

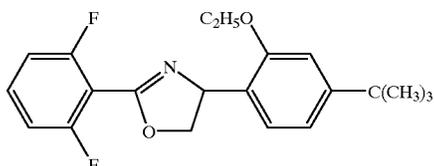
TERMITE-CONTROLLING AGENT

FIELD OF THE INVENTION

The present invention relates to a termite-controlling agent.

BACKGROUND OF THE INVENTION

WO93/22297 shows 5-tert-butyl-2-[2-(2,6-difluorophenyl)-4,5-dihydrooxazol-4-yl]phenetole (hereinafter referred to as "etoxazole") of the formula:



as an active ingredient of insecticides. Etoxazole is developed as an active ingredient of miticide and insecticide for agricultural use.

The object of the present invention is to provide a new use of etoxazole, namely a use as an active ingredient for a termite-controlling agent having an excellent efficiency.

SUMMARY OF THE INVENTION

The present invention provides a termite-controlling agent which comprises etoxazole as an active ingredient and cellulose.

The termite-controlling agent can be a sheet formulation or a powdery formulation.

DETAILED DESCRIPTION OF THE INVENTION

When the present termite-controlling agent is a powdery formulation, it generally contains 0.005 to 20% by weight of etoxazole and 30 to 99.995% by weight of cellulose powder. Cellulose powder can be obtained by pulverizing after acidic hydrolysis of lumber cellulose. Further, naturally obtained cellulose materials such as wood powder may be utilized as cellulose powder.

The present termite-controlling agent that is a powdery formulation can contain powder carriers. Examples of the powder carrier utilized in the present invention include inorganic powders such as synthetic hydrated silica, anhydrous silica, aluminum oxide, kaolin, talc, titanium oxide and magnesium carbonate; synthetic resin powders such as polyurethane, polyamide and polypropylene; and salts such as calcium stearate. The amount of the powder carrier is generally 0 to 69.995% by weight in the present termite-controlling agent.

The powdery formulation can be usually produced by mixing and pulverizing etoxazole and cellulose powder, and optionally powder carriers.

The present termite-controlling agent can be an aerosol formulation containing above-mentioned powdery formulation. The aerosol formulation usually comprises the powdery formulation and propellant, and optionally solvent, wherein the amount of the powdery formulation and the propellant in the aerosol formulation is usually 0.1 to 10% and 20 to 90% by weight respectively. Said solvents are exemplified by esters such as isopropyl myristate, isopropyl palmitate, isopropyl decanoate, isopropyl laurate and so on; and alcohols such as ethanol, isopropyl alcohol and so on.

When the present termite-controlling agent is a sheet formulation, it generally contains 0.01 to 20% by weight of etoxazole in the sheet formulation.

The sheet formulation can be produced by having etoxazole supported on a cellulose paper by usual methods. For example, a solution or dispersion containing etoxazole is spread on a cellulose paper and dried. The solution or dispersion can be prepared by dissolving etoxazole in a suitable organic solvent and optionally diluting it with water containing a surfactant or dispersant.

Examples of the termites effectively controlled by the present invention include Mastotermitidae; Termopsidae such as Zootermopsis spp., Archotermopsis spp., Hodotermopsis spp., Porotermes spp. and Stolotermes spp.; Kalotermitidae such as Kaloterms spp., Neoterms spp., Cryptoterms spp., Incisiterms spp. and Glyptoterms spp.; Hodotermitidae such as Hodoterms spp., Microhodoterms spp. and Anacanthoterms spp.; Rhinotermitidae such as Reticuliterms spp., Heteroterms spp., Coptoterms spp. and Schedolinoterms spp.; Serritermitidae; and Termitidae such as Amiterms spp., Drepanoterms spp., Hopitaliterms spp., Trinerviterms spp., Macroterms spp., Odontoterms spp., Microterms spp., Nasutiterms spp., Pericapritherms spp. and Anoploterms spp.

Typical examples of the termites species objected in the present invention include *Reticuliterms speratus*, *Coptoterms formosanus*, *Incisiterms minor*, *Cryptoterms domesticus*, *Odontoterms formosanus*, *Neoterms koshunensis*, *Glyptoterms satsumensis*, *Glyptoterms nakajimai*, *Glyptoterms fuscus*, *Glyptoterms kodamai*, *Glyptoterms kushimensis*, *Hodotermopsis japonica*, *Coptoterms guangzhoensis*, *Reticuliterms miyatakei*, *Reticuliterms flaviceps amamianus*, *Reticuliterms sp.* (Kanmonshiroari), *Nasutiterms takasagoensis*, *Pericapriterms nitobei* and *Sinocapriterms mushae*.

The present termite-controlling agent is applied to termite tunnel, lumber damaged by termites or a locus termites inhabit, such as soil, wood, and so on. For the application to termite tunnel, a part of the termite tunnel is destroyed and the present termite-controlling agent is applied inside the termite tunnel. Further, for the application to lumber damaged by termites or locus where termites inhabit, the present termite-controlling agent is applied by pasting the damaged lumber with a sheet formulation or distributing a powdery formulation to the lumber or the locus if necessary holed.

The application dosage of etoxazole depends on a degree of damage and the other conditions. In case that the present termite-controlling agents are applied on the soil or wood, the dosage of etoxazole is usually 0.1 g to 100 g, preferably 1 g to 30 g per 1 m². Further, in case that the present termite-controlling agents are applied to a termite tunnel or the place damaged by termites, the dosage of etoxazole is usually 0.01 to 1000 g, preferably 0.1 to 100 g.

EXAMPLES

Next, the present invention is explained by formulation examples and test examples in detail.

Formulation Example 1

One part by weight of etoxazole and 99 parts by weight of crystallized cellulose powder (Avicel produced by Asahi Chemical Industry Co., Ltd.) are mixed to give a present termite-controlling agent.

Formulation Example 2

Five parts by weight of etoxazole and 95 parts by weight of crystallized cellulose powder (Avicel produced by Asahi