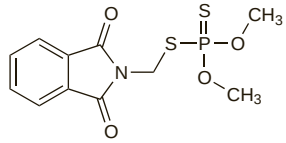
Phosmet *(BAN)*

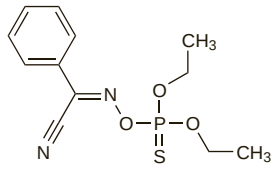
Fosmet. *O,O*-Dimethyl phthalimidomethyl phosphorodithioate.
$C_{11}H_{12}NO_4PS_2$ = 317.3.
CAS — 732-11-6.
ATC Vet — QP53AF06; QP53BB03.



Profile
Phosmet is an organophosphorus insecticide (p.2047) used as a systemic ectoparasiticide in veterinary practice; it is applied topically to the host animal. It has also been used in agriculture and horticulture.

Phoxim *(BAN, pINN)*

Bayer-9053; Foksiimi; Foxim; Foxima; Phoxime; Phoximum. 2-(Diethoxyphosphinothioyloxyimino)-2-phenylacetonitrile.
Фоксим
$C_{12}H_{15}N_2O_3PS$ = 298.3.
CAS — 14816-18-3.
ATC Vet — QP53AF01.

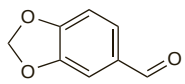


Profile
Phoxim is an organophosphorus insecticide (p.2047) used as a topical ectoparasiticide in veterinary practice. It is also used for the larvicidal treatment of rivers in the control of onchocerciasis (p.137).

Preparations
Proprietary Preparations (details are given in Part 3)
Ital.: Baythion EC†.

Piperonal

Heliotropin; Piperonylaldehyde. 1,3-Benzodioxole-5-carboxaldehyde.
$C_8H_6O_3$ = 150.1.
CAS — 120-57-0.

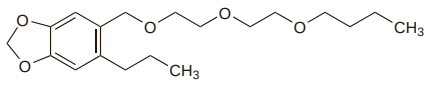


Profile
Piperonal is used as an insect repellent against head lice (see Pediculosis, p.2034).

Preparations
Proprietary Preparations (details are given in Part 3)
Fr.: Para Repulsif; ***UK:*** Rappell.

Piperonyl Butoxide *(BAN)*

Piperonil Butoksit; Piperonilo, butóxido de. 5-[2-(2-Butoxyethoxy)ethoxymethyl]-6-propyl-1,3-benzodioxole.
$C_{19}H_{30}O_5$ = 338.4.
CAS — 51-03-6.



Pharmacopoeias. In *BP(Vet)*.
BP(Vet) 2008 (Piperonyl Butoxide). A yellow or pale brown oily liquid. Very slightly soluble in water; miscible with alcohol, with chloroform, with ether, and with petroleum oils.

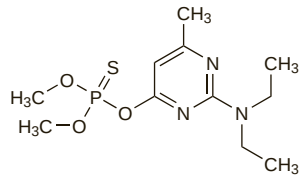
Profile
Piperonyl butoxide is used as a synergist for pyrethrin and pyrethroid insecticides. Mixtures of piperonyl butoxide and pyrethrins or pyrethroids are used in the treatment of pediculosis (p.2034).

Piperonyl butoxide is considered to cause a variety of gastrointestinal effects as well as mild CNS depression.

Preparations
Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Arg.:*** Acardust†; Aero Helpp Forte†; Capitis†; Deca-Scab†; Hexa-Defital NF; Limpacid; Nopucid Compuesto; Para Piojicida; Para Plus; Quitoso†; Scabioderm; ***Austral.:*** Banlice; Paralice†; ***Belg.:*** Para; Para Plus; Shampoux; ***Braz.:*** Deltacid Plus; Piolhol†; Sarnapen†; ***Canad.:*** Licetrol†; Para†; Pronto; R & C; Scabene†; ***Chile:*** Launol; ***Cz.:*** Charlieu Anti-Poux†; ***Fr.:*** A-Par; Acardust; Anti-Ac†; Aspipur; Charlieu Anti-Poux; Para Plus; Para Special Poux; Pyreflor; Spray-Pax; Spregal; ***Ger.:*** Goldgeist; Jacutin N; Spregal; ***Gr.:*** Para-plus; Runde; Spregal; ***Israel:*** A-200†; Acardust; Kin Soff; Para Plus; ***Ital.:*** Baygon; Cruzzy; Milice; Mom Piretro Emulsione†; Sinezan; ***Neth.:*** Para-Speciaal; Spregal; Zinkan; ***NZ:*** Para Plus; ***Port.:*** Para-Pio†; ***Rus.:*** Para Plus (Пара Плюс); Pedilin Ko (Педилин Ко); Spray-Pax (Спрей-пакс); Spregal (Спрегаль); ***S.Afr.:*** Nitagon; Spregal; ***Turk.:*** Kwell-P; ***UK:*** Fortefog; Prevent; ***USA:*** Blue; Licide; Pronto; Pyrinyl II; Pyrinyl Plus; RID; Tisit.

Pirimiphos-Methyl

Metilpirimifós. *O*-2-Diethylamino-6-methylpyrimidin-4-yl *O,O*-dimethyl phosphorothioate.
$C_{11}H_{20}N_3O_3PS$ = 305.3.
CAS — 29232-93-7.

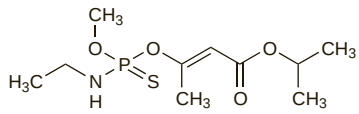


Profile
Pirimiphos-methyl is an organophosphorus insecticide (p.2047). It is used in agriculture and domestically.

