

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

000289

MEMORANDUM

DATE: January 28, 1981

SUBJECT: EPA File Symbol 4822-RIA  
Raid Formula D39 Multi-Purpose Bug Killer  
Caswell #25A, 83E, 55

FROM: Cheryl A. Peterson *CA*  
IRB/TSS

TO: Mr. Franklin D.R. Gee  
Product Manager (17)

APPLICANT: S.C. Johnson & Sons, Inc.  
1525 Howe Street  
Racine, WI 53403

Active Ingredients:

d-trans Allethrin (allyl homolog of Cinerin I).....	0.300%
related compounds.....	0.023%
Resmethrin [(5-phenylmethyl)-3-Furanyl) methyl-2,2-dimethyl-3- (2-methyl-1-propenyl) cycloproparecarboxylate].....	0.100%
related compounds.....	0.014%
aliphatic petroleum distillate.....	0.011%
aromatic petroleum hydrocarbons.....	0.132%
Inert Ingredients.....	99.42%

Background:

This product is intended for both indoor and garden household use as a spray or jet stream against roaches, wasps, houseflies, etc. The company has submitted an application for conditional registration of a new product. The "cite-all" method of support is being used, and acute oral, acute dermal, acute inhalation, primary eye irritation and primary skin irritation studies have been submitted in support of the application.

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Recommendations:

1. The acute oral, acute dermal, primary eye and primary skin irritation studies are acceptable.
2. The acute inhalation LC50 study has been classified Core Supplementary Data. No actual chamber concentration measurements were provided. No particle size measurements were provided.
3. IRB/TSS would have no objection on the basis of hazard to man or domestic animals to the conditional registration of the above product under the "cite-all" method of support with the labeling revisions indicated below.

Labeling:

1. The appropriate signal word is CAUTION as indicated by the applicant.
2. Under PRECAUTIONARY STATEMENTS above ENVIRONMENTAL HAZARDS the following statements should appear:

CAUTION: Harmful if swallowed. Avoid contact with eyes and skin. Avoid breathing spray mist. If swallowed: Drink glass of water; inducing vomiting by touching finger to back of throat. Get medical attention. If in eyes: Flush with plenty of water. Get medical attention if irritation continues. If on skin: Flush with plenty of water. Wash after using. This product is not to be used in edible products area of food processing or handling plants.

Review:

The following studies were conducted by Wart Institute, Inc., Madison, Wisconsin for S.C. Johnson & Son, Inc. on material identified as 4463D39 or an aqueous solubilized system formulated for use in a non-pressurized dispensing mode, RAID FORMULA D39 Multi-Purpose Bug Killer. They were received by EPA on November 12, 1980, and are in Accession No. 243699.

1. Acute Oral LD50-Rat. Dated: June 7, 1977.

Procedure: 6M, 6F Sprague-Dawley albino rats each received via stomach tube 20 ml/kg test material. There was a 2-week observation period with survivor sacrifice and necropsy.

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Results: No mortality. Oral LD50 is greater than 20 ml/kg. Animals on the average gained weight during the observation period. No clinical signs were observed. Necropsy showed one animal with dark red lungs.

Study Classification: Core Minimum Data (Individual body weights taken at least 3-4X weekly must be presented.)

Product Classification: Toxicity Category III.

2. Primary Skin Irritation-Rabbit. Dated June 7, 1977.

Procedure: 6NZ white rabbits (unspecified sex) each received 24-hr. occluded exposure to 0.5 ml test material on an abraded area and 0.5 ml on a nonabraded area. Observations were made at 24 and 72 hours.

Results: Primary Skin Irritation Index = 0.08. 1/6 rabbits showed minor erythema at 24 hours with clearing by 72 hours.

Study Classification: Core Minimum Data

Product Classification: Toxicity Category IV.

3. Primary Eye Irritation-Rabbit. Dated: June 7, 1977.

Procedure: 6 NZ white rabbits each received 0.1 ml test material in one eye. Eyes were washed with distilled water 30 sec. after instillation. Observations were made at 24, 48 and 72 hours.

Results: No corneal opacity. No conjunctivitis.

Study Classification: Core Minimum Data

Product Classification: Toxicity Category IV.

