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READ THE ENTIRE LABEL BEFORE USING THIS PRODUCT.

USE ONLY IN ACCORDANCE WITH INSTRUCTIONS.

KEEP OUT OF REACH OF CHILDREN

PRIMERO

INGREDIENTS

Flumethrin.....1.1% w/v
Other ingredients90% w/v

PRIMERO is an effective ectoparasiticide in emulsifiable concentrate. It is used in the control of ticks, biting and sucking lice, psoroptic, chorioptic and sarcoptic mange, keds, biting flies and psoroptic mites. Primero aids in control of biting flies.

Trade Names Of Other Firms: Trade names for products containing flumethrin include Bayticol.

What is PRIMERO and how does it work?

CRUSH 100 is a synthetic pyrethroid insecticide that has both contact and stomach poison action.

Key Benefits of PRIMERO:

PRECAUTIONS

Harmful if swallowed, inhaled or absorbed through skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco. Remove contaminated clothing and wash before reuse. Keep children or pets away from treated area until dry.

SYMPTOMS OF POISONING

Irritation on skin or eyes.

MEDICAL TREATMENT

No adverse effects are expected if this product is used in accordance with the label. Synthetic pyrethroids can cause irritation on skin and mucous membranes in sensitive individuals (parasthesia). If poisoning occurs, apply basic aid and decontamination procedures. Treat symptomatically and if necessary administer

antidote.

Skin and mucous membrane irritation caused by synthetic pyrethroids is usually self-limiting upon removal of the irritant and usually resolves within 24-48 hours.

The solvent system has no known acute toxic effects.

FIRST AID

If on skin, remove contaminated clothes. Rinse and then rinse skin immediately with plenty of water and soap for 15-20 minutes. Call a poison control centre or doctor for treatment advice. If inhaled, move person for fresh air. If person is not breathing, call for an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control centre or doctor for further treatment advice.

If in eyes, first hold eye open and rinse with plenty of water for 15-20 minutes (remove contact lenses if easily possible). Call poison control center or doctor for treatment advice.

If ingested, call a poison control centre or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do NOT induce vomiting unless told to do so by poison control center or doctor. Do not give anything to an unconscious person.

DIRECTIONS OF USE

Apply PRIMERO evenly along mid-line of back from front of shoulder to tail base using a drench gun or dosimeter.

Dosage

Calf Up to 200 kg b.w. 20 ml Yearling 200 to 300 kg b.w. 30 ml Adult 300 to 400 kg b.w. 40 ml Heavy Adults Over 400 kg b.w. 50 ml Tick control/ cattle dip concentration 30 ppm dilution rate 1:2000 Mange control/sheep/goats concentration 50 ppm dilution rate 1:1200

DISPOSAL METHODS

Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush, or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

STORAGE CONDITION

Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight. Store in a locked room

or place away from children, animals, food, feedstuffs, seed and fertilizers. Triple or preferably pressure rinse containers before disposal. Add rinsing to spray tank.

For More Details including effects on environment email contact@ivorychem.com with Subject "PRIMERO DETAILS"

More Details:

TOXICOLOGICAL EFFECTS

The development of flumethrin first led to a substance which was a mixture of 30-45% *trans-Z-1* and *trans-Z-2* isomers and 45-63% *trans-E-1* and *trans-E-2* isomers, the corresponding *cis*-isomers occurring as by-products at <6%. This material was used in a long-term study of toxicity and carcinogenicity in rats and is referred to as flumethrin (low *trans-Z* content).

Flumethrin was absorbed rapidly, but not completely, after oral administration in all species investigated. The concentrations in the tissues of rats two days after dosing were three- to 50-fold lower than those in the blood; the lung contained higher concentrations than other tissues, and the central nervous system had the lowest concentrations. Elimination was mainly in the faeces. The main metabolite was flumethrin acid, which was distinctly less toxic than the parent substance in acute and four-week dietary studies in rats and did not induce reverse mutations in bacteria.

The acute oral toxicity of flumethrin in laboratory animals is moderate to low. The reported manifestations of its toxicity are largely consistent with those known collectively as the choreoathetosis with salivation (CS) syndrome, which is produced by other insecticidal pyrethroids containing an α -cyano-3-phenoxybenzyl group. After dermal application, the acute toxicity of flumethrin was low; the clinical signs were the same as those seen after oral administration. There was no evidence of acute toxicity after dermal application of 5 ml/kg bw of a 1% pour-on formulation. In tests for dermal and ocular irritancy, the active substance proved not to be irritating. In tests for local irritancy with the 1% pour-on formulation, slight, transient skin changes (mainly barely perceptible erythema and/or swelling), but no changes in the mucous membrane of the eye, were observed. WHO has not classified flumethrin for acute toxicity.

