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UNDER THE FEDERAL INSECTICIDE
ACT AND THE FEDERAL ANIMAL
MEDICINE ACT THROUGH THE SYSTEM
ED UNDER NO. 9156-1

Caution: The active ingredient of SOK Improved is a potent drug. Safety studies in our laboratories revealed no signs of toxicity in animals treated according to directions with SOK Improved. However, there have been reports from the field that an occasional cat may display signs of excitation and excessive salivation after administration of SOK Improved. In a few instances, these reactions have led to death of the cat. Prompt treatment by a veterinarian is essential. Do not treat nursing puppies or kittens.

SOK Improved is available through your veterinarian.

from your
veterinarian

Upjohn

The Upjohn Company
Veterinary Division
Kalamazoo, Michigan

... where science turns to
healing

U.S. PATENT OFFICE JANUARY, 1962

The Pest and the Problem

Fleas, ticks and lice (ectoparasites) are a constant and irritating problem to dogs and cats. These pests can be the source of local irritation to a pet's skin and can lead to infection or other serious complications as a result of scratching. No matter how much care is taken to rid the pet of these pests, their life cycles are such that they can live away from the pet and return at different times.

Fleas and ticks in the adult stage live on your pet and feed on him. The females when ready to lay their eggs usually leave the animal. The eggs hatch, go through certain stages of development and when adult, return to a host

animal. Both fleas and ticks can live away from the host animal for long periods.

With the nature of these pests' life cycle being what it is, treatment for their control should include the pet's bedding, kennel, and runways. Even though the pet and home are constantly treated and the problem may appear to be under control, your pet's visit to one of his favorite haunts (woods, dirt, sand, stumpy areas, etc.) may reintroduce the parasites to him and to his home.

SOK Improved for Effective Control

SOK Improved is a new insecticide for use on dogs and cats that effectively kills ticks, fleas, and lice

■ SOK Improved kills all stages of dog and cat fleas and lice within minutes; ticks within a matter of hours.

■ One application may be effective for one to two weeks. Being a powder, it can be applied to bedding and other favorite spots of the pet.

■ SOK Improved has a non-greasy finely micronized powder base formulation that immediately "sifts" down through the hair to the pet's skin where pests are usually located.

■ It does not have an unpleasant odor and can be used on hair coats of all colors without fear of discoloration.

■ It will not stain clothing or furniture.

■ It acts as a grooming aid.

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to the skin of the animal and is a grooming aid in the care of the coat of the pet.

Action

SOX Improved kills fleas, ticks, and lice that cause discomfort to animals. Its active ingredient, a new carbamate, is a potent cholinesterase inhibitor of insects which effectively kill fleas, lice, and ticks. Post-treatment skin irritation due to the insecticide has not been reported.

Precautions

Do not administer to animals under treatment with or exposed to other cholinesterase-inhibiting products, including phenothiazine derivative tranquilizers. Do not treat nursing kittens or puppies.

Caution

Human beings should avoid prolonged breathing of dust. Wash hands thoroughly after applying to pet. Keep away from food-stuffs. Keep out of the reach of children.

Antidote

The active ingredient has a cholinergic effect. Atropine is an antidote. Some general recommendations for treatment of adverse reactions include:

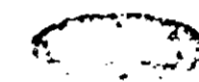
- 1. Do not tranquilize or sedate the animal to attenuate reactions.

- 2. Atropine must be given I.V. or I.M. in doses generally regarded as high. The dose is approximately 2.5 to 5 mg. in cats and 5 to 10 mg. in dogs.
- 3. It is important that atropinization be checked and maintained for several hours. It may be necessary in some cases to repeat the dose of atropine to maintain a satisfactory dosage during time and amount by the response of the patient.

The Package

SOX Improved is supplied in thirteen cans containing three ounces of powder. The cans are supplied in boxes of twelve.

The Upjohn Company
 Veterinary Products • Kalamazoo, Michigan
 January 1969



Approved by the U.S. Department of Agriculture

SOX Improved

Active Ingredient

4-(4-chlorophenyl)-4-oxyl-1-methylcarbamate

SOX Improved is a new, effective flea and tick repellent and insecticide for dogs and cats. It contains a new, potent carbamate which is effective against fleas, ticks, and lice. SOX Improved is the most powerful insecticide available for the control of these pests. It is safe and effective for use on dogs and cats of all breeds and colors.

