Approval Date: May 15, 2002

FREEDOM OF INFORMATION SUMMARY

ORIGINAL NEW ANIMAL DRUG APPLICATION

NADA 141-181

Lasalocid (AVATEC®) plus Bacitracin Zinc (ALBAC®)

For the prevention of coccidiosis caused by *Eimeria meleagrimitis, E. gallopavonis,* and *E. adenoeides,* and for increased rate of weight gain and improved feed efficiency in growing turkeys.

NADA provides for ALBAC® as an alternate source of bacitracin zinc for turkeys.

Sponsored by:

Alpharma, Inc.
One Executive Drive
Fort Lee, New Jersey 07024

FREEDOM OF INFORMATION SUMMARY

Combined use of AVATEC® and ALBAC® in Growing Turkey Feeds

I. GENERAL INFORMATION

NADA: 141-181

Sponsor: Alpharma, Inc.
One Executive Drive
Fort Lee, New Jersey 07024

Generic Names: Lasalocid
Bacitracin zinc

Trade Names: AVATEC®
ALBAC®

Marketing Status: OTC

No Federal Register publication was required because there was no change in the regulations.

II. INDICATIONS FOR USE

For the prevention of coccidiosis caused by *Eimeria meleagrimitis, E. gallopavonis,* and *E. adenoeides,* and for increased rate of weight gain and improved feed efficiency in growing turkeys.

III. DOSAGE

A. Dosage form: This original NADA provides for the combined use of these two Type A medicated articles as per 21 CFR 558.311 for lasalocid and 21 CFR 558.78 for bacitracin zinc. Lasalocid is supplied as a Type A medicated article in a single concentration of 90.7 grams (20 percent) of lasalocid activity per pound. Bacitracin zinc is supplied as a Type A medicated article in a single concentration of 50 grams of bacitracin activity per pound.

B. Route of Administration: Oral, via the feed.

C. Recommended Dosage:

Lasalocid	Lasalocid is added to growing turkey feed at concentrations from 68 (0.0075 pct) to 113 (0.0125 pct) g/ton for the prevention of coccidiosis caused by *Eimeria meleagrimitis, E. gallopavonis,* and *E. adenoeides.*

Bacitracin zinc	Bacitracin zinc is added to growing turkey feed at a concentrations from 4 to 50 g/ton for increased rate of weight gain and improved feed efficiency.

IV. EFFECTIVENESS

In accordance with the Federal Food, Drug, and Cosmetic Act (FFDCA), as amended by the Animal Drug Availability Act of 1996, if the active ingredients or animal drugs intended for use in combination in animal feed have previously been separately approved for the particular uses and conditions of use for which they are intended for use in combination, FDA will not refuse to approve an NADA for the combination on effectiveness grounds unless the Agency finds that the NADA fails to demonstrate that: 1) there is substantial evidence to demonstrate that any active ingredient or animal drug intended only for the same use as another active ingredient or animal drug in the combination makes a contribution to the labeled effectiveness, 2) each of the active ingredients or animal drugs intended for at least one use that is different from all other active ingredients or animal drugs used in the combination provides appropriate concurrent use for the intended target population, or 3) where the combination contains more than one nontopical antibacterial active ingredient or animal drug, there is substantial evidence that each of the nontopical antibacterial active ingredients or animal drugs makes a contribution to the labeled effectiveness (FFDCA §512 (d)(4)(D)).

Lasalocid, as provided by Alpharma Inc., has previously been separately approved for use in growing turkey feed for the prevention of coccidiosis caused by *Eimeria meleagrimitis, E. gallopavonis*, and *E. adenoeides* (21 CFR § 558.311(e)(1)(xiv)). Bacitracin zinc, as provided by Alpharma Inc., has previously been separately approved for use in turkey feed for increased rate of weight gain and improved feed efficiency (21 CFR § 558.78(d)(1)(i)). Effectiveness for each drug, lasalocid and bacitracin zinc, when administered alone in accordance with its approved uses and conditions of use, is demonstrated in Alpharma Inc.'s approved NADAs 96-298 and 98-452, respectively.

