SENTINEL® SPECTRUM® Chews protects against heartworm disease, 4 types of intestinal parasites, and prevents flea eggs from hatching. SENTINEL® FLAVOR TABS® protects against heartworm disease, 3 types of intestinal parasites, and prevents flea eggs from hatching.

*A SPECTRUM OF PROTECTION
WORRY-FREE PARASITE COVERAGE

Protect against UNSEEN® THREATS

*SENTINEL® SPECTRUM® Chews protects against heartworm disease, 4 types of intestinal parasites, and prevents flea eggs from hatching. SENTINEL® FLAVOR TABS® protects against heartworm disease, 3 types of intestinal parasites, and prevents flea eggs from hatching.
MORE OPTIONS FOR MORE COVERAGE

From head to tail, your dog needs coverage against heartworms, intestinal parasites, and flea eggs that can easily go undetected. SENTINEL® products offer 2 great forms of parasite protection you can trust.1,2

SENTINEL SPECTRUM Chews provides maximum coverage1:

- Protection against 6 types of parasites1
- Prevents heartworm disease and treats tapeworms1
- For dogs and puppies as young as 6 weeks of age1

Dogs love BEEF & BACON-FLAVORED CHEWS4

- 99% ACCEPTANCE1,4

SENTINEL FLAVOR TABS provides a spectrum of protection2:

- Protection against 5 types of parasites2
- Prevents heartworm disease2
- For dogs and puppies as young as 4 weeks of age2

It only takes one bite from an infected mosquito TO TRANSMIT HEARTWORM DISEASE3

* A caninum
† Prevents flea eggs from hatching
The safety of SENTINEL® SPECTRUM® Chews has not been evaluated in dogs used for breeding or in lactating females.

