US EPA ARCHIVE DOCUMENT

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MEMORANDUM

Subject: EPA File Symbol/EPA Reg. No.: 499-450/ULD BP-300 INSECTICIDE

From: Carol E. Glasgow, Ph.D., Toxicologist Carol
Precautionary Review Section
Registration Support Branch (7505W)
Registration Division (7505C)

To: Rick Keigwin, PM-10
Insecticide-Rodenticide Branch
Registration Division (7505C)

Applicant: Whitmire MICRO-GEN EQUIPMENT CORP
10700 Sentinel Drive
San Antonio, Texas 78217

FORMULATION FROM LABEL:

Active Ingredient (s):	% by weight
Pyrethrins	3.00
Piperonyl butoxide, technical	6.00
N-octyl bicycloheptane dicarboximide	10.00
Inert Ingredient(s):	81.00

BACKGROUND: Whitmire MICRO-GEN EQUIPMENT CORP submitted six studies (acute oral, dermal and inhalation toxicity; primary eye and dermal irritation; dermal sensitization) to support a label amendment on the above product. The studies were conducted by Hazleton Wisconsin on MRID numbers 438134-01 through -03 for acute oral, acute inhalation and dermal sensitization studies and 439211-01 through -03 for the acute dermal, primary eye and dermal irritation studies. All studies were submitted both to EPA and the California Department of Pesticide Review (CDPR). EPA is disposed to accept the CDPR review following perusal. However, CDPR did not review the dermal sensitization study.

RECOMMENDATION: RSB/PRS findings are as follows:

These studies are **Acceptable**.

TOXICITY PROFILES

Acute oral toxicity	IV	Acceptable
Acute dermal toxicity	III	Acceptable
Acute inhalation toxicity	IV	Acceptable
Primary eye irritation	III	Acceptable
Primary dermal irritation	III	Acceptable
Dermal sensitization	Yes	Acceptable

LABELING: The signal word is "Caution.." Labeling language is as follows:

INGREDIENT LABELING:

Contains Petroleum Distillate.

SIGNAL WORD: CAUTION

PRECAUTIONARY STATEMENTS:

Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Prolonged or frequently repeated skin contact may cause allergic reaction in some individuals. Wash thoroughly with soap and water after handling.

STATEMENT OF PRACTICAL TREATMENT (SOPT):

IF SWALLOWED: Call a physician or Poison Control Center. Do not induce vomiting. Do not give anything by mouth to an unconscious person. Avoid alcohol.

IF ON SKIN: Wash with plenty of soap and water. Get medical attention.

IF IN EYES: Flush eyes with plenty of water. Call a physician if irritation persists.

The proposed label should contain the following guidance:

May pose an aspiration pneumonia hazard.

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CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF PESTICIDE REGULATION
MEDICAL TOXICOLOGY BRANCH

TOXICOLOGY STUDY EVALUATION WORKSHEET
(acute and special studies)

TO: Mark Mason, Registration Specialist
Pesticide Registration Branch

FROM: Medical Toxicology Branch **Date:** 4/3/96

PRODUCT REGISTRATION RECOMMENDATION SHEET

Formulated Product Name: ULD BP-300
Chemical Code #: 510, 486, 396 **ID #:** 159784E
EPA Reg. #: NA **SB 950 #:** 199, 103, 82
Document #'s: 128-783
Company Name: S.C. Johnson & Son, Inc.

RECOMMENDATION:

Submitted as additional data.

Note: The product label for ULD BP-300 Insecticide (EPA Reg. No. 11540-1) does not adequately identify the Category III primary eye and dermal irritation hazards indicated by these data.

(signed) 4-4-96

Staff Toxicologist **Date**

TO--File: Registration **Registration Specialist:** Mark Mason
Branch: Registration
FROM--Medical Toxicology

DATA PACKAGE SUMMARY AND RECOMMENDATION SHEET

Active Ingredient: 1. Pyrethrins, 2. Piperonyl Butoxide, technical, 3. N-Octyl Bicycloheptene Dicarboximide

Formulated Product Name: ULD BP-300
Formulation: 1. 3.00%, 2. 6.00%, 3. 10.00%, inert ingredients: 81.00%
Chemical Code #: 1. 510, 2. 486, 3. 396 **ID #:** 159784E
EPA Reg. #: NA **SB 950 #:** 1. 199, 2. 103, 3. 82
Document #'S: 128-783
Company Name: S.C. Johnson & Son, Inc.

