SUMMARY

TECHNICAL PROBLEM

[0010]

With the above circumstances in mind, the present inventors have recognized that a spatial fixed-volume spray treatment based on Patent Document 2 is a most efficient method for controlling insect pests and acarines, and have studied and made attempts to improve the convenience thereof, and particularly, the efficacy thereof in controlling creeping insect pests and house dust acarines. Firstly, a recently developed fixed-volume spray valve having a sprayed amount of 1.0-5.0 mL is employed, and a required amount of an active component is allowed to be sprayed by a single-push operation. The formation of atomized particles after spraying including suspendable particles which are suspended in a treated space and adhesive particles that adhere to exposed portions in the treated space alone is not sufficient to enhance the control effect of the spatial treatment on creeping insect pests, particularly cockroaches or the like. The present inventors have also concluded that such enhancement is achieved if adhesive particles are made more dominant compared to the spraying characteristics of Patent Document 2, and the proportion of adhesive particles that settle on the floor surface is increased compared to adhesive particles that

adhere to the wall surface or the like. The present inventors have also found that the specific gravity of the aerosol-forming material and the spray force of the aerosol are an important factor in the determination of the behavior of adhesive particles that settle, and have repeatedly conducted testing through trial and error to identify optimum ranges of the specific gravity of the aerosol-forming material and the spray force of the aerosol and thereby arrive at the present disclosure.

[0011]

It is an object to the present disclosure to provide: a method for controlling insect pests and acarines in which a control effect on creeping insect pests and house dust acarines is sustained for several days only by pushing an insect pest and acarine control aerosol equipped with a 1.0-5.0 mL volume fixed-volume spray valve once in an indoor space; and an aerosol for controlling insect pests and acarines.

SOLUTION TO PROBLEM

[0012]

The object of the present disclosure is achieved by the following configurations.

[1] In an aspect, there is provided a method for controlling insect pests and acarines by a spray treatment using an insect pest and acarine control aerosol obtained by filling an aerosol container equipped with

[8] The method according to any one of [1]-[7], wherein the area of the floor surface of the indoor space is 7.5-26.6 m^2.

[9] In another aspect, there is provided an insect pest and acarine control aerosol obtained by filling an aerosol container equipped with a fixed-volume spray valve having a sprayed amount of 1.0-5.0 mL per operation with an aerosol-forming material containing a control component and an organic solvent, and a propellant, wherein

the control component is a poorly volatile and diffusible compound having a vapor pressure of less than 1×10^{-4} mmHg at 30°C,

the aerosol-forming material has a specific gravity of 0.85-1.15,

the insect pest and acarine control aerosol has a spray force of 10-50 gf at a spray distance of 5 cm, and

when the aerosol-forming material is sprayed into an indoor space in a single-spray treatment through the fixed-volume spray valve such that the amount of the control component released is 0.1-50 mg/m^3, 60% or more of the control component is diffused and adheres to an entire floor surface of the indoor space by one hour after the spraying.

ADVANTAGEOUS EFFECTS

[0013]

With the insect pest and acarine control method and

insect pest and acarine control aerosol of the present disclosure, only by spraying a specific insect pest and acarine control aerosol containing a poorly volatile and diffusible compound into an indoor space by a single-push operation, a control effect particularly on creeping insect pests and house dust acarines can be sustained in the treated zone for several days. Thus, a convenient and effective insect pests and acarines control method and insect pest and acarine control aerosol are provided, which are significantly practical.

DESCRIPTION OF EMBODIMENTS

[0014]

In the present invention, a poorly volatile and diffusible compound having a vapor pressure of less than 1×10^{-4} mmHg at 30°C is used as a control component. After a spray treatment is performed in an indoor space by pushing an insect pest and acarine control aerosol of the present invention once (a single-push operation), most of the control component settles as adhesive particles on the floor surface to exhibit an excellent control effect particularly on creeping insect pests and house dust acarines in the indoor space. As used herein, the extermination effect based on the knockdown effect and the lethal effect, and the repellent effect, are collectively referred to as a "control effect." In most situations, control is practically achieved by a sufficient repellent effect even if the extermination effect