FREEDOM OF INFORMATION SUMMARY

SUPPLEMENTAL NEW ANIMAL DRUG APPLICATION

NADA 110-048

VALBAZEN® (albendazole)

"...for the removal and control of a variety of internal parasites common in cattle and sheep."

Sponsored by:
Pfizer, Inc.
I. GENERAL INFORMATION

**NADA Number:** 110-048

**Sponsor:** Pfizer, Inc.
235 East 42d Street
New York, New York 10017

**Established Name:** albendazole

**Trade Name:** VALBAZEN®

**Pharmacological category:** antiparasitic

**How Supplied:** 500- and 1000-mL bottles

**Label claim of the Amount of Active Ingredient(s):** 11.36% suspension (113.6 mg/mL)

**Marketing Status:** over-the-counter

**Species:** sheep and cattle

**Effect of the Supplement:** The supplement adds sheep uses approved for a less concentrated suspension to labeling for an approved, more concentrated formulation.

II. INDICATIONS FOR USE

For the removal and control of the following parasites in cattle and sheep

<table>
<thead>
<tr>
<th>Parasite</th>
<th>Cattle</th>
<th>Sheep</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liver Flukes</td>
<td><em>Fasciola hepatica</em></td>
<td><em>Fasciola hepatica, Fascioloides magna</em></td>
</tr>
<tr>
<td>Tapeworms (heads and segments)</td>
<td><em>Moniezia benedeni, M. expansa</em></td>
<td>Common Tapeworms (<em>Moniezia expansa</em>), Fringed Tapeworms (<em>Thysanosoma actinioides</em>)</td>
</tr>
<tr>
<td>Stomach Worms (adults and 4* stage larvae)</td>
<td>Brown Stomach Worms, including 4th stage inhibited larvae (<em>Ostertagia ostertagi</em>), Barberpole Worms (<em>Haemonchus contortus</em>, <em>H. placei</em>), Small Stomach Worms (<em>Trichostrongylus axei</em>)</td>
<td>Brown Stomach Worms (<em>Ostertagia circumcincta</em>, <em>Marshallagia marshalli</em>), Bark-pole Worms (<em>Haemonchus contortus</em>), Small Stomach Worms (<em>Trichostrongylus axei</em>)</td>
</tr>
</tbody>
</table>
III. DOSAGE FORM, ROUTE OF ADMINISTRATION, AND DOSAGE

A. Dosage Form: suspension

B. Route of Administration: oral, as a drench

C. Recommended Dosage: 7.5 mg/kg body weight (3.4 mg/lb; sheep) or 10 mg/kg body weight (4.45 mg/lb; cattle).

IV. TARGET ANIMAL SAFETY AND EFFECTIVENESS

Target animal safety and effectiveness data for **albendazole** in sheep and cattle were accepted under original NADA 140-934 & NADA 110-048.

The increased **albendazole** concentration is not expected to pose any specific risk hazard to sheep. The actual amount of drug administered to sheep per unit body weight remains unchanged. CVM has concluded that the two formulations should perform in an identical manner when administered to sheep. Accordingly, the sponsor’s request for waiver of **in vivo** study requirement has been granted, and no additional studies are required to support the approval of the 11.36% oral suspension of **albendazole** for sheep.
VI. HUMAN SAFETY

This supplemental NADA did not require new human safety studies. The basic toxicology and residue chemistry studies that support the use of albendazole in cattle and sheep are summarized in the FOI Summaries for the original approvals of albendazole under NADA 110-048 and NADA 140-934. Based on the original NADAs, the following has been assigned to this product:

a. **Acceptable Daily Intake:** The Acceptable Daily Intake (ADI) of 5 \( \mu g/kg \) body weight/day was assigned to cattle and sheep on the basis of the toxicology studies.

b. **Safe Concentrations of Residues:** The safe concentrations of albendazole residues in edible tissues of sheep and cattle were established at 0.6 part per million (ppm) for sheep and cattle muscle, 3.0 ppm for liver, kidney and fat tissue of sheep, 1.2 ppm for cattle liver, 1.8 ppm for cattle kidney, and 2.4 ppm for cattle fat.