4. Primary Eye Irritation-Rabbit. Dated: June 7, 1977.

Procedure: 6 NZ white rabbits each received 0.1 ml test material in one eye. No wash was performed. Any residue of test material and accumulated discharge were flushed from eyes with warm water each time they were scored. Observations were made at 24, 48 and 72 hours.

Results: No corneal opacity. No conjunctivitis.

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Study Classification: Core Minimum Data.

Product Classification: Toxicity Category IV.

5. Acute Inhalation LC50-Rat. Dated June 7, 1977.

Procedures: 10M Sprague-Dawley albino rats each received a 1 hour exposure to test material in a nominal concentration of 210 mg/l air. 10 control animals were also used. Air flow was 1014 l/hr. There was a 14-day observation period with survivor sacrifice and necropsy.

Results: LC50 is greater than a nominal concentration of 210 mg/l. No mortalities. Clinical signs included lethargy during the exposure period. Necropsy on test group showed nothing remarkable.

Study Classification: Core Supplementary Data (No particle size measurements were provided. No actual chamber concentration measurements were provided.)

The following study was conducted by Raltech Scientific Services, P.O. Box 7545, Madison, Wisconsin 53707.

6. Acute Dermal LD50-Rabbit. Dated:

Procedure: 5M and 5F NZ white rabbits each received 24-hour occluded exposure to 2.0 g/kg test material. There was a 14-day observation period with survivor sacrifice and necropsy.

Results: Dermal LD50 is greater than 2.0 g/kg test material for both M and F rabbits. No mortalities. Animals on the average gained weight during the observation period. Necropsy showed mildly reddened lungs, multifocal raised tan areas in lungs.

Study Classification: Core Minimum Data

Product Classification: Toxicity Category III.

KILLS HOUSE PESTS:

Houseflies,  
Ants,  
Roaches,  
Mosquitoes,  
Wasps and Hornets,  
Fleas,  
Palmetto Bugs,  
Waterbugs,  
Spiders,  
Centipedes,  
Crickets,  
Small Flying Moths,  
Silverfish,  
Millipedes and  
Sowbugs

RAID

FORMULA D39

Multi-Purpose Bug Killer

000289 KILLS GARDEN PESTS:

Wasps and Hornets,  
Aphids, White Flies,  
Red Spider Mites,  
Japanese Beetles,  
Leafhoppers,  
Long-Tail Mealybugs,  
Exposed Thrips,  
Armyworms  
as they occur on  
Trees, Shrubs,  
Flowers and House  
Plants  
(listed on back)

ACTIVE INGREDIENTS: d-trans Allethrin (allyl homolog of Cinerin I) 0.300%; related compounds 0.023%  
Resmethrin: ([5-(phenylmethyl)-3-furanyl] methyl-2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropane-carboxylate)\* 0.100%; related compounds 0.014%;  
aliphatic petroleum distillate 0.011%; aromatic petroleum hydrocarbons 0.132%.

\*Cis/trans isomer ratio: Max. 30% (±) cis and  
Min. 70% (±) trans

INERT INGREDIENTS: 99.42% ✓

KEEP OUT OF REACH OF CHILDREN

CAUTION

SEE DIRECTIONS AND CAUTIONS ON BACK

Net Contents 1 Pint (16 Fl. Oz.)

## RAID FORMULA D39 MULTI-PURPOSE BUG KILLER

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- . Puts you in control
- . Saves buying several single-purpose insecticides
- . Kills bugs indoors and outdoors

PRECAUTIONARY STATEMENTS  
ENVIRONMENTAL HAZARDS

This pesticide is toxic to fish. Keep out of lakes, ponds or streams. Do not contaminate water by cleaning or disposal of wastes.

## DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling.

Shake well before using.

FOR SPACE SPRAY APPLICATION: To obtain fine mist for use as a space spray, unscrew tip of nozzle approximately one complete turn. To dispense the product, squeeze trigger firmly. To prime, several pumps may be required before any liquid is dispensed.

FOR SURFACE SPRAY APPLICATION: To obtain a coarser spray for surface application, continue rotating the nozzle until desired spray pattern is achieved.

FOR MAXIMUM SPRAY CONTROL: To direct spray into tight areas, continue rotating nozzle until product is dispensed as a jet stream.

For storage, reseal sprayer by firmly tightening nozzle.

