2 mg/kg) of body weight (1-2 mL reconstituted sterile solution per 100 lbs body weight). Treatment should be repeated at 24-hour intervals for a total of three consecutive days. Additional treatments may be given on days four and five for animals which do not show a satisfactory response (not recovered) after the initial three treatments. |

Swine

Administer to swine by intramuscular injection at the dosage of 1.36 to 2.27 mg ceftiofur per pound (3.0 to 5.0 mg/kg) of body weight (1 mL of reconstituted sterile solution per 22 – 37 lbs body weight). Treatment should be repeated at 24-hour intervals for a total of three consecutive days.

Sheep

Administer to sheep by intramuscular injection at the dosage of 0.5 to 1.0 mg ceftiofur per pound (1.1 to 2.2 mg/kg) of body weight (1-2 mL of reconstituted sterile solution per 100 lbs body weight). Treatment should be repeated at 24-hour intervals for a total of three consecutive days.

Additional treatments may be given on days four and five for animals which do not show a satisfactory response (not recovered) after the initial three treatments.

Goats

Administer to goats by intramuscular injection at the dosage of 0.5 to 1.0 mg ceftiofur per pound (1.1 to 2.2 mg/kg) of body weight (1-2 mL reconstituted sterile solution per 100 lbs body weight). Treatment should be repeated at 24-hour intervals for a total of three consecutive days.

Additional treatments may be given on days four and five for animals which do not show a satisfactory response (not recovered) after the initial three treatments.

Horses

Administer to horses by intramuscular injection at the dosage of 1.0 to 2.0 mg ceftiofur per pound (2.2 to 4.4 mg/kg) of body weight (2-4 mL reconstituted sterile solution per 100 lbs body weight). A maximum of 10 mL may be administered per injection site. Treatment should be repeated at 24-hour intervals, continued for 48 hours after clinical signs have disappeared and should not exceed 10 days.

Dogs

Administer to dogs by subcutaneous injection at the dosage of 1.0 mg ceftiofur per pound (2.2 mg/kg) of body weight (0.1 mL reconstituted sterile solution per 5 lbs body weight). Treatment should be repeated at 24-hour intervals for 5-14 days.

Reconstituted Ceftiofur Sodium Sterile Powder is to be administered to dogs by subcutaneous injection. No vial closure should be entered more than 20 times. Therefore, only the 1 gram vial is approved for use in dogs.

Day-Old Chicks

Administer by subcutaneous injection in the neck region of day-old chicks at the dosage of 0.08 to 0.20 mg ceftiofur/chick. One mL of the 50 mg/mL reconstituted solution will treat approximately 250 to 625 day-old chicks.

Reconstituted Ceftiofur Sodium Sterile Powder is to be administered by subcutaneous injection only. A sterile 26 gauge needle and syringe or properly cleaned automatic injection machine should be used.

Day-Old Turkey Poults

Administer by subcutaneous injection in the neck region of day-old chicks at the dosage of 0.17 to 0.5 mg ceftiofur/poult. One mL of the 50 mg/mL reconstituted solution will treat approximately 100 to 294 day-old turkey poults.

Reconstituted Ceftiofur Sodium Sterile Powder is to be administered by subcutaneous injection only.

l. Pharmacological Category:

Antibacterial

m. Indications:

Cattle

Ceftiofur Sodium Sterile Powder is indicated for treatment of bovine respiratory disease (shipping fever, pneumonia) associated with *Mannheimia haemolytica*, *Pasteurella multocida*, and *Histophilus somni*. Ceftiofur Sodium Sterile Powder is also indicated for treatment of acute bovine interdigital necrobacillosis (foot rot, pododermatitis) associated with *Fusobacterium necrophorum* and *Bacteroides melaninogenicus*.

Swine

Ceftiofur Sodium Sterile Powder is indicated for treatment/control of swine bacterial respiratory disease (swine bacterial pneumonia) associated with *Actinobacillus (Haemophilus) pleuropneumoniae*, *Pasteurella multocida*, *Salmonella choleraesuis*, and *Streptococcus suis*.

Sheep

Ceftiofur Sodium Sterile Powder is indicated for treatment of sheep respiratory disease (sheep pneumonia) associated with *Mannheimia haemolytica* and *Pasteurella multocida*.

Goat

Ceftiofur Sodium Sterile Powder is indicated for treatment of caprine respiratory disease (goat pneumonia) associated with *Mannheimia haemolytica* and *Pasteurella multocida*.

Horses

Ceftiofur Sodium Sterile Powder is indicated for treatment of respiratory infections in horses associated with *Streptococcus zooepidemicus*.

