Date of Approval: October 28, 2021

CORRECTED FREEDOM OF INFORMATION SUMMARY

ORIGINAL ABBREVIATED NEW ANIMAL DRUG APPLICATION

ANADA 200-588

FLORFENICOL INJECTION

(florfenicol)

Injectable Solution

Beef and Non-Lactating Dairy Cattle

FLORFENICOL INJECTION is indicated for treatment of bovine respiratory disease (BRD) associated with *Mannheimia haemolytica, Pasteurella multocida,* and *Histophilus somni,* and for the treatment of bovine interdigital phlegmon (foot rot, acute interdigital necrobacillosis, infectious pododermatitis) associated with *Fusobacterium necrophorum* and *Bacteroides melaninogenicus.* Also, it is indicated for the control of respiratory disease in cattle at high risk of developing BRD associated with *Mannheimia haemolytica, Pasteurella multocida,* and *Histophilus somni*.

Sponsored by:

Sparhawk Laboratories, Inc.

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I. GENERAL INFORMATION

A. File Number

ANADA 200-588

B. Sponsor

Sparhawk Laboratories, Inc.
12340 Santa Fe Trail Dr.
Lenexa, KS 66215

Drug Labeler Code: 058005

C. Proprietary Name

FLORFENICOL INJECTION

D. Drug Product Established Name

florfenicol

E. Pharmacological Category

Antibacterial

F. Dosage Form

Injectable solution

G. Amount of Active Ingredient

300 mg/mL

H. How Supplied

100 mL, 250 mL, and 500 mL glass sterile multiple-dose vials

I. Dispensing Status

Prescription (Rx)

J. Dosage Regimen

For treatment of bovine respiratory disease (BRD) and bovine interdigital phlegmon (foot rot): FLORFENICOL INJECTION should be administered by intramuscular injection to cattle at a dose rate of 20 mg/kg body weight (3 mL/100 lbs). A second dose should be administered 48 hours later. Alternatively, FLORFENICOL INJECTION can be administered by a single subcutaneous (SC) injection to cattle at a dose rate of 40 mg/kg body weight (6 mL/100 lbs). Do not administer more than 10 mL at each site. The injection should be given only in the neck.

For control of respiratory disease in cattle at high-risk of developing BRD: FLORFENICOL INJECTION should be administered by a single subcutaneous injection to cattle at a dose rate of 40 mg/kg body weight (6 mL/100 lbs). Do not administer more than 10 mL at each site. The injection should be given only in the neck.

K. Route of Administration

For treatment of BRD and bovine interdigital phlegmon (foot rot): intramuscular or subcutaneous

For control of respiratory disease in cattle at high-risk of developing BRD: subcutaneous

L. Species/Class

Beef and non-lactating dairy cattle

M. Indications

FLORFENICOL INJECTION is indicated for treatment of bovine respiratory disease (BRD) associated with *Mannheimia haemolytica, Pasteurella multocida,* and *Histophilus somni,* and for the treatment of bovine interdigital phlegmon (foot rot, acute interdigital necrobacillosis, infectious pododermatitis) associated with *Fusobacterium necrophorum* and *Bacteroides melaninogenicus.* Also, it is indicated for the control of respiratory disease in cattle at high risk of developing BRD associated with *Mannheimia haemolytica, Pasteurella multocida,* and *Histophilus somni*.

N. Reference Listed New Animal Drug (RLNAD)

Nuflor®; florfenicol; NADA 141-063; Intervet, Inc.

II. BIOEQUIVALENCE

The Federal Food, Drug, and Cosmetic Act (FD&C Act), as amended by the Generic Animal Drug and Patent Term Restoration Act (GADPTRA) of 1988, allows for an abbreviated new animal drug application (ANADA) to be submitted for a generic version of an approved new animal drug (RLNAD). The ANADA sponsor is required to show that the generic product is bioequivalent to the RLNAD, which has been shown to be safe and effective. Effectiveness, target animal safety and human food safety data (other than tissue residue data) are not required for approval of an ANADA. If bioequivalence is demonstrated through a clinical endpoint study in a food-producing animal, then a tissue residue study to establish the withdrawal period for the generic product is also required. For certain dosage forms, the agency will grant a waiver from the requirement to perform *in vivo* bioequivalence studies (biowaiver) (55 FR 24645, June 18, 1990; Fifth GADPTRA Policy Letter; Bioequivalence Guideline, October 9, 2002).