D. immitis
At the discretion of the veterinarian, infected dogs should be treated to remove adult heartworms. SENTINEL SPECTRUM
Prior to administration of SENTINEL SPECTRUM Chews, dogs should be tested for existing heartworm infections.
Not for use in humans. Keep this and all drugs out of the reach of children.
become reinfected and shed eggs between treatments.
Heartworm Prevention: In a well-controlled laboratory study, SENTINEL SPECTRUM Chews (milbemycin oxime, lufenuron, praziquantel) were 100% effective against induced heartworm infections when administered monthly for 6 consecutive months. In well-controlled laboratory studies, neither one dose nor two consecutive doses of SENTINEL SPECTRUM Chews provided 100% effectiveness against induced heartworm infections.
Intestinal Nematodes and Cestode Treatment and Control: Elimination of the adult stage of hookworm (Ancyclostoma caninum), adult whipworm (Trichuris vulpis), and adult tapeworm (Dipylidium caninum, Taenia pisiformis, Echinococcus multilocularis and Echinococcus granulosus) in dogs and puppies of body weight or greater and six weeks of age and older.
Dosis and Administration: SENTINEL SPECTRUM Chews should be administered orally, once every month, at the minimum dosage of 0.23 mg/lb (0.5 mg/kg) milbemycin oxime, 4.55 mg/lb (10 mg/kg) lufenuron, and 2.28 mg/lb (5 mg/kg) praziquantel. For heartworm prevention, give once monthly for at least 6 months after exposure to mosquitoes (see EFFECTIVENESS).
To ensure adequate absorption, always administer SENTINEL SPECTRUM Chews to dogs immediately after or in conjunction with a normal meal.
SENTINEL SPECTRUM Chews may be offered to the dog by hand or added to a small amount of dog food. The chewables should be administered in a manner that encourages the dog to chew, rather than to swallow without chewing. Chewable tablets are formulated to feed to dogs that swallow treats whole. Care should be taken that the dog consumes the complete dose, and treated animals should be observed a few minutes after administration to ensure that no part of the dose is lost or rejected. If it is suspected that any of the dose has been lost, redosing is recommended.
Heartworm Prevention: SENTINEL SPECTRUM Chews should be administered at monthly intervals beginning within one month of the dog’s first seasonal exposure to mosquitoes and continuing until at least 6 months after the dog’s last exposure (see EFFECTIVENESS). SENTINEL SPECTRUM Chews should be administered at least once a month for 6 months if the dog is to remain heartworm-free. Under these conditions, with follow-up testing, SENTINEL SPECTRUM Chews provide 100% effectiveness against heartworm disease.
Flea Prevention and Control: In well-controlled studies, SENTINEL SPECTRUM Chews were effective in preventing flea eggs from hatching, thus providing control of the development of flea populations (Ctenocephalides felis).
Palatability: In a field study of 117 dogs offered SENTINEL SPECTRUM Chews, 113 dogs (96%) accepted the product when offered from the hand as if a treat, 2 dogs (1.7%) accepted it from the bowl with food, 1 dog (0.9%) accepted it when it was placed in the dog’s mouth, and 1 dog (0.9%) refused it.
Animal Safety: In a margin of safety study, 40 ten-week-old puppies (10 per group) were administered either a sham dose (0X) or doses of 1, 5, or 5X the maximum exposure dose of SENTINEL SPECTRUM Chews once every two weeks for a total of seven treatments. Transient ataxia, lethargy, trermor, and salivation were seen in the 3X and 5X groups following each of the seven doses. Lethargy and ataxia were occasionally reported in sham-dosed (0X) and 1X dogs.
Tremors were observed twice post-treatment in the 1X treatment group. Vomiting was seen in all treatment groups but at a higher incidence in the 3X and 5X groups. At the 5X dose, shallow breathing was noted in two dogs and one dog was observed to pant for two minutes. All clinical signs resolved within one day.
In a second margin of safety study, 46 six-week-old puppies (16 per group) were dosed with either a sham (0X) or 1, 3, or 5X the maximum exposure dose of SENTINEL SPECTRUM Chews on days 1, 15, 29, and 43. A dose dependent increase in ataxia, decreased activity, tremors, and salivation was seen within 24 hours of treatment. Sialyd Hill syndromes were observed once in one dog in the 5X treatment group. Vomiting was observed in the 5X treatment group.
For SENTINEL SPECTRUM Chews, the maximum exposure dose based on product dosing is 2.5 mg/kg for milbemycin oxime, 50.7 mg/kg for lufenuron and 25.1 mg/kg for praziquantel, which is higher than the minimum effective dose used in the safety studies for milbemycin oxime and lufenuron (see below).
Milbemycin Oxime: Two studies were conducted in heartworm-infected dogs treated with milbemycin oxime. Mild, transient hypersensitivity reactions were observed in dogs with high microfilariae counts (see PRECAUTIONS). Safety studies in pregnant dogs demonstrated that doses of 0.6X the maximum exposure dose of SENTINEL SPECTRUM Chews (1.5 mg/kg) administered daily from mating through weaning resulted in no developmental abnormalities. Lufenuron tablets did not cause cholinesterase inhibition nor did they enhance cholinesterase activity.
tration in the milk compared to drug levels in the blood of treated females). Nursing puppies averaged 8-9 times pup birth weights, and pup clinical signs, after administration of lufenuron up to 1X the maximum exposure dose of SENTINEL SPECTRUM Chews before, on the day of, or shortly after whelping, resulted in no effects on the puppies.
Some nursing puppies, at 2, 4, and 6 weeks of age, administered oral doses of 9.6 mg/kg milbemycin oxime (3X the maximum exposure dose of SENTINEL SPECTRUM Chews) caused no overt toxicity. A single dose of 200 mg/kg had no marked effect on adult dogs, but caused decreased activity and appetite in all age groups (no effect on pups). These effects were observed once in one dog in the 5X treatment group. A rising-dose safety study conducted in rough-coated Collies resulted in ataxia, pyrexia, and periodic recumbency in one of fourteen dogs administered milbemycin oxime at 12.5 mg/kg (5X the maximum exposure dose of SENTINEL SPECTRUM Chews). Prior to dosing, these dogs were given the 12.1 mg/kg dose of the study, all animals were observed to have the same doses as the 2X treatment group and dose that the dogs were exposed to two doses. These doses were administered during the 20 mg/kg dose of the study. All clinical signs resolved within one day.
Flea Prevention and Control: Treatment with SENTINEL SPECTRUM Chews may begin at any time of the year, preferably starting one month before fleas become active and continuing monthly through the end of flea season. In areas where fleas are not a year-round problem, monthly treatment with SENTINEL SPECTRUM Chews should continue throughout the year without interruption. When switching from another heartworm preventative product to SENTINEL SPECTRUM Chews, the first dose of SENTINEL SPECTRUM Chews should be given within a month of the last dose of the former product.
Two laboratory and two well-controlled field studies were conducted to evaluate reproductive safety of lufenuron tablets in breeding dogs. In one of the laboratory studies, in which lufenuron was administered to Beagle dogs as three divided doses, equal to 17.8X the maximum exposure dose of SENTINEL SPECTRUM Chews (10 mg/kg), the ratio of gravid females to females mated was 8/8 or 100% in the control group and 6/7 or 67% in the lufenuron-treated group. The mean number of microfilariae in control female dogs was 200 and in lufenuron-treated females was 300. All females were exposed to the same gravid females from treated females in this study was lower than control groups. These pups grew at a similar rate to the control pups. The incidence of nasal discharge, pulmonary congestion, diarrhea/dehydration, and sluggishness was higher in the lufenuron-treated pup group than in the control pup group. The incidence of these signs was transient and decreased by the end of lactation.
Results from these additional reproductive safety studies, one laboratory and two field studies, evaluating eleven breeds of dogs, did not demonstrate any adverse findings for the reproductive parameters measured, including fertility, pup birth weights, and pup clinical signs, after administration of lufenuron up to 1X the maximum exposure dose of SENTINEL SPECTRUM Chews. The average milk: blood concentration ratio was approximately 50 (i.e. 60X higher drug concentration in milk than in the blood of treated females). Nursing puppies averaged 8-9 times higher blood concentrations of lufenuron compared to their dams.
Storage Information: Store in a dry place at controlled room temperature, between 59° and 77°F (15°-25°C).
How Supplied: SENTINEL SPECTRUM Chews are available in four strengths, formulated according to the weight of the dog. Each strength is available in color-coded packages of six chewable tablets each.
Manufactured for: Intervet Inc (d/b/a Merck Animal Health)
2 Girald Farms
Madison, NJ 07940
Approved by FDA under NADA # 141-333
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Rev. 07/20 302219 - 04
The palatable once-a-month prescription tablet that prevents heartworm disease and flea populations in dogs and puppies. SENTINEL FLAVOR TABS® (milbemycin oxime/lufenuron) also control flea populations and adult hookworms, and remove and control adult roundworm and whipworm infections in dogs and puppies.