Indications

- 1. Fleas, ticks, and lice, and the irritation, itching, and discomfort caused by these pests.
- 2. Fleas, ticks, and lice, and the irritation, itching, and discomfort caused by these pests.

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3. To control fleas, ticks, and lice on pets when presented for surgical procedures, hospitalization, or boarding.

Advantages

1. SOK Improved does not impart an unpleasant odor; it is non-greasy; it does not stain hair coat, clothing, or furniture. Therefore, it may be used to treat house pets.
2. SOK Improved may be applied to ambulatory patients where it is desired to subject the animal to a minimum of inconvenience and discomfort.
3. SOK Improved may be used on pets immediately before exposure to high risk locations such as wooded areas the owner may visit during vacations, hunting trips, field trials, etc.
4. When applied at frequent intervals to bedding, kennels, runs, etc., as well as to the dogs and cats, SOK Improved kills fleas, ticks, and lice which might reinfest the pet.

Administration

SOK Improved should be applied directly from the container to the skin of dogs and cats. Apply powder lightly but thoroughly to the entire animal so that powder reaches the skin. **Do not dust in the animal's eyes or nostrils.** In the case of engorged ticks, apply powder directly to all ticks so that each is thoroughly covered. Fleas and lice begin to die in a few minutes. Ticks begin to die as early as 15 minutes but usually require from several up to 24 hours to die, especially the engorged females.

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Bedding infested with the parasites contributes to reinfestation of the animal. SOK Improved applied to bedding helps to reduce the incidence of reinfestation. One application may be effective for one to two weeks. In heavily contaminated premises, applications as often as twice a week to the dog or cat may be necessary until the parasite population is reduced. The material is excellent to control fleas, ticks, and lice on pets presented for surgical procedures, hospitalization, or boarding. Due to the nature of the special powder base, SOK Improved is a grooming aid to the coat of dogs and cats. It rapidly "sifts" down to the skin.

Side Effects

SOK Improved is very well tolerated when administered over long periods of time and at frequent applications. The active ingredient of SOK Improved is a potent, fast acting cholinesterase inhibitor that kills insects quickly. In clinical cases in all parts of the country, only a few pets showed minor lacrimation and or salivation for a short time after treatment.

Reports from the field indicate that an occasional cat may show an unusual susceptibility to the cholinergic activity of SOK Improved. Clinical manifestations reported include hyperexcitability, profuse salivation, and convulsions. In a few instances, death has resulted. Prompt treatment with atropine has been helpful. See section on Antidote. For this reason, have your clients administer during hours when veterinary service is readily available.

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Safety Evaluation Studies

Large amounts of SOK Improved applied repeatedly to the skin of dogs and cats for six weeks caused no untoward changes in body weight, hemogram, blood chemistry, or histo-pathological changes in organs. In chronic oral safety studies, the active ingredient was fed to rats at up to 300 ppm of diet for two years and resulted in no clinical symptoms, changes in hemogram, or gross or microscopic changes in tissues. Two year chronic oral safety studies in dogs resulted in some sporadic symptomatology such as emesis, diarrhea, hyperpnea, coughing and urination which decreased as the study progressed. Deaths of three dogs from the highest dosage level (600 ppm of diet) were ascribed to compound effect. The material did not provoke allergic reactions in guinea pigs following skin sensitivity testing nor in dogs and cats following repeated applications. No severe nor permanent eye irritation resulted in rabbits, cats, and dogs following daily application to eyes.

Efficacy Studies

In clinical cases SOK Improved was found to be highly effective in killing fleas, ticks, and lice. Response to treatment was prompt, with reliable clinical results. The parasites began dying in two to five minutes after one application and the animals were usually free of all ectoparasites the following day. On highly infested bedding and premises, an insect control program greatly enhances the rapidity with which the insect problem is controlled. The base of SOK Improved easily sifts down

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