

US EPA ARCHIVE DOCUMENT

IRB USE PATTERN REVIEW

Date In 2-14-83 Date Out 3-14-83 P.M. No. 15

File or Reg. No. 48598-R Record No. 90518

Petition, E.U.P., S-18, 24C No. _____

Product Name Insecto XXXXXXXXXXXXXXXXXXXX

Company Name Natural Insecto Products, Inc.

Uses Reviewed Control of grain insects in bins and silos and
aid in the prevention of insect damage in
stored grains.

Chemical and Formulation Diatomaceous Earth 90.0%

Inert Ingredients 10.0%

TSS/IRB has no record of inadequate performance for any of the proposed new use patterns. ~~None of the comments~~ Refer to attached review of submitted data.

A pattern of inadequate performance has been identified for this product. The submission of efficacy data is required. See the attached review for appropriate comments.

INERT INGREDIENT INFORMATION IS NOT INCLUDED

The submitted data consist of test reports from the U.S. and Canada.

The U.S. testing was conducted by the U.S.D.A. Stored Products Insect Research & Development Laboratory in Savannah, Ga. The report consists only of a summary. There are no indications of the test procedure. Results are summarized as follows.

Formulation	Concentration	Percent Dead Rice Weevils
Insecto	0.5%	18.00%
	1.0%	23.70%
	2.5%	24.00%
Control (Celite 266)	0.5%	45.33%
untreated	—	0.00%

Tests with Angoumois Grain Moths and Confused Flour Beetles showed no ^{or low} infestations in the treated replicates (0 dead and mostly alive) with only infestations in the untreated.

The Canadian Data from McGill University consisted of laboratory testing using the Grain Weevil. Results are summarized as follows

Rate	Mean Percent Dead and Moribund at Indicated Days Post Treatment					
	1	2	3	4	7	14
2#/Ton	2.78%	50.00%	66.67%	77.78%	94.44%	100.00%
4#/Ton	8.33%	47.22%	94.44%	94.44%	—	—
6#/Ton	8.33%	77.78%	77.78%	100.00%	—	—
untreated	2.77%	0.00%	2.77%	5.55%	2.77%	2.77%

Mean of 3 replicates, 12 weevils/replicate

The Canadian Data from Ogilvie Mills consisted of lab + field testing.

The lab-testing consisted of treating 20 gms. of wheat with .5 gms of formulation and exposing the treated wheat to Tribolium confusum (Confused flour beetle). At 63 hours post treatment mortality was 100%. There were no checks or standards included, and the testing was not replicated.

Field testing of flour mill equipment consisted of applications ^{bins, rooms and} to various machines. ^{counts were recorded at 48 and 96 hours post-treatment.} For Semolina purifiers and bulk flow scales these applications resulted in 100% reduction in infestation at 96 hours post-treatment. For bulk load-out stations application of 14 pounds to bin spaces and rooms during 3 months resulted in no infestations 3 months after applications began. There were no pre-treatment counts, standards or untreated checks included in the testing.

There are some current registrations of diatomaceous earth products for use in treating stored grain. It would be expected that the subject formulation would be effective as an aid in prevention of insect damage in stored grain when applied to the grain.

The Canadian data from McGill University indicate that the proposed rate of 2 pounds/ton would be adequate to aid in the prevention of insect damage to stored grains.

There are no data to demonstrate that.

The subject formulation will [REDACTED] stored grain pests. The U.S.D.A. Test report is not complete and cannot be fully evaluated without the test details and protocol. However the Submitted Summary indicates that the subject formulation was not as effective as the control (Celite 266). Celite 266 is plain diatomaceous earth.

There are no data to demonstrate that the proposed rates of 1 pound/1000 sq ft. or 500g./100 m³ would be adequate for control of grain pests when applied to empty silos or bins. The Canadian field testing results indicate that interior and exterior treatments of machinery, bins and rooms were effective. Rates applied to bins and rooms were not clear from the report.

It should be noted that registered diatomaceous earth products with claims and directions for treating grain generally have a label statement indicating treated grain may be reduced to a lower grade, have reduced flowability and reduced test weight. These labels also state that for best results grain should be treated immediately after harvest.

It should be further noted that the label does not have a Pesticide Disposal Statement.

Label directions with dosage rates in grams/cubic meters should also furnish ^{directions} equivalent to these rates in terms of ounces per cubic feet.

R. J. Van. Oenburgh 3-14-83