

cypermethrin has acute to moderate oral toxicity. Do not administer milk, cream or another substance with vegetable or animal grease content, since they can increase cypermethrin absorption. The central nervous system stimulation can be controlled by sedation, for example with barbituric drugs. Treatment consists in isolating the victim from exposition and symptomatic and support treatment.

**Skin contact:** It can cause skin reversible sensations (paresthesia), common creams have been reported as useful on the discomfort decrease. In case of dermic symptoms, wash skin profusely with soap and water for at least 15 minutes, after that the administration of oil with vitamin E may be useful.

#### Ethion

**Chemical group:** Organophosphates, they are cholinesterase IRREVERSIBLE inhibitors.

**Symptoms and effects:** Exposition to ethion occurs by skin contact or breathing of very contaminated air, also can be by very contaminated food consumption or drinking contaminated water. High doses of ethion can affect the central nervous system operation and may cause nausea, blurred vision, sweat, diarrhea, loss of bladder control, muscle tremors and breathing difficulty. Serious intoxication can cause coma, breath incapacity and death.

**Antidote:** In case of inhalation or ingestion causing serious intoxication, treatment should include atropine. Oximes e.g. PAM should not be used. Administer repeated doses of atropine sulphate: 2 or 4 mg (2 or 4 mL of 1% atropine sulphate solution), by intravenous or intramuscular route every 10 to 30 minutes until atropinization is reached. Keep it until the patient recovers. Artificial respiration or oxygen can be necessary. Do not expose the victim to another insecticide until total recovery. Do not use morphine. Do not administer atropine to a cyanotic person.

**Laboratory assays:** Ethion degradation products can be measured in urine. Medical tests can measure enzymes activity (acetylcholinesterase) affected by ethion.

#### Piperonil Butoxide

Piperonil butoxide has an acute toxicity almost null, thus the WHO has qualified it as impossible acute danger when is normally used.

Very high doses by oral route would be necessary to cause symptoms basically due to a gastrointestinal hemorrhage, appetite loss and prostration. High doses by dermic route causes liver damages.

For any emergency and more information call in Lima to: CICOTOX (Tel.: 0800-13040).

#### FIRST AIDS - ANIMALS

Administer a 3% atropine sulfate solution (V-Tropin@0.3%):

- Cattle and horses: 1.5-2 mL every 100 kg of body weight.
- Sheep, swine and camelids: 0.5-1 mL every 50 kg of body weight.
- Small animals: 0.15-0.20 mL every 10 kg of body weight, it can be administered every hour until signs disappear or according to a professional criteria. Ask a veterinarian.

#### ENVIRONMENT PROTECTION

- Highly toxic for bees. Very toxic for aquatic organisms.
- Do not use near to creeks, rivers and/or lagoons. Do not split the content or wash the containers on water courses, rivers, creeks, lagoon, etc.
- In case of spills, absorb with sand and place the discard on a safe place.
- Do not reuse the empty containers. Break and burn it, or bury it not less than 1 meter under and add lime or caustic soda over it.

#### STORAGE AND TRANSPORTATION CONDITIONS

- Flammable product, contact with strong oxidants, excessive heat, sparks and direct flame should be avoid. Do not use or store near to heat, flame or hot surfaces.
- Pyrethroids are inactivated by air contact and light exposure.
- Keep and transport on its original container, store on a safe, fresh and ventilated place, far from heat or direct fire, under key.
- Keep the remaining on its original container, well closed, out of reach of children, food, domestic and wild animals.
- Store on a fresh, ventilated and dry place.
- Do not contaminate other pesticides, fertilizers, water or food by storage or discard.

#### WARRANTY

The manufacturer guarantees that the physical chemical characteristics of the product belongs to the described ones on the composition, which has been verified through laboratory assay, being the product suitable for the recommended purpose, as long the product would be purchased on its original container and seal protected. The manufacturer does not responsabilize by damages or accidents caused during a wrong transportation, storage, use or wrong interpretation of directions use. **This product should be administered under advising and control, of a veterinarian.**

#### COMMERCIAL PRESENTATION

Pourmatic® vial x 500 mL and 1 liter.