Caution
Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian.

Warnings
Not for human use. Keep this and all drugs out of the reach of children.

Description
SENTINEL FLAVOR TABS are available in four tablet sizes in color-coded packages for oral administration to dogs and puppies according to their weight. (See Dosage Section). Each tablet is formulated to provide a minimum of 0.23 mg/pound (0.5 mg/kg) of milbemycin oxime and 4.55 mg/pound (10 mg/kg) body weight of lufenuron. Milbemycin oxime consists of the oxime derivatives of 5-dihydoxydiethylcarbamoyls in the ratio of approximately 80% A (C9H18NO3, MW 178.12) and 20% A (C9H18NO3, MW 241.18). Milbemycin oxime is classified as a macrocyclic anthelminthic.

Lufenuron is a benzoylphenylurea derivative with the following chemical composition: C16H12Cl2F6N2O3 (C17H8Cl2F8N2O3, MW 511.15). Lufenuron is not an anthelminthic, but is a pyrethroid insecticide that kills immature stages of insects.

Mode of Action
Sentinel FLAVOR TABS contain the same active ingredient in SENTINEL FLAVOR TABS, is a macrocyclic anthelminthic which is believed to act by interfering with invertebrate neurotransmission. Milbemycin oxime eliminates the tissue stage of heartworm larvae and the adult stage of hookworm (Ancylostoma caninum), roundworm (Toxocara canis and Toxascaris leonina), and whipworm (Trichuris vulpis) infestations when administered orally according to the recommended dosage schedule.

Lufenuron, the other active ingredient in SENTINEL FLAVOR TABS, is an insect development inhibitor which breaks the flea life cycle by inhibiting pupal development. Lufenuron’s mode of action interferes with chitin synthesis, polymerization, and deposition. Lufenuron has no effect on the adult flea.