Based on the formulation characteristics of the generic product, Sparhawk Laboratories, Inc., was granted a biowaiver for the generic product FLORFENICOL INJECTION (florfenicol) injectable solution. The generic drug product is an injectable solution, contains the same active ingredient in the same concentration and dosage form as the RLNAD, and contains no inactive ingredients that may significantly affect

the bioavailability of the active ingredient. The RLNAD is Nuflor® (florfenicol) injectable solution, sponsored by Intervet, Inc., under NADA 141-063, and was approved for use in beef and non-lactating dairy cattle on May 31, 1996.

III. HUMAN FOOD SAFETY

The tolerances and R_m (the concentration of the marker residue in the target tissue when the residue of carcinogenic concern is equal to S_m [the concentration of a residue of carcinogenic concern in a specific edible tissue corresponding to no significant increase in the risk of cancer to the human consumer]) for residues and withdrawal periods established for the RLNAD apply to the generic product. The following are assigned to this product for beef and non-lactating dairy cattle:

A. Acceptable Daily Intake, S_o, Tolerances and R_m for Residues

The acceptable daily intake (ADI) for total residues of florfenicol is 10 µg/kg of body weight *per* day. The S_o (concentration of residue of carcinogenic concern in the total human diet) for the N-methyl-2-pyrrolidone (NMP) is 66.8 parts *per* million (ppm). The tolerances established for the RLNAD apply to the generic product. A tolerance of 3.7 ppm is established for florfenicol amine (the marker residue) in liver (the target tissue), and 0.3 ppm in muscle, under 21 CFR 556.283. The R_m for parent NMP is 180 parts *per* million in cattle liver.

B. Withdrawal Periods

Because a biowaiver was granted, the withdrawal periods are those previously assigned to the RLNAD product. A withdrawal period of 28 days has been established for florfenicol in beef and non-lactating dairy cattle treated with two intramuscular injections of 20 mg florfenicol/kg body weight administered 48 hours apart. A withdrawal period of 38 days has been established for florfenicol in beef and non-lactating dairy cattle treated with a single subcutaneous injection of 40 mg florfenicol/kg body weight. Withdrawal periods of 28 and 38 days are consistent with the depletion of florfenicol and NMP residues in all edible tissues following treatment with FLORFENICOL INJECTION for cattle.

C. Analytical Method for Residues

The validated analytical method for analysis of residues of florfenicol is on file at the Center for Veterinary Medicine, 7500 Standish Place, Rockville, MD 20855. To obtain a copy of the analytical method, please submit a Freedom of Information request to: https://www.accessdata.fda.gov/scripts/foi/FOIRequest/requestinfo.cfm.

The regulatory method for NMP is published in 21 CFR 500.1410.

IV. USER SAFETY

The product labeling contains the following information regarding safety to humans handling, administering, or exposed to FLORFENICOL INJECTION:

WARNINGS: NOT FOR HUMAN USE. KEEP OUT OF REACH OF CHILDREN. This product contains materials that can be irritating to skin and eyes. Avoid direct contact with skin, eyes, and clothing. In case of accidental eye exposure, flush with

water for 15 minutes. In case of accidental skin exposure, wash with soap and water. Remove contaminated clothing. Consult a physician if irritation persists. Accidental injection of this product may cause local irritation. Consult a physician immediately. The Safety Data Sheet (SDS) contains more detailed occupational safety information.

V. AGENCY CONCLUSIONS

The data submitted in support of this ANADA satisfy the requirements of section 512(c)(2) of the FD&C Act. The data demonstrate that FLORFENICOL INJECTION, when used according to the label, is safe and effective for the indications listed in Section I.M. above.

Additionally, data demonstrate that residues in food products derived from beef and non-lactating dairy cattle treated with FLORFENICOL INJECTION will not represent a public health concern when the product is used according to the label.

VI. APPENDIX

Original text: The R_m for parent NMP is 700 parts *per* billion in cattle liver.

Revised text: The R_m for parent NMP is 180 parts *per* million in cattle liver.