Reg. SENASA Perú: F.07.03.N.0326; Reg. Costa Rica: REG MAG PE6-43-06-4248 ;  
Reg. El Salvador: 2007-12-3688; Reg. Guatemala: PE252-43-02-1272;  
Reg. St. Lucia: 2009/002

Ultrametrin® is a registered trademark of



**agrovetmarket**  
animalhealth

Av. Canadá 3792-3798, San Luis. Lima 30 - Perú  
Tel: (511) 2 300 300

Email: ventas@agrovetmarket.com - Web: www.agrovetmarket.com

**ATTENTION! BE SURE TO READ THIS PACKAGE LEAFLET CAREFULLY BEFORE USING THE PRODUCT**

## Ultrametrin® Pour On

For external use only

Fly killer, sheep tick killer, delouser and triple action tick killer

**agrovetmarket s.a.**

#### FORMULATION

Each mL contains:

Cypermethrin.....	50 mg
Ethion.....	150 mg
Piperonil Butoxide.....	50 mg
Excipients.....q.s.ad.....	1 mL

#### DESCRIPTION

**Ultrametrin® Pour On** is an ectoparasiticide based on a combination of the three active compounds with synergic effect. Two of them are insecticides from different chemical origin (cypermethrin: pyrethroid + ethion: organophosphonate) and different mechanism of action, which promotes the insecticide action, even against resistant strains.

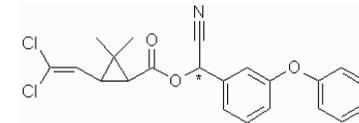
Cypermethrin, is a synthetic pyrethroid, non systemic, wide spectrum, strong shock effect, long residual effect and repellent action that acts by contact and ingestion. It has a high safety rate due to the low toxicity on mammals. It is not mutagenic, teratogenic or carcinogenic and is not accumulated on the adipose tissue.

The ethion addition increases the turn effect ("knock down") and increases the spectrum against resistant ectoparasites to cypermethrin (and vice versa).

The third one, piperonil butoxide, is not an insecticide itself. It belongs to the "synergic" group and acts inhibiting the esterase - type hydrolytic enzymes, responsible of the cypermethrin metabolism on the arthropods, therefore increases the toxicity (for the insect), shock effect and insecticide persistence. The synergic effect is so pronounced that the eliminated insects quantity is so much higher than using only a pyrethroid. Additional reports mention that the organophosphonates effect would be also promoted, among them the ethion effect. **Ultrametrin® Pour On** is a formulation with checked photostability, hydrolysis resistant.

Cypermethrin

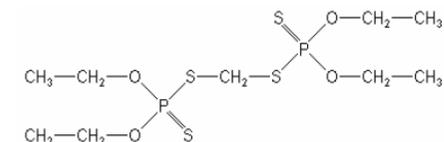
(±)-cyano-3-phenoxy-bezyl-(±)-cis,trans-3-(2,2-divinylchloride)-2,2-dimethyl cyclopropane carboxylate  
C<sub>22</sub>H<sub>19</sub>Cl<sub>2</sub>NO<sub>3</sub>



M.W. 416.3  
CAS: 52315-07-8

Ethion

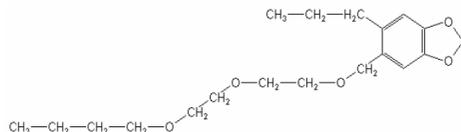
S,S'-Methylene(dithiophosphate) de o,o',o'-tetraethyl or  
Diphosphodithioate of o,o',o'-tetraethyl-s,s'-methylene  
C<sub>98</sub>H<sub>120</sub>O<sub>4</sub>P<sub>2</sub>S<sub>4</sub>



M.W. 384.5  
CAS: 563-12-2

### Piperonil Butoxide

5-[2-(2-butoxyethoxy)ethoxymethyl]-6-propyl-1,3-benzodioxole or  
3,4-methylenedioxy-6-propylbenzyl n-butyl dyethylene glycol ether  
 $C_{19}H_{30}O_5$



M.W.= 338

CAS: 51-03-6

### MECHANISM OF ACTION

#### Cypermethrin

It presents a direct (toxic) and indirect (repellent) action. It unleashes a peripheral nervous system primary excitation, thus the insect flap their wings moving away from the treatment place. Then, it is absorbed through the chitinous exoskeleton stimulating the central nervous system, possibly due to competitive interference with the cationic conductance in the lipidic layer of the nervous cells, blocking the nervous impulse transmission (producing hyperexcitation and paralysis). Cypermethrin produces a nervous transmission blockage due to permeability changes of  $K^+$  and  $Na^+$  on the neuron axon membrane; it produces inhibition of  $Ca^{2+}$  and  $Mg^{2+}$  ATPase enzymes as well; producing calcium interference, chloride channels inhibition at GABA (Gamma-aminobutyric acid) and CALMODULIN (Calcium modulated protein) inhibition with calcium channels inhibition, increasing the free calcium levels acting over the neurotransmitter of the nervous endings. This leads to paralysis and death of the insect. The cypermethrin main action place is the sodium channel of the nervous membrane. A sodium channel exposed to cypermethrin can not keep open for more than a few seconds.