Sentinel FLAVOR TABS are indicated for use in dogs and puppies, four weeks of age and older, and two pounds body weight or greater. SENTINEL FLAVOR TABS are also indicated 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) infestations.

Lufenuron controls flea populations by preventing the development of flea eggs and does not kill adult fleas. Concurrent use of an adulticide product may be necessary for adequate control of adult fleas.

Without concurrent use of an adulticide, adequate flea control may not be achieved in dogs that have repeated exposure to flea infested animals or environments.

Precautions
Do not use in puppies less than four weeks of age and less than two pounds of body weight. Prior to administration of SENTINEL FLAVOR TABS, dogs should be treated for existing heartworm infections. Infected dogs should be treated to remove adult heartworms and microfilariae prior to initiating treatment with SENTINEL FLAVOR TABS. Mild, transient hypersensitivity reactions manifested as labored respiration, vomiting, salivation, and lethargy have been noted in some treated dogs carrying a high number of circulating microfilariae. These reactions are presumably caused by release of protein from dead or dying microfilariae.

SENTINEL FLAVOR TABS immediately break the flea life cycle by inhibiting egg development. However, preexisting flea populations may continue to develop and emerge after treatment with SENTINEL FLAVOR TABS has begun. Based on results of clinical studies, this emergence generally occurs during the first 30-60 days. Therefore, noticeable control may not be expected until several weeks after dosing when a preexisting infestation is present. Cooler geographic areas may have longer lag periods due to a prolonged flea life cycle. The concurrent use of an approved adulticide may be employed depending on the severity of the infestation.

If a Sentinel FLAVOR TABS-treated dog comes in contact with a flea-infested environment, adult fleas may infest the treated animal. These adult fleas are unable to produce viable offspring. The temporary use of an adulticide product may be necessary to kill these adult fleas.

Efficacy: Milbemycin Oxime
Milbemycin oxime provided complete protection against heartworm infection in both controlled laboratory and clinical trials. In laboratory studies, a single dose of milbemycin oxime at 0.5 mg/kg was effective in removing roundworms, hookworms and whipworms. In well-controlled clinical trials, milbemycin oxime was effective in removing roundworms, hookworms, and whipworms, and in controlling hookworms.

Efficacy: Lufenuron
Lufenuron provided 99% control of flea egg development for 32 days following a single dose of lufenuron at 10 mg/kg in studies using experimental flea infestations. In well-controlled clinical trials, when treatment with lufenuron tablets was initiated prior to the flea season, mean flea counts were lower on lufenuron-treated dogs versus placebo-treated dogs. After 6 monthly treatments, the mean number of fleas on lufenuron-treated dogs was approximately 4 compared to 230 on placebo-treated dogs.

When treatment was initiated during the flea season, lufenuron tablets were effective in controlling flea infestations on dogs that completed the study. The mean flea count per lufenuron-treated dog was approximately 74 prior to treatment but had decreased to 4 after 6 monthly doses of lufenuron. A topical adjudicate was used in the first six weeks of the study to kill the pre-existing adult fleas.

Safety: Milbemycin Oxime
Milbemycin oxime has been tested safely in over 75 different breeds of dogs, including collies, pregnant females, breeding males and females, and puppies over two weeks of age. In well-controlled clinical field studies 786 dogs completed treatment with milbemycin oxime. Milbemycin oxime was used safely in animals receiving frequently used veterinary products such as vaccines, anthelmintics, antibiotics, steroids, flea collars, shampoos and dips. Two studies in heartworm-infected dogs were conducted which demonstrated mild, transient hypersensitivity reactions in treated dogs with high microfilariaemia counts (see Precautions for reactions observed). Safety studies in pregnant dogs demonstrated that high doses (1.5 mg/kg - 3X) of milbemycin oxime given in an exaggerated dosing regimen (daily from mating to parturition) resulted, in measurable concentrations of the drug in milk. Puppies nursing these females which received exaggerated dosing regimens demonstrated milbemycin-related effects. These effects were directly attributable to the exaggerated experimental dosing regimen. The product is normally intended for once-a-month administration only. Subsequent studies included using 3X daily from mating to one week before weaning and demonstrated no effects on the pregnant females or their litters. A second study where pregnant females were dosed once at 3X the monthly use rate either before, on the day of or shortly after whelping resulted in no effects on the puppies.