## TO KILL HOUSE PESTS

FLYING INSECTS: Houseflies, Mosquitoes, Small Flying Moths, Gnats. Adjust sprayer nozzle to fine mist for space spray application as described above. Close doors and windows and spray up in the air with a sweeping motion. Keep about three feet away from walls, fabrics and furniture. Fill room with mist. Do not remain in treated area. Keep room closed for at least 15 minutes. Ventilate room when completed.

WASPS AND HORNETS: Application should be made in the evening when insects are at rest. Adjust sprayer nozzle to jet stream for maximum control and spray liberally into hiding and breeding places. Contact as many insects as possible. Repeat as necessary. For stray wasps and hornets that enter buildings, adjust sprayer nozzle to coarse spray and spray directly at the insect.

CRAWLING PESTS: Roaches, Palmetto Bugs, Waterbugs, Silverfish, Crickets, Sowbugs, Millipedes, Centipedes. Adjust sprayer nozzle to coarse spray. Spray thoroughly into hiding places such as cracks and crevices, around pipes and baseboards, behind bookcases, cabinets and other storage areas, hitting as many bugs as possible. For maximum control of spray into tight areas, adjust nozzle to jet stream. Repeat as necessary.

ANTS: Spray trails, nests, around window frames and openings, around pipes and baseboards where ants crawl, hitting as many as possible. Repeat as necessary.

SPIDERS: Spray pests directly wherever possible. Apply to localized areas where infestations occur. Spray until surfaces are wet, particularly around windows, door baseboards and crawl spaces. Repeat as necessary.

FLEAS: Remove soiled pet bedding and clean thoroughly or destroy. Spray sleeping quarters of pets, around baseboards, windows, door frames, wall cracks and floors. Repeat as necessary. Do not spray animals. Put fresh bedding in pet quarters after spray has dried. For best results, dogs and cats should be treated with a registered flea control product before allowing them to enter the treated areas.

TO KILL GARDEN PESTS AND PROTECT HOUSE  
PLANTS, FLOWERS AND SHRUBS

Do not use on edible crops.

For best results, spray when air is still. Avoid spraying plants when temperature exceeds 85°F.

To control Aphids, Japanese Beetles, Red Spider Mites, Exposed Thrips, Leafhoppers and White Flies as they occur on Ageratum, Asters, Azaleas, Balsam, Begonias, Calendula, Camellias, Chrysanthemums, Columbine, Coleus, Coral-Bells, Coreopsis, Dahlias, Delphiniums, Dianthus, Four O'Clocks, Fuchsia, Gladiolas, Hollyhocks, Iris, Lilies, Lobelia, Marigolds, Morning Glory, Peonies, Petunias, Phlox, Pink Clover Head, Pink Powder Puff, Roses, Rudbeckia, Salvia, Scabiosa, Snapdragon, Sedum, Sunflowers, and Violets, use fine mist spray at about 18 to 24 inches from infested plants. Direct spray to all sides of foliage until slightly moist. Avoid heavy wetting. Repeat as necessary to obtain control.

Spray house plants such as Bird-of-Paradise, Bromeliads, Ferns, Figs, Ivies, Peperomia, Philodendron, Schefflera, African Violets, Poinsettia and Wandering Jew as directed above for control of Aphids, Red Spider Mites, Exposed Thrips and White Flies.

To protect shrubs and bushes such as Deodar Cedar, Chinese Juniper, Flowering Maple, Crepe Myrtle, Monterey Pine, Pomegranate and Virginia Creeper from Aphids, Armyworms, Japanese Beetles, Long-Tail Mealybugs, Red Spider Mites, Leafhoppers and White Flies, spray as directed above.

USE WITH CAUTION on Azaleas, Columbine, Hollyhocks, Iris, Virginia Creeper, Ferns, Ivies, Poinsettia, Roses, Violets and Pomegranate. These plants may be subject to leaf or flower burn under certain conditions of use.

For adult White Flies and Red Spider Mites, be sure to direct spray to contact these pests. Thoroughly cover the infested area, including undersides of leaves. Use several repeat applications at two day intervals if necessary.

DISPOSAL: Do not reuse container or sprayer for any other purpose. Wrap container and put in trash collection.

FOR ADDITIONAL INFORMATION WRITE: Carol Hansen  
S. C. JOHNSON & SON, INC.  
Racine, WI 53403 U.S.A.