#### Ethion

It is an organophosphate, that inhibits the cholinesterase activity, it changes the physiological process of the nervous impulse transmission on the parasites, that causes paralysis and death.

#### Piperonil Butoxide

It is a piperic acid derivated and it is very stable compound, hydrolysis, oxidation and sunlight exposition resistant. Being an alternative substrate (then it is a competitive inhibitor) for the microsomal cytochrome P-450 system, piperonil butoxide inhibits many drugs and insecticides metabolism. It has a low insecticide activity, but it can promote the cypermethrin action inhibiting the esterase type hydrolytic enzymes (due to the presence of a methylenedioxy group on the molecular structure), responsible of this compound metabolism on arthropods, thus increases the insecticide activity 2 to 12 times. It acts at a microsomal level, inhibiting the resistance mechanism caused by most of arthropods against insecticides action and allows, on a specific way, that cypermethrine acts on an efficient way including against resistant strains to its action.

### INDICATIONS

Ectoparasiticide indicated for the control and treatment of "horn fly" (*Haematobia irritans*), stable fly (*Stomoxys calcitrans*), mosquitoes, gadflies and ticks (*Boophilus microplus* and other tick species). Also, *Melophagus ovinus*, mite and sucking and biting louses. Its action extends to resistant insects to every compound separately. Its residual action lasts for 4 weeks.

### SUSCEPTIBLE ECTOPARASITES

The spectrum action includes:

**Mites and Ticks** (It controls adults, larva and nymph ticks and inhibits the female adults ovoposition).

*Boophilus microplus* (common cattle tick)

*Amblyomma cajennense*

*Haemaphysalus* spp.

*Ixodes* spp.

*Rhipicephalus sanguineus* (dogs tick)

*Psoroptes* spp.

*Sarcoptes scabiei*

*Dermodex* spp.

*Chorioptes* spp.

### Flies

*Musca* spp.

*Haematobia irritans* (horn flies)

*Stomoxys calcitrans*

*Liperosia irritans*

*Callitroga hominivorax*

*Sarcophaga carnaria*

*Lucilia sericata*

*Tabanus* spp.

*Dermatobia hominis*

### Wingless flies

*Melophagus ovinus*

### Louse

*Damalinea bovis*

*Damalinea ovis*

*Bovicola subrostratus*

*Haematopinus eurysternus*

*Linognathus vituli*

*Haematopinus asini*

*Solenopotes capillatus*

### TARGET SPECIES

Cattle, horses, sheep, goats, camelids and swine.

### DOSAGE AND USE INSTRUCTIONS

Epicutaneous application. Spread the dose through the mid-dorsal line from the withers region to the lumbar area.

- Cattle: 10 mL per animal. Animals from 100 to 200 kg: 5 mL. For animals over 400 kg the dose will be 20 mL per animal. Against *Dermatobia hominis* and tick: 10 mL for every 100 to 200 kg of body weight.
- Sheep, goats and camelids (until 45 days after shearing): 5 mL per animal, after 45 post-shearing days apply 6-7 mL per animal. In case the animal has a large coat of wool, open the fleece and apply directly to the skin.
- Swine: 5 mL per animal.
- Horses: 20 mL per animal, spread at the level of the mid-line from the withers region to the hindquarters (10 mL) and apply 5 mL in each flank.

In cases with high infestation, the dose may be increased based on the opinion of the veterinarian.

Apply using the exclusive Pourmatic® dosage measure, pouring the indicated dosage on the clear skin of the animal's back, from the leaflet region to the hindquarters. Repeat the treatment after 28 days, depending on the infestation.

### WITHDRAWAL PERIOD

Animals should not be slaughtered for human consumption within 15 days after the end of the treatment. Do not use milk for human consumption or industrialization within 48 hours after the dosification.

### UNDESIRABLE EFFECTS

None at the dose and indications recommended. Occasionally may appear local irritation phenomenons, including pruritus, urticaria, edema, eczema, rash, erythema.