The incidence of these signs was transient and decreasing by the end of lactation. Results from three additional reproducibility safety studies, one laboratory and two clinical field studies evaluating eleven breeds of dogs, did not demonstrate any adverse reactions in the reproductive parameters measured including fertility, pup birth weights and pup clinical signs after administration of lufenuron up to 5X the recommended monthly use rate.

Data from analysis of milk from lactating animals treated with lufenuron tablets at 2X and 5X the recommended monthly use rate demonstrated that lufenuron concentrations in the milk of these dogs. The average milk-blood concentration ratio was approximately 60 (i.e. 50 higher drug concentrations in the milk compared to drug levels in the treated females). Nursing puppies averaged 8-9 times higher blood concentrations of lufenuron compared to their dams.

Dosage
SENTINEL FLAVOR TABS are given orally, once a month, at the recommended minimum dosage of 0.23 mg/kg (0.5 mg/kg) milbemycin oxime and 4.55 mg/kg (10 mg/kg) lufenuron. Dogs over 100 lbs are provided the appropriate combination of tablets.

Administration
TO ENSURE ADEQUATE ABSORPTION, ALWAYS ADMINISTER SENTINEL FLAVOR TABS TO DOGS IMMEDIATELY AFTER OR IN CONJUNCTION WITH A NORMAL MEAL.

SENTINEL FLAVOR TABS are palatable and most dogs will consume the tablet when offered by the owner. As an alternative to direct dosing, the tablets can be hidden in food. Be certain the dog consumes the entire tablet or tablets. Administrate SENTINEL FLAVOR TABS to dogs immediately after or in conjunction with a normal meal. Food is essential for adequate absorption of lufenuron. Watch the dog closely following administration to be sure the entire dose has been consumed.

If a dose is missed and a 30-day interval between dosing is exceeded, administer SENTINEL FLAVOR TABS immediately and resume the monthly dosing schedule. If SENTINEL FLAVOR TABS replace daily diethylcarbamazine (DEC) for heartworm prevention, the first dose must be given within 30 days after the last dose of DEC.

Adverse Reactions
The following adverse reactions have been reported in dogs after giving milbemycin oxime or lufenuron: vomiting, depression/lethargy, pruritus, urticaria, diarrhea, anorexia, skin congestion, ataxia, convulsions, hyperesthesia, and weakness.

To report suspected adverse drug events, contact Merck Animal Health at 1-800-224-5318. For additional information about adverse drug experience reporting for animal drugs, contact FDA at 1-888-FDA-VETS or www.fda.gov/reportanimalae.

How Supplied
SENTINEL FLAVOR TABS 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 6 or 12 tablets each, which are packaged 10 per display carton.

Storage Conditions
Store in a dry place at controlled room temperature, between 59° and 77°F (15-25°C).

Questions? Comments?
Please Call 1-800-224-5318
Visit our website at SentinelPet.com
Manufactured for
Intervet Inc. (a division of Merck Animal Health)
2 Giralda Farms
Madison, NJ 07940
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Rev. 07/20
NEVER FORGET A DOSE

Sign up for dosing reminders to help protect your dog all year round.

SENTINEL SPECTRUM Chews
dosing reminders

SENTINEL FLAVOR TABS
dosing reminders

IMPORTANT SAFETY INFORMATION:

SENTINEL® SPECTRUM® Chews (milbemycin oxime/lufenuron/praziquantel). Dogs should be tested for heartworm prior to use. Mild hypersensitivity reactions have been noted in some dogs carrying a high number of circulating microfilariae. Treatment with fewer than 6 monthly doses after the last exposure to mosquitoes may not provide complete heartworm prevention. See inside for full product information.

SENTINEL® FLAVOR TABS® (milbemycin oxime/lufenuron). Dogs should be tested for heartworm prior to use. In a small percentage of treated dogs, digestive, neurologic, and skin side effects may occur. See inside for full product information.


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