

UNITED STATES

9-19-85 9-24-85
DATE: D _____ OF _____

FILE OF REG. NO. 4758-RLR

SECTION OF REG. INSTR. NO. _____

DATE DIV. RECEIVED 9-5-85

DATE OF SUBMISSION 9-4-85

DATE SUBMISSION ACCEPTED _____

TYPE PRODUCT(S): (1) I, I, J, I, I, S

DATE ACCEPTED FOR REG. _____

PRODUCT REG. NO. 16

PRODUCT NAME(S) Hill's Holiday Flea Stop Pump Spray for Dogs and Cats
~~Hill's Holiday Flea Stop Pump Spray~~

MANUFACTURER'S NAME Pet Chemicals, Inc.

SUBMISSION TITLE Flea spray for pets and pet bedding

INGREDIENT & FORMULATION	Amount
Linalool	0.925
Piperonyl Butoxide	0.500
Phenylene Glycol	10.000
Inert Ingredients	28.575

CONCLUSIONS & RECOMMENDATIONS

UNITED STATES

9-19-85 9-24-85
DATE: D _____ OT _____

FILE OF REG. NO. 4758-RLG

INDICATION OF LE. NUMBER

DATE INV. RECEIVED 9-5-85

DATE OF SUBMISSION 9-4-85

DATE SUBMISSION ACCEPTED

TYPE PRODUCT(S): (2) I, E, J, F, B, S

LAB. ACCESSION NO(S)

FORMER REG. NO. 16

PRODUCT NAME(S) Holiday Non-Aerosol Flea Spray

CREATOR NAME Pet chemicals, Inc.

SUBMISSION PURPOSE Flea spray for pets and pet bedding

CHEMICAL & FORMULATION	
l-Limonene	0.920
Linalool	0.925
Piperonyl butoxide	0.500
Propylene glycol	10.000
Carrier ingredients	87.685

CONCLUSIONS & RECOMMENDATIONS

Introduction - Refer to reviews of 6-18-85 and 8-23-85 of 4758-RLR for background information. The review of 8-23-85 indicated that there were sufficient data to substantiate claims for control of egg, larval, and adult flea stages, but that additional data for pupae were needed. The current submission contains additional data for ^{4758-RLR} activity against all flea stages and ⁹¹⁵⁰ data for the subject formulation.

Data Summary - The submitted data consist of a test report from Ohio State University. All flea stages were tested on 3" x 3" carpet squares by applying 10 cc. of spray / square. A total of 4 replicates were tested. For each stage there were 50 eggs, larvae, pupae and adults / replicate. Results are summarized below.

Formulation	Eggs % Adults emerging over 49 days	Larvae % Adults emerging over 42 days	Pupae % Adults emerging over 32 days	Adults % Mortality at 24 hrs.
Subject Formulation	0	0	0	100
10% propylene Glycol	0	0	0	100
PH 020 5	0	0	0	100
Control (water)	59	41	39	0

- 1) Linalool — 1.00%
- Piperonyl butoxide — 0.50%
- Propylene glycol — 10.00%

There were no developing adults from the treated eggs, larvae and pupae for the subject formulation and for 10% propylene glycol [redacted]. The investigator states "In the egg tests, all treatments were lethal to eggs since we could find no larvae". It should be noted that in the ~~report~~ ^{Letter} submitted on 8-7 indicates that examination of flea eggs treated with the ~~subject formulation~~ ^{Linalool} was indicated that microscopic examination showed that hatching was prevented.

Data for adults indicated 100% control for the subject formulation and for 10% propylene glycol [redacted].

Conclusions. The test results for eggs, larvae and adults confirm earlier findings.

The test results for pupae demonstrate that both the subject formulation and 10% propylene glycol + [redacted] ^{as well as Formulation PA 020} are effective against flea pupae. Label claims for control of flea pupae would be acceptable.

The front panel label statement "For use on ~~pets and their~~ ^{pets and their} bedding" should clearly state that this is use as a contact spray.

The back panel label claim that use of the product will result in a more complete 4

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Treatment is not acceptable. There are other insecticides which will kill pre-adult fleas.

The back panel label claim that "one treatment protects your pet and pet's bedding from flea buildup, your pets and family from irritating bites" should be modified to claim killing fleas on pets and on pet's bedding when applied as a contact spray. "one treatment" implies residual activity

R. S. Van Denburgh 9-24-85

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