### PRECAUTIONS AND WARNINGS FOR USE

- Do not use on calves with weight less than 100 kg.
- Treat at once all the animals.
- Do not use on wet animals.
- External use only.
- Shake well before use.
- At the treatment moment, be careful to avoid intense heat, cold or rain hours.
- Use carefully. Ingestion, aspiration and skin contact is dangerous.
- It does not have incompatibility or toxicity at the recommended doses.
- During the product use, the worker must avoid skin and mucosa contact. Wash hands and exposed parts with soap and water, change clothes immediately after use. Wash used clothes during application very well. In case of accidental ingestion, read the first aids and seek medical attention with the corresponding container.
- Children should not handle this product.

- Avoid skin contact. Use mask with filter, appropriate for toxic liquids, use clothes, shoes and gloves for work and not wear after this. Do not open the sprinklers cap with the mouth. The worker must wash him or herself every time the work is interrupted for eat, smoke or other activity. The equipment, tank, tip, must be washed very carefully after use.
- Do not transport or storage nearby to food products, clothes or forage. Do not smoke, eat or drink during its use. Not use grease or oil based ointments.
- Once the product is finished and before discarding the empty container, do a triple rinse adding water to the sprinkler. For more information about containers discard see below.

### WARNING ABOUT RISKS

- TOXIC PRODUCT CLASS II (Moderately Toxic) - USE CAREFULLY. IN CASE OF INTOXICATION, TAKE THE PATIENT TO THE DOCTOR AND SHOW THE PACKAGE, LABEL AND/OR LEAFLET.
- This product may cause eyes and skin irritation, it is harmful and even mortal if it is ingested.
- Keep out of reach of children and domestic animals.
- Do not storage at room-houses.
- Do not expose or handle this product to pregnant, lactating women or children.
- Do not reuse the container, destroy it.

### INCOMPATIBILITY

Do not mix with products of strong alkaline reaction.

### FIRSTAIDS - HUMANS

**General:** In case of intoxication suspicion, stop the patient and seek for medical attention and call the nearest intoxication center (CICOTOX Tel.: 0800-13040). Remove the victim from danger, keep him warm and calm.

**Inhalation:** To loose clothes immediately, even the shirt neck and take the victim to fresh air. In case of intoxication suspicion, seek for medical attention immediately. If breathe has stopped, administer artificial breathing, but do not use mouth to mouth resuscitation.

**Eyes contact:** Flush eyes with clean water for at least 15 minutes, holding eyelids open. Seek for medical attention if problem persists.

**Ingestion:** Seek for medical attention immediately. Show the package, label or leaflet. In case of recent ingest, before symptoms starts provoke vomit giving a glass of warm water with one or two teaspoons of salt diluted, helping this operation pressing the tongue with a spoon or fingers. Repeat this treatment until clear vomit flows. Wash profusely the mouth. Do not give milk, grease or castor oil. Administer activated charcoal at the dose of 1 g every kg of body weight. Administer a cathartic (sodium or magnesium sulphate) at the dose of 1 g every kg of body weight. Lay down the patient, with the head lower than feed, while the doctor gets there.

In case the victim is unconscious or a lot of time has passed after ingestion, do not provoke vomit nor administer anything by mouth and keep the victim lay down. If it is necessary, make a gastric wash, avoiding the gastric content aspiration. In case of seizures: Administer diazepam. Do not administer morphine, curarization, theophylline or its derivatives stimulating of the CNS.

**Skin contact:** Remove all the contaminated clothes and wash profusely with soap and water the affected zones.

### Antidote and medical treatment recommendations:

Poisoning symptoms:

Discomfort, headache, nausea, vomit, colic and diarrhea, profuse sweat, increase of saliva and bronchial secretion, decrease of the size pupil, hypotension, muscle contractions, cramps, respiratory difficult, shock or coma.

This product contains a three insecticides combination:

#### Cypermethrin

*Chemical group:* Pyrethroids.

*Symptoms and effects:* It can cause skin and eyes irritation, headache, vomit and muscle weakness.

*Antidote:* There is not an specific antidote. Apply symptomatic and support treatment. Ingestion: ABC of resuscitation. Administer activated charcoal if the ingested quantity is toxic. If there is the possibility of severe toxicity, a gastric wash must be considered, protecting respiratory tract. Maximum benefit of gastrointestinal detox takes place during the first hour of ingestion. Technical