

US EPA ARCHIVE DOCUMENT

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

CASWELL FILE

DATE: April 19, 1979

SUBJECT: EPA File Symbol: 39398-I VAPE MAT and VAPE SET ELECTRONIC MOSQUITO DESTROYER Caswell #25

FROM: B.T. Backus  
IRB/TSS

TO: Mr. Franklin Gee  
Product Manager 17

Applicant: Sumitomo Chemical America, Inc.  
c/o Dr. Eugene J. Gerberg  
1330 Dillon Heights Ave.  
Baltimore, Md. 21228

Active Ingredients:

d-cis, trans Allethrin*	5.02%
Other isomers	0.24%
Related Compounds	0.58%
Inert Ingredients	94.16%

\*cis/trans isomer ratio: max. 25% (±) cis  
min. 75% (±) trans

Background:

The applicant is proposing use of an allethrin-impregnated cotton fiber mat in a heating unit to generate a mosquitocidal vapor. Each vapor mat would weigh slightly more than 1 gram, and would contain 59.4 mg of active ingredients. This would be vaporized (the active ingredients) over a period of 10 hours. Estimating room size at roughly 2000 cubic feet (=56,600 liters), this would mean, if all the actives were retained in the room and with no settlement, something like a maximum concentration of 59.4 mg/56,600 liters = 0.001 mg/liter. This level of exposure should be essentially innocuous.

However, the questions relating to the safety of this product are in conjunction with its use in a heating unit. The applicant's use directions imply that a "mat" is simply inserted in the heating unit which is then placed in operation for something like 10 hours with nothing other than incidental observation. There is no indication there is even an on-off switch on this heating unit. The principal hazards associated with use of this product would then appear to relate to this heating unit.

Recommendations:

1. IRB/TSS recommends, on the basis of human safety, against the registration of the use of this proposed formulation in conjunction with the "Electronic Mosquito Destroyer." It should be emphasized that while there is sufficient acute toxicological information on the proposed formulation, additional data is required on the operation of the heating unit to assess precautionary and use labeling.

2. The applicant should submit information as to the operating temperature of the heater, both with respect to the interior and exterior surfaces.
3. The applicant should submit data as to the temperature at which the Vape Mat (which is predominately cotton fiber cloth) ignites, so the Agency can determine what sort of safety factor is involved with respect to the possible in-use fire hazard of this product.
4. Such labeling recommendations as can be tentatively made indicate extensive revisions will be necessary in the proposed labeling before it would be acceptable. (see below).

Labeling:

1. The proposed name for the mechanism is "Vape Set Electronic Mosquito Destroyer" although the way the labeling is proposed the phrase "Electronic Mosquito Destroyer" stands alone in its own type. Electronic implies (definition from The American Heritage Dictionary), "Of, pertaining to, based on, operated by, or otherwise involving the controlled conduction of electrons or other charge carriers, especially in a vacuum, gas, or semiconducting material." The phrase "Electronic Mosquito Destroyer" is misleading, as it can be construed as implying control by an electronic process, rather than a heat-generated vapor. A more appropriate name would be "VAPOR-GENERATING MOSQUITO DESTROYER."
2. The statement is made that: "Mosquitoes are killed by invisible, non-irritating, yet powerful ingredients..." The claim "non-irritating" is unacceptable, as it can be construed as a safety claim, the and possibility exists, with the considerable variation inherent in the human species, that some individuals may have allergenic responses to the vapor or may find it otherwise objectionable.
3. The claim: "SAFE! Never overheats. Perfect insulation assures perfect safety." must be deleted, as the implication is that use of the pesticide in conjunction with the mechanism is "safe." 162.10 (a)(5)(ix) (FR40, #129, July 3, 1975, p. 28278) gives, as an example of statements or labeling representations which constitute misbranding, the claim "safe."
4. Use directions include: "To change mat, slide out with a finger." Is there a possibility of electrical shock if the unit is plugged in and/or a chance of getting the finger burned? The applicant should either adequately justify this use direction, or should propose a safe alternative.
5. The PRECAUTIONARY STATEMENTS; HAZARDS TO HUMANS AND DOMESTIC ANIMALS (under those headings) should include a statement as to removal of pets and aquariums from rooms being treated.
6. There should be an appropriate disposal statement regarding the used VAPE MAT.
7. The statement is made "FOR INDOOR USE ONLY." This would include such areas as kitchen, nurseries and bedrooms. Further, use directions

state one mat lasts ten hours, so the heating unit would be on and working, possibly overnight, while the family or users might be sleeping. Because of the fire hazard possibility, directions for use may have to be modified to preclude use in a nursery while infants or small children are sleeping there. Additional use restrictions may also be necessary, depending on the information which has been requested.

*Byron T. Backus*

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