Because lasalocid and bacitracin zinc each have at least one use that is different from all other animal drugs used in the combination, the NADA must also demonstrate that lasalocid plus bacitracin zinc provides appropriate concurrent use for the intended target population. The use of lasalocid plus bacitracin zinc provides appropriate concurrent use because these drugs are intended to treat different conditions (lasalocid, coccidiosis; bacitracin zinc, weight gain and feed efficiency problems) likely to occur simultaneously with sufficient frequency in growing turkeys. There is no more than one nontopical antibacterial (bacitracin zinc) contained in this combination animal drug intended for use in Type C medicated feed. Lasalocid is not considered to be an antibacterial animal drug for use in growing turkeys for the purposes of section 512(d)(4) of the FFDCA, because lasalocid is approved only for prevention of a protozoal disease (coccidiosis) in growing turkeys.

V. ANIMAL SAFETY

In accordance with the FFDCA, as amended by the Animal Drug Availability Act of 1996, if the active ingredients have previously been separately approved for the particular uses and conditions of use for which they are intended for use in combination, FDA will not refuse to

approve an NADA for the combination on target animal safety grounds unless there is a substantiated scientific issue specific to an active ingredient or animal drug used in the combination or a scientific issue is raised by target animal observations contained in studies submitted to the NADA for the combination and FDA finds that the application fails to establish that such combination active ingredient or animal drug is safe for the target animal.

Lasalocid, as provided by Alpharma Inc., has previously been separately approved for use in growing turkey feed for the prevention of coccidiosis caused by *Eimeria meleagrimitis, E. gallopavonis*, and *E. adenoeides* (21 CFR § 558.311(e)(1)(xiv)). Bacitracin zinc, as provided by Alpharma Inc., has previously been separately approved for use in turkey feed for increased rate of weight gain and improved feed efficiency (21 CFR § 558.78(d)(1)(i)). Target animal safety for each drug, lasalocid and bacitracin zinc, when administered alone in accordance with its approved uses and conditions of use, is demonstrated in Alpharma Inc.'s approved NADAs 96-298 and 98-452, respectively. The Agency has found no substantiated scientific issue relating to the target animal safety of lasalocid or bacitracin zinc when used in combination under this NADA and no scientific issue has been raised by target animal observations submitted as part of the NADA for this combination. Thus, pursuant to FFDCA, as amended by the Animal Drug Availability Act of 1996, no specific target animal safety studies are required for approval of NADA 141-181.

VI. HUMAN SAFETY

In accordance with the FFDCA, as amended by the Animal Drug Availability Act of 1996, if the active ingredients or animal drugs intended for use in combination have previously been separately approved for the particular uses and conditions of use for which they are intended for use in combination, FDA will not refuse to approve an NADA for the combination on human safety grounds unless one or more of the active ingredients or animal drugs used in the combination at the longest withdrawal for the respective active ingredients or animal drugs in the combination exceeds the established tolerance, or one or more active ingredients or animal drugs in the combination interferes with the method of analysis for another active ingredient or drug in the combination.

A. Toxicity Studies

Safety for this combination product has been established by data in NADA 096-298 for lasalocid and in NADA 098-452 for bacitracin zinc. An ADI for bacitracin previously has been established at 0.05 mg/kg body weight/day. An ADI for lasalocid has been established at 0.01 mg/kg/day.

B. Tolerances

The tolerance for parent lasalocid in turkeys is 0.4 ppm in the liver and skin with adhering fat (FR Volume 66, Number 76, p. 19854, April 18, 2001). The tolerance for residues of bacitracin zinc is 0.5 ppm in uncooked edible tissues, milk and eggs (21 CFR 556.70).

