

**Approval Date: June 11, 2003**

**FREEDOM OF INFORMATION SUMMARY**

**SENTINEL<sup>®</sup> (milbemycin oxime/lufenuron) FLAVOR TABS<sup>®</sup>**

**Supplemental NADA 141- 084**

**Novartis Animal Health US, Inc.**

**Greensboro, NC 27408**

This supplemental New Animal Drug Application is for the concurrent use of SENTINEL<sup>®</sup> Flavor Tabs<sup>®</sup> and CAPSTAR<sup>®</sup> Tablets in dogs and puppies to kill adult fleas and prevent flea eggs from hatching. The effects of SENTINEL<sup>®</sup> Flavor Tabs<sup>®</sup>, which prevent and control flea populations, and CAPSTAR<sup>®</sup> Tablets, which treat flea infestations, are combined to provide a FLEA MANAGEMENT SYSTEM<sup>™</sup>.

**1. GENERAL INFORMATION:**

- a. File Number: NADA 141-084
- b. Sponsor: Novartis Animal Health US, Inc.  
3200 Northline Ave., Suite 300  
Greensboro, NC 27408  
Drug Labeler Code: 058198
- c. Established Name: Milbemycin oxime/lufenuron
- d. Proprietary Name: SENTINEL<sup>®</sup> Flavor Tabs<sup>®</sup>
- e. Dosage Form: Oral Tablets
- f. How Supplied: SENTINEL<sup>®</sup> Flavor Tabs<sup>®</sup> are available in four tablet sizes (See Dosage section), formulated according to the weight of the dog. Each tablet size is available in color-coded packages of six tablets each.
- g. How Dispensed: Rx
- h. Amount of Active Ingredients: Refer to the dosage section.
- i. Route of Administration: Oral
- j. Species/Class: Dogs
- k. Recommended Dosage:

SENTINEL<sup>®</sup> Flavor Tabs<sup>®</sup> are given orally, once a month, at the recommended minimum dosage of 0.23 mg/lb (0.5mg/kg) milbemycin oxime and 4.55 mg/lb (10 mg/kg) lufenuron.

**Recommended Dosage Schedule**

Body Weight	Milbemycin Oxime Per Tablet	Lufenuron/ Tablet
2 to 10 lbs	2.3 mg	46 mg
11 to 25 lbs	5.75 mg	115 mg
26 to 50 lbs	11.5 mg	230 mg
51 to 100 lbs.	23.0 mg	460 mg

Dogs over 100 lbs. are provided the appropriate combination of tablets.

The dosage schedule for the concurrent use of CAPSTAR<sup>®</sup> Tablets and SENTINEL<sup>®</sup> Flavor Tabs<sup>®</sup> is addressed in NADA 141-204.

- l. Pharmacological Category: Lufenuron is an insect development inhibitor.  
Milbemycin oxime is an anthelmintic.
- m. Indications: SENTINEL<sup>®</sup> Flavor Tabs<sup>®</sup> are indicated for use in dogs and puppies four weeks of age and older, and two pounds of body weight or greater for the prevention of heartworm disease caused by *Dirofilaria immitis*, for the prevention and control of flea populations, the control of adult *Ancylostoma caninum* (hookworm), and the removal and control of adult *Toxocara canis*, *Toxascaris leonina* (roundworm) and *Trichuris vulpis* (whipworm) infections.
- n. Effect of Supplement: Approval of this supplemental NADA will change the labeling for NADA 141-084.
1. There are some minor revisions to clarify the currently approved text in the package insert.
  2. Use of the Client Information insert will be discontinued.
  3. The package insert is revised to include reference to the concurrent use of CAPSTAR<sup>®</sup> (nitenpyram) Tablets (NADA 141-175) to kill adult fleas. The information supporting approval for this concurrent use is documented in NADA 141-204.
  4. The unit dose cartons are revised to refer to concurrent use with CAPSTAR<sup>®</sup> Tablets.
  5. Each unit dose carton will contain an additional “FLEA MANAGEMENT SYSTEM<sup>™</sup>” package insert that provides specific information for using CAPSTAR<sup>®</sup> Tablets with SENTINEL<sup>®</sup> Flavor Tabs<sup>®</sup>.

**2. EFFECTIVENESS:**

- a. For information about the effectiveness of SENTINEL<sup>®</sup> Flavor Tabs<sup>®</sup> please refer to the FOI summary for the original approval dated April 10, 1997 (A-0000).
- b. For information about the effectiveness of the concurrent use of CAPSTAR<sup>®</sup> Tablets with SENTINEL<sup>®</sup> Flavor Tabs<sup>®</sup> please refer to the FOI summary for NADA 141-204.

**3. TARGET ANIMAL SAFETY:**

- a. For information about the safety of SENTINEL<sup>®</sup> Flavor Tabs<sup>®</sup> please refer to the FOI summary for the original approval dated April 10, 1997 (A-0000).
- b. For information about the safety of SENTINEL<sup>®</sup> Flavor Tabs<sup>®</sup> used concurrently with CAPSTAR<sup>®</sup> Tablets please refer to the FOI summary for NADA 141-204.

**4. HUMAN SAFETY:**

This drug is intended for use in dogs, which are non-food animals. Because this new animal drug is not intended for use in food producing animals, data on human safety pertaining to drug residues in food were not required for approval of this NADA.

Human Warnings are provided on the product label as follows: “Not for human use. Keep this and all drugs out of the reach of children.”

**5. AGENCY CONCLUSIONS:**

The data in support of this supplemental NADA satisfy the requirements of Section 512 of the Federal Food, Drug, and Cosmetic Act and 21 CFR Part 514 of the implementing regulations. The data demonstrate that SENTINEL<sup>®</sup> Flavor Tabs<sup>®</sup>, when used in accordance with the directions provided by the revised labeling, are safe and effective for the prevention of heartworm disease caused by *Dirofilaria immitis*, for the prevention and control of flea populations, the control of adult *Ancylostoma caninum* (hookworm), and the removal and control of adult *Toxocara canis* and *Toxascaris leonina* (roundworm) and *Trichuris vulpis* (whipworm) infections.

Under section 512(c)(2)(F)(iii) of the Federal Food, Drug, and Cosmetic Act, this approval qualifies for THREE years of marketing exclusivity beginning on the date of the approval. The three years of marketing exclusivity applies only to the concurrent use with CAPSTAR<sup>®</sup> (nitenpyram) for which this supplement is approved.

According to the Center's supplemental approval policy (21 CFR 514.106), this is a Category II change. The approval of this change is not expected to have any adverse effect on the safety or effectiveness of this new animal drug. Accordingly, this approval did not require a reevaluation of the safety and effectiveness data in the parent application

SENTINEL<sup>®</sup> Flavor Tabs<sup>®</sup> are under US patent numbers 5,994,395, which expires January 23, 2018, and 4,547,520, which expires June 14, 2004.

**6. ATTACHMENTS:**

Facsimile Labeling is attached as indicated below.

- a. Veterinary Insert
- b. Unit Dose Cartons - 2.3-46 mg, 5.75-115 mg, 11.5-230 mg, 23-460 mg