c. **Tolerances of Marker Residue:** Residue and metabolism studies established 0.2 ppm and 0.25 ppm as the tolerances for residues of albendazole 2-aminosulfone (the marker residue) in cattle liver (target tissue) and sheep liver, respectively.

d. **Assignment of a muscle tolerance:** A tolerance of 0.05 ppm albendazole 2-aminosulfone is assigned for cattle and sheep muscle following a review of the residue studies conducted with albendazole in those species. The total residue studies conducted with \(^{14}C\)-albendazole show that total residues in muscle are expected to be in the range of 1 ppm to 4 ppm at 1 day after dosing under the approved conditions of use and that those residues deplete to 0.06 ppm or less (10% of the 0.6 ppm muscle safe concentration) by 3 to 4 days after dosing. Because of the rapid depletion of total residues from muscle, muscle tissue was not assayed in any of the non-radiolabeled (withdrawal) residue studies in either NADA 110-048 or NADA 140-934. Likewise, the metabolites present in muscle were not profiled.

With a minimum of residue data available, the muscle tolerance value is estimated with consideration given to the metabolize profile data in liver of each species and to the capabilities of the determinative analytical method for residues in liver. A concentration of 0.05 ppm of the marker residue is assigned as the muscle tolerance because it represents a conservative estimate of the tolerance, and it is above the 0.025 ppm limit of quantitation of the determinative assay as validated in liver. The 0.05 ppm muscle tolerance makes it possible to identify cattle or sheep that have been marketed within 1 to 3 days after treatment with albendazole. As withdrawal times approaching the preslaughter withdrawal periods of 27 days for cattle and 7 days for sheep, the marker residue is unlikely to be detected in muscle tissue.
VII. AGENCY CONCLUSIONS

The information submitted in support of this application comply with the requirements of Section 512 of the Federal Food, Drug, and Cosmetic Act and implementing regulations at Part 514 of Title 21, Code of Federal Regulations (21 CFR 514) and indicate that albendazole oral suspension (1 1.36%/0 ) is safe and effective in sheep for the conditions of the use described in labeling.

Although no new toxicology or residue chemistry studies were submitted with this supplement, CVM has used this opportunity to assign a tolerance of 0.05 ppm albendazole 2-aminosulfone for residues of albendazole in cattle and sheep muscle. The pre-slaughter withdrawal periods of 27 days in cattle and 7 days in sheep remain unchanged.

There is reasonable certainty that the directions for use on labeling can and will be followed in practice. Accordingly, the Agency has concluded that this product shall retain over-the-counter marketing status.

In accordance with 21 CFR 514.106(b)(2), this is a category II change which did not require a reevaluation of the safety and effectiveness data in the parent application.

The Agency has carefully considered the potential environmental effects of this action and has concluded that the action qualifies for a categorical exclusion from the requirement to prepare an environmental assessment in accordance with 21 CFR 25.33(a)(1).

VIII. APPROVED LABELING (attached)

Facsimile label. 1-liter bottle
Broad-Spectrum Dewormer
Oral Suspension for Use in Cattle and Sheep

Controls:
Stomach Worms
including 4th stage inhibited larvae of Ostertagia ostertagi
Intestinal Worms
Lungworms
Tapeworms
Mature Liver Fluke

1 L/33.8 fl. 02 (1 qt 1.8 fl. 02)
NADA #1 10-048, Approved by FDA

4 1/4"(W) x 4 1/2"(H)

PMS 116    PMS 2415    Black    60% Black
### Broad-Spectrum Dewormer

**Oral Suspension for Use in Cattle and Sheep**

For removal and control of:

- **Fusiformis spiralis**
- **Nematodirus spp.**
- **Ostertagia spp.**
- **Obeliscus spp.**
- **Trichostrongylus spp.**
- **Haplorchis spp.**
- **Fasciola spp.**
- **Taenia spp.**
- **Dipylidium caninum**

**Active Ingredient:**

*Albendazole* 11.25%

**Precautions**

- Do not exceed the recommended rate of administration.
- Do not use in animals weighing less than 90 kg or 200 lbs.
- Do not use in pregnant or lactating animals.
- Do not use in animals for the control of *Strongyloides* spp.
- Do not use in animals for the control of *Trichuris suis*.

