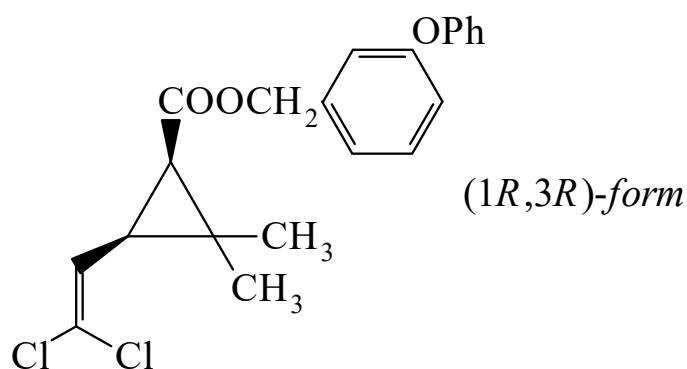




>>Entry Name: Permethrin, ANSI, BAN, BSI, INN, ISO, USAN

**Synonym(s):** (3-Phenoxyphenyl)methyl 3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate, 9Cl. 3-Phenoxybenzyl 3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate. Elimite. Lyclear. Nix. Pyreflor. Stomoxin. Wellcare. FMC 33297. **Ambush**†. Talcord. Penthrene. Picket. Pounce. Outflank. Stockade. Perigen. Ecsumin. Ectiban. Efmethrin. Exmin. Damminix. Ipitox. Kavil. Coopex



**CAS Registry Number:** 52645-53-1

**Related CAS Registry Numbers(s):** 51877-74-8 52341-32-9 52341-33-0 54774-45-7 54774-46-8 54774-47-9 57608-04-5 63364-00-1

**Molecular Formula:** C<sub>21</sub>H<sub>20</sub>Cl<sub>2</sub>O<sub>3</sub>

**Molecular Weight:** 391.293

**Accurate Mass:** 390.078949

**Percentage Composition:** C 64.46%; H 5.15%; Cl 18.12%; O 12.27%

**Biological Use/Importance:** Pyrethroid pesticide; used for the treatment of head lice and scabies, also widely used agriculturally. Insecticide

**Physical Description:** Cryst. or pale yellow viscous liq. (technical prod.)

**Melting Point:** Mp 35 ° (technical prod.)

**Boiling Point:** Bp<sub>0.05</sub> 220° (technical prod.)

**Calculated Log P Data:** Log P 7.12 (uncertain value) (calc)

**Other Data:** More stable to light and lower mammalian toxicity than natural pyrethrins. Toxic to bees and fish

**Hazard & Toxicity:** Irritant to skin and eyes. LD<sub>50</sub> (rat, orl) *ca.* 4000 mg/kg

Supelco: 44-2748

>>Variant: (1*R*,3*R*)-form

**Synonym(s):** (–)-*cis*-form. NRDC 167

**CAS Registry Number:** 54774-45-7

**Molecular Formula:** C<sub>21</sub>H<sub>20</sub>Cl<sub>2</sub>O<sub>3</sub>

**Molecular Weight:** 391.293

**Accurate Mass:** 390.078949

**Percentage Composition:** C 64.46%; H 5.15%; Cl 18.12%; O 12.27%

**Physical Description:** Viscous oil

**Melting Point:** Mp 67-69°

**Optical Rotation:** [α]<sub>D</sub><sup>25</sup> –7.8 (c, 1 in CHCl<sub>3</sub>). [α]<sub>D</sub> 0 (c, 1.1 in EtOH)

>>Variant: (1*R*,3*S*)-form

**Synonym(s):** (+)-*trans*-form. **Biopermethrin** BSI, ISO. NRDC 147

**CAS Registry Number:** 51877-74-8

**Molecular Formula:** C<sub>21</sub>H<sub>20</sub>Cl<sub>2</sub>O<sub>3</sub>

**Molecular Weight:** 391.293

**Accurate Mass:** 390.078949

**Percentage Composition:** C 64.46%; H 5.15%; Cl 18.12%; O 12.27%

**Biological Use/Importance:** Insecticide

**Optical Rotation:** [α]<sub>D</sub> +5.2 (c, 1.3 in EtOH)

**Other Data:** *n*<sub>D</sub> 1.5678