C. Residue Non-interference Study

Non-interference among the active ingredients (lasalocid and bacitracin zinc) in tissue residue depletion at the longest withdrawal time (zero days) or in the performance of the analytical methods for tissue residues was demonstrated in the FOI summary for NADA 141-109.

D. Regulatory Methods

The method available for measuring lasalocid residues down to 5 ppb in turkey liver is the regulatory HPLC method for lasalocid in chicken skin/fat and in cattle liver which is described in the FOI summary for NADA 96-298. The regulatory analytical method for detection of residues of the bacitracin zinc is a microbiological test using *Sarcina subflava* (ATCC 7468) or *Micrococcus subflavus* (ATCC 10240). The method is found in Antibiotic Residues in Milk, Dairy Products and Animal Tissues: Method, Reports, and Protocols, Revised October 1968, Reprinted December 1974, National Center for Antibiotic and Insulin Analysis, FDA, Washington, DC 20204. Methods are also available from FDA, Center for Veterinary Medicine, HFV-199, 7500 Standish Place, Rockville, MD 20855.

VII. AGENCY CONCLUSIONS

The data submitted in support of this NADA comply with the requirements of § 512 of the FFDCA and demonstrate that lasalocid (68 to 113 g/ton) plus bacitracin zinc (4 to 50 g/ton) are safe and effective for the claims indicated in Section II of this FOI summary. The combination use of 68 to 113 g/ton lasalocid and 4 to 50 g/ton bacitracin zinc (as BACIFERM®) is already approved with a zero withdrawal period under NADA 141-109. The present application (NADA 141-181) would permit an alternate source of bacitracin zinc (ALBAC®). Data in NADA 98-452 permit the conclusion that ALBAC® and BACIFERM® are equivalent. In view of this equivalence, FDA can rely on the residue data from NADA 141-109 to support the approval of the combination use of 68 to 113 g/ton lasalocid and 4 to 50 g/ton bacitracin zinc (as ALBAC®) in feed of growing turkeys with a zero withdrawal period. Refer to the FOI Summary for NADA 141-109 for specific human food safety information and residue data.

Pursuant to 21 CFR 514.106 (b)(2), this combination NADA approval is regarded as a Category II supplemental change which did not require a reevaluation of safety and efficacy data in the parent NADAs. The drugs are to be fed in Type C medicated feeds, in accordance with Section II and III of the FOI Summary and the Blue Bird labeling that is attached to this document.

Attached labeling: Type C medicated feed (Blue Bird).

Lasalocid plus Bacitracin Zinc
Growing Turkey
Type C Medicated Feed

For the prevention of coccidiosis caused by *Eimeria meleagrimitis, E. gallopavonis,* and *E. adenoeides,* and for increased rate of weight gain and improved feed efficiency in growing turkeys.

ACTIVE DRUG INGREDIENTS

Lasalocid……..…..... 68 to 113 g/ton
Bacitracin zinc……..…….....…... 4 to 50 g/ton

GUARANTEED ANALYSIS

Crude Protein, not less than……...……_____%
Lysine, not less than…….....……_____%
Methionine, not less than……...……_____%
Crude Fat, not less than……..……...……_____%
Crude Fiber, not more than…….……...……_____%
Calcium, not less than…….....……_____%
Calcium, not more than……..…….....….._____%
Phosphorus, not less than……..……_____%
Salt[1], not less than…….....…._____%
Salt[1], not more than…….....……_____%
Sodium[2], not less than……..….....…._____%
Sodium[2], not more than…….....……_____%

[1]If added.
[2]Shall be guaranteed only when total sodium exceeds that furnished by the maximum salt guarantee.

INGREDIENTS

Each ingredient must be named in accordance with the names and definitions adopted by the Association of American Feed Control Officials.

FEEDING DIRECTIONS

Feed continuously as the sole ration.

CAUTION: For growing turkeys only.

MANUFACTURED BY

BLUE BIRD FEED MILL
Robin, Indiana 46813

NET WT 50 LBS (22.67 kg)