Dogs

Ceftiofur Sodium Sterile Powder is indicated for treatment of canine urinary tract infections associated with *Escherichia coli* and *Proteus mirabilis*.

Day-Old Chicks

Ceftiofur Sodium Sterile Powder is indicated for the control of early mortality, associated with *E. coli* organisms susceptible to ceftiofur, in day-old chicks.

Day-Old Turkey Poults

Ceftiofur Sodium Sterile Powder is indicated for the control of early mortality, associated with *E. coli* organisms susceptible to ceftiofur, in day-old turkey poults.

n. Pioneer Product:

NAXCEL Sterile Powder; ceftiofur sodium;
NADA 140-338; Pharmacia & Upjohn Co., A
Division of Pfizer, Inc.

2. TARGET ANIMAL SAFETY AND DRUG EFFECTIVENESS:

Under the provisions of the Federal Food, Drug, and Cosmetic Act, as amended by the Generic Animal Drug and Patent Term Restoration Act (GADPTRA) of 1988, an Abbreviated New Animal Drug Application (ANADA) may be submitted for a generic version of an approved new animal drug (pioneer product). New target animal safety and effectiveness data and human food safety data (other than tissue residue data) are not required for approval of an ANADA.

Ordinarily, the ANADA sponsor is required to show that the generic product is bioequivalent to the pioneer, which has been shown to be safe and effective. If bioequivalence is demonstrated through a clinical endpoint study, then a tissue residue study to establish the withdrawal time for the generic product should also be conducted. For certain dosage forms, the agency will grant a waiver from the requirement of an *in vivo* bioequivalence study. (55 FR 24645, June 18, 1990; Fifth GADPTRA Policy Letter; Bioequivalence Guideline, October 9, 2002).

Based on the formulation characteristics of the generic product, Cephalzone Pharma, LLC, was granted a waiver from the requirement of an *in vivo* bioequivalence study for the generic product Ceftiofur Sodium Sterile Powder. The generic product is a sterile solution when reconstituted containing the same active and inactive ingredients in the same concentrations as the pioneer product. The pioneer product, NAXCEL (ceftiofur sodium) Sterile Powder for Injection is the subject of Pharmacia & Upjohn Co., a Division of Pfizer, Inc., NADA 140-338, was approved on January 25, 1988.

3. HUMAN SAFETY:

This drug is intended for use in dogs and horses, which are non-food animals. Data on human safety pertaining to drug residues in these species were not required for approval of this ANADA.

- **Tolerances**

The tolerance established for the pioneer product applies to the generic product. Tolerances are established under 21 CFR 556.113 as follows for:

- (1) Poultry and sheep; a tolerance for residues of ceftiofur in edible tissue is not required.
- (2) Swine; the tolerances for residues of desfuroylceftiofur (marker residue) are:
 - (i) Kidney (target tissue). 0.25 parts per million (ppm).
 - (ii) Liver. 3 ppm.
 - (iii) Muscle. 2 ppm.
- (3) Cattle; the tolerances for desfuroylceftiofur (marker residue) are:
 - (i) Kidney (target tissue). 0.4 ppm.
 - (ii) Liver. 2 ppm.
 - (iii) Muscle. 1 ppm.
 - (iv) Milk. 0.1 ppm.

- **Withdrawal Time**

Because a waiver of the *in vivo* bioequivalence study was granted, the withdrawal times are those previously assigned to the pioneer product (21 CFR 522.313c).

The withdrawal times are 4 days following last treatment for cattle and swine. Neither pre-slaughter drug withdrawal interval nor a milk discard time is required for sheep & Goats.

- **Regulatory Method for Residues**

The regulatory method for determination of DCA in swine kidney and muscle, and bovine kidney, muscle, and milk is the HPLC-DCA assay which successfully completed a sponsor-monitored multi-laboratory method trial. A description of the regulatory method is filed with the Center for Veterinary Medicine, FDA, 7500 Standish Place, Rockville, MD 20855.

4. AGENCY CONCLUSIONS:

This original ANADA submitted under section 512(b) of the Federal Food, Drug, and Cosmetic Act satisfies the requirements of section 512(n) of the act and demonstrates that Ceftiofur Sodium Sterile Powder, when used under its proposed conditions of use, is safe and effective for its labeled indications.

5. ATTACHMENTS:

Facsimile generic labeling and currently approved pioneer labeling are attached as follows:

Generic Labeling for ANADA 200-420:

Product label 1 gram vial

Product label 4 gram vial

Product package label insert

Pioneer Labeling for NADA 140-338:

Product label 1 gram vial

Product label 4 gram vial

Product package label insert