

CALIFORNIA DEPARTMENT OF PESTICIDE REGULATION
PUBLIC REPORT 2007-11

Device – Heat
Tracking ID Number 184856

DESCRIPTION OF ACTION

TPE Associates submitted an application seeking California registration of their heat device ThermaPureHeat. ThermaPureHeat is a process that uses elevated temperatures to kill wood destroying insect pests within a structure. The “Process” is used in conjunction with various independently registered heaters. The heated air is delivered to the treatment area via a portable duct system. The wood in the structure must be heated to “lethal temperatures” for a specified period of time to kill the wood destroying pests. TPE Associates provides training to applicators using the ThermaPureHeat process. This process can be used in localized applications and for whole structure treatments.

BACKGROUND

Registrant: TPE Associates
Device Type: Heat
Brand Name: ThermaPureHeat
Pest Controlled: Drywood Termites and Powder Post Beetles
Type of Registration: Full Registration
California Reg. No.: 1051175-50001-AA

Pursuant to Food and Agricultural Code (FAC) sections 15300-15340, all structural pest control devices, as defined, must be registered with the Department of Pesticide Regulation (DPR). FAC section 15300 defines structural pest control devices as “...any method, instrument, or contrivance intended to be used to prevent, eliminate, destroy, repel, attract, or mitigate any wood destroying pest...” “Wood destroying pest” includes, insects such as woodborers and termites. The United States Environmental Protection Agency does not register devices

SCIENTIFIC REVIEW

A. Health and Safety

DPR’s Worker Health and Safety (WH&S) staff evaluated the data submitted by TPE Associates and determined that it is sufficient to estimate worker safety and safety to bystanders. During the evaluation, WH&S staff determined that workers entering the heated structure could potentially be exposed to a carbon monoxide inhalation hazard. The ThermaPureHeat Technician Manual

has been modified to include the use of real time carbon monoxide monitors for workers entering the heated structure to mitigate the inhalation hazard.

B. Efficacy

Submitted data indicate that heat provides adequate control of drywood termites and powder post beetles. One journal article references Dr. Walter Ebeling, Professor of Entomology at the University of California, Los Angeles (UCLA), regarding his work with heat to control powder post beetles. In Dr. Ebeling's study, three different wood structures were heated to 49°C and control of powder post beetles was observed in all three structures. Subsequent studies by Rust and Reiersen evaluated wooden blocks infested with powder post beetles and control of immature beetles was observed when heated to 54°C for 30 minutes. Three other referenced articles by Woodrow and Grace, Scheffrahn, Wheeler and Su, and Lewis and Haverty dealt primarily with drywood termite control. When compared to control groups, the treatment groups yielded 85% – 100% control of drywood termites when the internal wood temperature was maintained at a minimum temperature of 49°C for 30 minutes.

C. Property Damage

Under contract, Dr. J. Woody Ju, Professor and Chair in the Civil and Environmental Engineering Department at UCLA, evaluated relevant journal articles by Lewis and Haverty, Ebeling, and Forbes and Ebeling and data submitted by TPE Associates. These articles contained information regarding the affects of excessive heat on structural wood and household items. In his report, Dr. Ju recommended registration of the ThermaPureHeat process. In addition Dr. Ju determined that the label language mitigates potential property damage.

ALTERNATIVES

Currently, one device for localized treatment and traditional chemical fumigants for whole structure treatment are the only options registered for structural wood destroying insect control. The ThermaPureHeat process offers a non-chemical alternative for whole structure treatment, as well as an, additional non-chemical alternative for localized treatment.

CONCLUSION

DPR and UCLA staff evaluated the submitted manuals, brochures, product labeling, scientific literature, and data, and found them to be acceptable to support registration of the ThermaPureHeat process. The precautionary language and training provided with the process adequately mitigate potential health risks to persons who may use this process and the bystanders that may enter during a treatment. DPR does not expect significant adverse impacts to either human health or the environment to result from registration of the ThermaPureHeat process.