UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Efficacy Review

Date: January 19, 1995

Registration No.: 3125-ULU and 3125-ULL

Date Division Received: July 5, 1994

Type of Product: Insecticide

MRID Nos. 432851-01, 432851-02

Product Manager: Dennis H. Edwards Jr.

Team: 19

Team Reviewer: Portia Jenkins

Efficacy Reviewer: Paul Schroeder

Product Name: Premise 2 and Premise 75 Insecticides

Company Name: Miles Inc.

Submission Purpose: Add termites control to the registration

Chemical and Formulations: Imidacloprid Premise - 2 pound gallon and Premise 75- 75% powder in soluble packets

Studies: Termiticidal Efficacy Of Imidacloprid and Chemical Stability Of Termiticidal Active Ingredient Imidacloprid

Claims Wanted: Continuous chemical barrier to prevent subterranean termites from attacking wood

Study Description: Plots 53 cm x 53 cm were sprayed with candidate termiticide and a wood block placed on each plot. Blocks examined periodically for evidence of termite feeding. Plots maintained for several years to determine effective longevity of various rates of test material. Under an EUP further information is being sought on effects of location, soil class, construction type, and termite species on efficacy under commercial conditions.

Results: USDA Forest Service Trials. Field trials were initiated in four states beginning in 1992. Tests were installed in Florida in February, 1992; Arizona in April, 1992; Mississippi in May 1992 and South Carolina in October, 1992. Eight rates (0, 0.025, 0.05, 0.1, 0.15, 0.2, 0.3, and 0.4% a.i.) of imidacloprid are being evaluated. After 2 years in Florida and Arizona and 1 year in South Carolina 100% control has been achieved with all rates tested against Reticulitermes sp.. In Mississippi complete control of termites was obtained for two years at all rates except the lowest rate of 0.025. Ground boards in control plots in all locations were damaged by termite feeding.

Nihon-Bayer Agrochem Trial. Field trials were initiated in June, 1990 in Hukiage, Kagoshima. Termite species present at the test site were Coptotermes formosanus (80%) and Reticulitermes speratus (20%). Six rates (0, 0.01, 0.025, 0.05, 0.1, and 0.2% a.i.) of imidacloprid are being evaluated. After 3 1/2 years all rates have provided 100% control. Control plots were attacked within 6 months of test installation.

Tokyo University of Agriculture, Laboratory of Forest Products Chemistry Trial. Imidacloprid was placed in JWPA Standard Number 13 field trials on July 10, 1989 in Osaki, Kagoshima. Termite species present at the test site were Coptotermes formosanus (80%) and Reticulitermes speratus (20%). Four rates (0, 0.05, 0.1, and 0.2%) are being evaluated. After 4 years no damage was observed at any rate of imidacloprid tested. Control (untreated) plots were damaged within 3 months of test installation.

In addition to continuing tests at experiment stations, 60 homes were treated under 3125-EUP-204 to determine effects of different types of construction and soil types in various areas of the country.

Conclusion: Imidacloprid is effective against subterranean termites diluted to 0.05% or 0.1% a.i. using 4 gallons of solution per 10 linear feet of trenching per foot of depth. In areas of limited access such as crawl spaces and under slabs one gallon of solution may be applied per 10 square feet. The Premise 75 and the Premise 2 formulations both appear to be effective.