After the oral administration of flumethrin for three months to rats at dietary concentrations of 0, 10, 40, or 160 ppm and to dogs at dietary concentrations of 0, 25, 50, 100, or 200 ppm, the NOAELs were 10 ppm (equal to 0.7 mg/kg bw per day) in rats and 25 ppm (equal to 0.88 mg/kg bw per day) in dogs. In both species the most

obvious findings were skin alterations, but these were not due to primary dermatitis caused by flumethrin but to frequent scratching with attendant bleeding and, in some instances, inflammation. α -Cyano pyrethroids are known to produce paraesthesia, which is considered to be the most likely cause of the observed skin lesions. The toxicological studies provided no evidence of immunotoxicity, e.g. effects on leucocyte counts or on other relevant organs (thymus and spleen).

The results of studies of developmental toxicity in rats at doses of 0, 0.5, 1, or 2 mg/kg bw per day on days 6-15 of gestation and in rabbits at doses of 0, 0.5, 1.7, or 6 mg/kg bw per day on days 7-19 of gestation provided no evidence that flumethrin is teratogenic at doses extending into the range that is toxic to the dams. Some fetotoxicity was observed at doses that also induced maternal toxicity in both species. The NOAELs were 0.5 mg/kg bw per day in rats and 1.7 mg/kg bw per day in rabbits.

A two-generation study of reproductive toxicity in rats exposed to flumethrin at dietary concentrations of 0, 1, 5, or 50 ppm did not indicate primary reproductive toxicity; the reduced pup survival and body-weight gain, and certain postural and behavioural changes in the pups at the highest dose may have been secondary to maternal toxicity. The NOAEL was 5 ppm, equal to 0.36 mg/kg bw per day.

No studies of long-term toxicity or carcinogenicity have been conducted with the currently used isomeric mixture of flumethrin. A 24-month study was available, however, in which rats were fed diets containing flumethrin with a low *trans-Z* content at concentrations of 0, 2, 10, 50, or 250 ppm. Skin lesions developed in rats at 50 and 250 ppm, and there was slight proliferation of the bile ducts in male rats at 250 ppm. Neither the number of tumour-bearing rats nor the incidence of any specific neoplasm was increased. The Meeting considered the following toxicological findings. (i) Flumethrin with a low *trans-Z* content has no carcinogenic potential. (ii) Other pyrethroids, such as cyhalothrin, cypermethrin, fenvalerate and the resmethrins also have no carcinogenic potential. (iii) Treatment with permethrin resulted in small increases in the incidence of lung tumours in female mice in three studies, but no increases were found in either rats or male mice. (iv) Treatment with deltamethrin was associated with unspecified thyroid adenomas in rats in one study, but no tumours were induced in mice or in either species in other studies. (v) Flumethrin had no genotoxic potential in a number of well-conducted tests covering a variety of end-points. (vi) Flumethrin showed no sensitizing potential. (vii) No preneoplastic responses were observed in studies up to 13 weeks in duration. The Meeting considered that the carcinogenic potential of the

trans-Z isomers that are present in the currently used isomeric mixture of flumethrin had been assessed in the study in rats in which the low *trans-Z* product was tested.

Oral administration of highly toxic doses of flumethrin to rats can cause dysfunction of the nervous system, but the effect is rapidly reversible and is not accompanied by morphological damage to the central or peripheral nervous system.

Pharmacological tests in experimental animals gave no evidence of impairment of vital functions. Studies to establish the tolerance of calves and cattle to flumethrin showed no significant effects, even when animals licked the application site.

An ADI of 0-0.004 mg/kg bw was allocated, on the basis of the NOAEL of 0.36 mg/kg bw per day in the two-generation study of reproductive toxicity in rats, using a 100-fold safety factor. A toxicological monograph was prepared, summarizing the data that were reviewed at the present Meeting.

TOXICOLOGICAL EVALUATION

Levels that cause no toxic effect

Rat:	10 ppm, equal to 0.7 mg/kg bw per day (13-week and 15-week studies of toxicity)
	5 ppm, equal to 0.36 mg/kg bw per day (two-generation study of reproductive toxicity)
	0.5 mg/kg bw per day (maternal toxicity in a study of developmental toxicity)
Rabbit:	1.7 mg/kg bw per day (maternal and fetal toxicity in a study of developmental toxicity)
Dog:	25 ppm, equal to 0.88 mg/kg bw per day (13-week study of toxicity)

- **ECOLOGICAL EFFECTS**
- Octanol/Water partition co-efficient: $K=1.56$ (propoxur)
- Fish toxicity: Concentrations down to 0.5 mg/L are toxic to goldfish
- Daphnia toxicity: LC50 0.2 mg/L (48 h)
Water flea (*Daphnia magna*) Flumethrin is a toxic hazard for aquatic organisms.

PHYSICAL PROPERTIES AND GUIDELINES

Physical Properties:

- **Appearance:** Oily straw-coloured liquid with weak odour
- **Chemical Name:** cyano(4-fluoro-3-phenoxyphenyl)methyl 3-[2-chloro-2-(4-chlorophenyl)ethenyl]-2,2-

dimethylcyclopropanecarboxylate

- **CAS Number:** 69770-45-2
- **Molecular Weight:** 434.3
- **Vapour Pressure:** Not available
- **Viscosity:** Not relevant
- **Solubility in water:** Insoluble
- **pH:** Not relevant
- **Flash point:** >100°C
- **Explosive Limits:** Not Available



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