**Dosage and Administration**

**Cattle**

- **Indications**: For the control of worm infections in cattle resulting in: weight loss, decreased milk production, and decreased feed efficiency.
- **Route of Administration**: Oral suspension.
- **Dosage and Administration**: Administer orally at the rate of 1 mg/kg of body weight. The following table indicates recommended dosing schedules:

<table>
<thead>
<tr>
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<td>150 kg to 200 kg</td>
<td>30 mL</td>
<td>200 kg to 250 kg</td>
<td>40 mL</td>
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**Sheep**

- **Indications**: For the control of worm infections in sheep resulting in: weight loss, decreased milk production, and decreased feed efficiency.
- **Route of Administration**: Oral suspension.
- **Dosage and Administration**: Administer orally at the rate of 1 mg/kg of body weight. The following table indicates recommended dosing schedules:

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<td>7.5 mL</td>
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**Adverse Reactions**

- Gastrointestinal: Abdominal pain, diarrhea, anorexia, depression, decreased milk production, and decreased feed efficiency.
- Other: None reported.

**Precautions**

- Do not use in animals weighing less than 90 kg.
- Do not use in pregnant or lactating animals.
- Do not use in animals for the control of *Trichuris suis*.

**Calcium Carbonate**

- **Indications**: For the control of worm infections in cattle and sheep resulting in: weight loss, decreased milk production, and decreased feed efficiency.
- **Route of Administration**: Oral suspension.
- **Dosage and Administration**: Administer orally at the rate of 1 mg/kg of body weight. The following table indicates recommended dosing schedules:

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**Adverse Reactions**

- Gastrointestinal: Abdominal pain, diarrhea, anorexia, depression, decreased milk production, and decreased feed efficiency.
- Other: None reported.

**Precautions**

- Do not use in animals weighing less than 90 kg.
- Do not use in pregnant or lactating animals.
- Do not use in animals for the control of *Trichuris suis*.

**Lot and Expiration**

- **Lot Number**: 1421
- **Expiration Date**: 09/17

**Storage**

- Store at room temperature (59°F to 86°F).
- Protect from freezing and thawing.

**Manufactured by**

- **Company Name**: AlberTech
- **Address**: 1136 W. Flynn Ave., Missoula, MT 59808
- **Contact Information**: 406-543-1234

**Packaging**

- **Packaging Type**: Oral suspension
- **Packaging Description**: Oral suspension in a bottle.

**Additional Information**

- **Packaging Size**: 4.5 oz (128.5 g)
- **Packaging Material**: Glass bottle with a child-resistant cap.
- **Storage Conditions**: Store at room temperature (59°F to 86°F).
- **Effective Date**: 09/17

**Important Notice**

- This product is for use in cattle and sheep only. Do not use in any other species.
Valbazen 11.36% Suspension should be administered orally using a properly functioning dosing tube or dose syringe. Important Accurate estimates of the weight of the cattle or sheep to be treated are essential for most effective results with this product. Animals constantly exposed to internal parasites should be retreated as necessary. Warnings Cattle must not be slaughtered within 27 days following last treatment. Sheep must not be slaughtered within 7 days following last treatment. Because a withdrawal time in milk has not been established, do not use in female dairy cattle of breeding age. Caution Do not administer to females of breeding during first 45 days of pregnancy or for 45 days after removal of buf. Do not administer to ewes during the first 90 days of pregnancy or for 30 days after removal of rams. Consult your veterinarian for assistance in the diagnosis, treatment, and control of parasitism. Keep this and all medication out of reach of children.

Shake Well Before Using
For use in Animals Only
Store at Controlled Room temperature 15-50°C (59°-95°F) protect from freezing. U.S. Patent Nos. 3,915,96 and 3,756,986 865-5078-045 Made in USA

LOT 07219-01421
EXP 86-8784-05
Draft #1 9/1/98

1 50%
4 1/4"(W) x 4 1/2"(H)

Black