Date of Approval: September 27, 2010

# FREEDOM OF INFORMATION SUMMARY

## SUPPLEMENTAL ABBREVIATED NEW ANIMAL DRUG APPLICATION

ANADA 200-061

FLU-NIX
(flunixin meglumine)
Injectable Solution

Horses, Beef Cattle, and Dairy Cattle

This supplement provides for a change in proprietary name and the addition of the lactating dairy cattle indication, “For the control of pyrexia associated with acute bovine mastitis.”

Sponsored by:

Agri Laboratories, Ltd.

# FREEDOM OF INFORMATION SUMMARY

## 1. General Information:

**A. File Number:** ANADA 200-061

**B. Sponsor:** Agri Laboratories, Ltd.
P.O. Box 3103
St. Joseph, MO 64503

Drug Labeler Code: 057561

**C. Proprietary Name:** FLU-NIX

**D. Established Name(s):** Flunixin meglumine

**E. Pharmacological Category:** Anti-inflammatory, analgesic

**F. Dosage Form(s):** Injectable solution

**G. Amount of Active Ingredient(s):** 50 mg/mL flunixin meglumine

**H. How Supplied:** 100 mL and 250 mL multi-dose vials

**I. How Dispensed:** Rx

**J. Dosage(s):** Horse: The recommended dose for musculoskeletal disorders is 0.5 mg per pound (1 mL/100 lb) of body weight once daily. Treatment may be given by intravenous or intramuscular injection and repeated for up to 5 days. The recommended dose for the alleviation of pain associated with equine colic is 0.5 mg per pound of body weight. Intravenous administration is recommended for prompt relief.

Cattle: The recommended dose for the control of pyrexia associated with bovine respiratory disease and endotoxemia and control of inflammation in endotoxemia is 1.1 to 2.2 mg/kg (0.5 to 1 mg/lb; 1 to 2 mL per 100 pounds) of body weight given by slow intravenous administration either once a day as a single dose or divided into two doses administered at 12-hour intervals for up to 3 days. The total daily dose should not exceed 2.2 mg/kg (1.0 mg/lb) of body weight. The recommended dose for acute bovine mastitis is 2.2 mg/kg (1.0 mg/lb; 2 mL per 100 lb) of body weight given once by intravenous injection administration. Avoid rapid intravenous administration of the drug.

**K. Route(s) of Administration:** For intravenous or intramuscular injection in horses and for intravenous injection in beef cattle and dairy cattle.

**L. Species/Class(es):** Horses, beef cattle, and dairy cattle

**M. Indication(s):** Horse: FLU-NIX is recommended for the alleviation of inflammation and pain associated with musculoskeletal disorders in the horse. It is also recommended for the alleviation of visceral pain associated with colic in the horse.

Cattle: FLU-NIX is indicated for the control of pyrexia associated with bovine respiratory disease, endotoxemia and acute bovine mastitis. FLU-NIX is also indicated for the control of inflammation in endotoxemia.

**N. Reference listed new animal drug:** BANAMINE; flunixin meglumine; NADA 101-479; Intervet Inc.

**O. Effect(s) of Supplement:** This supplement provides a change in proprietary name and for the addition of the lactating dairy cattle indication, “For the control of pyrexia associated with acute bovine mastitis.” The exclusivity period protecting this claim for the RLNAD expired on August 19, 2007.

## 2. Bioequivalence

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 selected by the agency as the reference listed new animal drug (RLNAD). 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 RLNAD, 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, Agri Laboratories, Ltd. was granted a waiver from the requirement for an *in vivo* bioequivalence study for FLU-NIX (flunixin meglumine) injectable solution. FLU-NIX is administered as 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 absorption of the active ingredient. The RLNAD is BANAMINE (flunixin meglumine) Injectable Solution, sponsored by Intervet Inc., under NADA 101-479. BANAMINE was approved for use in horses on August 2, 1977, for use in beef and non-lactating dairy cattle on May 5, 1998, and for use in lactating dairy cattle on August 19, 2004. Another injectable solution BANAMINE-S for use in swine was approved, under NADA 101-479, on November 1, 2005.

## 3. Human Food Safety:

The following are assigned to this product for cattle:

- **Tolerances for Residues:**

  The tolerance established for the pioneer product applies to the generic product. A tolerance is established for residues of parent flunixin free acid of 0.125 part per million (ppm) in cattle liver (target tissue) and 0.025 ppm in cattle muscle under 21 CFR 556.286. The acceptable daily intake for total residues of flunixin is 0.72 micrograms per kilogram of body weight per day (21 CFR 556.286).

- **Withdrawal Times:**

  Because a waiver of the *in vivo* bioequivalence study was granted, the withdrawal times are those previously assigned to the pioneer product. A withdrawal period of 4 days has been established for flunixin meglumine in cattle. Milk that has been taken during treatment and for 36 hours after the last treatment must not be used for food.

- **Regulatory Method for Residues:**

The validated regulatory method for the determination and confirmation of residues of flunixin meglumine is on file at the Center for Veterinary Medicine, 7500 Standish Place, Rockville, MD 20855.

**4. Agency Conclusions:**

This ANADA submitted under section 512(b)(2) of the Federal Food, Drug, and Cosmetic Act satisfies the requirements of section 512(n) of the act and demonstrates that FLU-NIX, when used under its proposed conditions of use, is safe and effective for its labeled indications.

**5. Attachments:**

Facsimile generic labeling and currently approved RLNAD labeling are attached as indicated below:

Generic Labeling (ANADA 200-061):

- 100 mL vial label and package outsert
- 250 mL vial label and package outsert

RLNAD Labeling (NADA 101-479):

- 100 mL vial label and carton
- 250 mL vial label and carton
- package insert