Preparations
Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Fr.:*** Anti-Ac†.

Propetamphos *(BAN)*

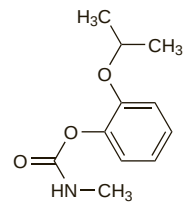
Propetamfós; Propetamfos. Isopropyl (*E*)-3-[(ethylamino)(methoxy)phosphinothio-oxy]but-2-enoate.
$C_{10}H_{20}NO_4PS$ = 281.3.
CAS — 31218-83-4.
ATC Vet — QP53AF09.



Profile
Propetamphos is an organophosphorus insecticide (p.2047) used as a topical ectoparasiticide in veterinary practice.

Propoxur *(BAN)*

2-Isopropoxyphenyl methylcarbamate.
$C_{11}H_{15}NO_3$ = 209.2.
CAS — 114-26-1.
ATC Vet — QP53AE02.

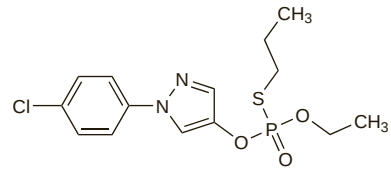


Profile
Propoxur is a carbamate insecticide (p.2037) used as a topical ectoparasiticide in veterinary practice. It is also used as a fumigant in agriculture.

Preparations
Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Ital.:*** Baygon.

Pyraclofos

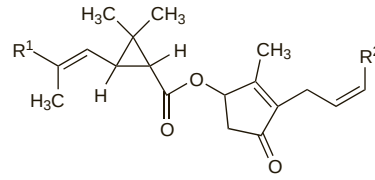
Piraclofós. (*RS*)-[*O*-1-(4-Chlorophenyl)pyrazol-4-yl *O*-ethyl *S*-propyl phosphorothioate].
$C_{14}H_{18}ClN_2O_3PS$ = 360.8.
CAS — 77458-01-6.



Profile
Pyraclofos is an organophosphorus insecticide (p.2047) used for the larvicidal treatment of rivers in the control of onchocerciasis (p.137).

Pyrethrum Flower

Chrysanthème Insecticide; Dalmatian Insect Flowers; Flor del pelitre; Insect Flowers; Insektenblüten; Piretro; Pyrethri Flos.
CAS — 8003-34-7 (pyrethrum); 121-21-1 (pyrethrin I); 121-29-9 (pyrethrin II); 25402-06-6 (cinerin I); 121-20-0 (cinerin II).
ATC — P03AC01.
ATC Vet — QP53AC01.



	R^1	R^2
Pyrethrin-I	CH_3	$CH{=}CH_2$
Pyrethrin-II	$COOCH_3$	$CH{=}CH_2$
Cinerin-I	CH_3	CH_3
Cinerin-II	$COOCH_3$	CH_3

Pharmacopoeias. In *BP(Vet)*, which also includes the extract. *US* includes only the extract.
BP(Vet) 2008 (Pyrethrum Flower). The dried flowerheads of *Chrysanthemum cinerariaefolium* containing not less than 1% of pyrethrins of which not less than one-half consists of pyrethrin I. It has a faint but characteristic odour.
BP(Vet) 2008 (Pyrethrum Extract). An extract prepared from Pyrethrum Flower. It contains 24.5 to 25.5% of pyrethrins, of which not less than half consists of pyrethrin I. A dark olive green or brown viscous liquid or, if decolourised, a pale amber liquid. Store in a well-filled container. Protect from light. It should be thoroughly stirred before use.
USP 31 (Pyrethrum Extract). A mixture of three naturally occurring, closely related insecticidal esters of chrysanthemic acid (pyrethrins I: jasmolin I, cinerin I, and pyrethrin I) and three closely related esters of pyrethric acid (pyrethrins II: jasmolin II, cinerin II, and pyrethrin II). The ratio of pyrethrins I to pyrethrins II is not less than 0.8 and not more than 2.8. It may contain pigments characteristic of chrysanthemum species, triglyceride oils, terpenoids, and carotenoid. It may also contain suitable solvents and antoxidants. It contains no other added substances. It is a pale yellow liquid having a bland, flowery odour. Insoluble in water; soluble in liquid paraffin and in most organic solvents. Store in airtight containers. Protect from light.

Adverse Effects and Precautions
Pyrethrum is irritant to the eyes and mucosa. Hypersensitivity reactions have been reported.

◊ References to the potential for toxicity of pyrethrin and pyrethroid insecticides.

1. Ray DE, Forshaw PJ. Pyrethroid insecticides: poisoning syndromes, synergies, and therapy. *J Toxicol Clin Toxicol* 2000; **38:** 95–101.
2. Bateman DN. Management of pyrethroid exposure. *J Toxicol Clin Toxicol* 2000; **38:** 107–9.
3. Bradberry SM, *et al.* Poisoning due to pyrethroids. *Toxicol Rev* 2005; **24:** 93–106.
4. Proudfoot AT. Poisoning due to pyrethrins. *Toxicol Rev* 2005; **24:** 107–13.
5. Ray DE, Fry JR. A reassessment of the neurotoxicity of pyrethroid insecticides. *Pharmacol Ther* 2006; **111:** 174–93.

Uses
Pyrethrum flower is mainly used for the preparation of pyrethrum extracts containing a mixture of chrysanthemic acid and pyrethric acid esters (pyrethrins I and II).