SUMMARY: ("One-liners" from each study worksheet, significant information not mentioned in worksheets, other pertinent information for ongoing review or registration. Attach additional sheets if needed)

ULD BP-300 **Acute Toxicity Categories**

Acute Oral LD50	IV
Acute Dermal LD50	III
Acute Inhalation LC50	IV
Eye Irritation	III
Dermal Irritation	III

ULD BP-300 Acute Toxicity Studies

Acute Oral LD50

128-783; 144641; Acute Oral Toxicity Study; 811; Rat; Hazleton Wisconsin, Inc., Madison, WI; Study No. HWI 30202514; 5/21/93; ULD BP-300 (7489W142); 5 animals/sex; Dose: 5000 mg/kg; No mortality; Clinical Observations: yellow stained urogenital area; Necropsy: liver large with thickened margins of all lobes; LD50 (M/F) > 5000 mg/kg; Toxicity Category IV; Study acceptable. (Moore, 4/3/96)

Acute Dermal LD50

128-783; 144643; Acute Dermal Toxicity Study; 812; Rabbit; Hazleton Wisconsin, Inc., Madison, WI; Study No. HWI 30202515; 5/14/93; ULD BP-300 (7489W142); 5 animals/sex; Dose: 2000 mg/kg, 24 hour exposure, occlusive wrap; no mortality; Clinical Observations: staggered gait, decreased righting reflex, small feces, dermal irritation at site of application; Necropsy: dermal irritation evident at site of application; LD50 (M/F) > 2000 mg/kg; Toxicity Category III; Study acceptable. (Moore, 4/3/96)

Acute Inhalation LC50

128-783; 144644; Acute Inhalation Toxicity Study; 813; Rat; Pharmaco LSR, Inc., Toxicology Services North America, East Millstone, NJ; Study No. 93-5131; 8/11/93; ULD BP-300 (7489W142); 5 animals/sex; Exposure Concentration (analytical): 7.7 mg/l, (gravimetric): 7.4 mg/l, mean MMAD (GSD): 1.7 (2.0) mm, 4 hour, nose-only exposure; Mortality: (M) 0/5, (F) 1/5; Clinical Observations: labored breathing, rales, gasping, ano-genital staining,

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chromodacryorrhea; Necropsy: (decedent) red colored lungs; LC50 (M/F) > 7.7 mg/l; Toxicity Category IV; Study acceptable. (Moore, 4/3/96)

Eye Irritation

128-783; 144645; Primary Eye Irritation Study; 814; Rabbit; Hazleton Wisconsin, Inc., Madison, WI; Study No. HWI 30202517; 4/28/93; ULD BP-300 (7489W142); 6 animals; Dose: 0.1 ml/eye; Observations: No corneal opacity nor iritis evident, conjunctiva (redness) grades 2 (2/6) and 1 (4/6) at 24 hours, clear by 96 hours, (chemosis) grade 1 (1/6) at 24 hours, clear by 72 hours, no discharge evident at 24 hours; Toxicity Category III; Study acceptable. (Moore, 4/3/96)

Dermal Irritation

128-783; 144646; Primary Dermal Toxicity Study; 815; Rabbit; Hazleton Wisconsin, Inc., Madison, WI; Study No. HWI 30202516; 4/30/93; ULD BP-300 (7489W142); 6 animals; Dose: 0.5 ml/site, one site/animal, 4 hour exposure, semi-occlusive wrap; Observations: erythema-grades 2 (2/6) and 1 (4/6) at the conclusion of exposure, persisting with grades 2 (3/6) and 1 (3/6) at 72 and 96 hours, clear by 7 days, edema-grade 1 (4/6) at the conclusion of exposure, persisting with grades 2 (1/6) and 1 (5/6) at 96 hours, clear by 7 days; blanching (1/6) and fissuring (4/6) evident at 96 hours, not present at 7 days; Toxicity Category III; Study acceptable. (Moore, 4/3/96)

CONCLUSIONS: Are data adequate to support registration?

The acute oral, dermal and inhalation toxicity and primary eye and dermal irritation studies are acceptable.

RECOMMENDATIONS: What type of registration action is being requested? In case of ongoing registration, register or do not register? What other specific studies or data are requested?

Submitted as additional data.

Note: The product label for ULD BP-300 Insecticide (EPA Reg. No. 11540-1) does not adequately identify the Category III primary eye and dermal irritation hazards indicated by these data.

(signed) 4-4-96

Staff Toxicologist **Date**

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I. STUDY IDENTIFICATION

Active Ingredient: Pyrethrins, Piperonyl Butoxide technical, N-Octyl Bicycloheptene Dicarboximide
Formulated Product Name: ULD BP-300 (7489W142)
Chemical Code #: 510, 486, 396 **ID #:** 159784E
Document #: 128-783 **Record #:** 144641
EPA Reg. #: NA **SB 950 #:** 199, 103, 82
Study Type: 811; Acute Oral Toxicity Study
Full Study Title: Acute Oral Toxicity Study of ULD BP-300 (Pyrethrins/PBO/MGK 264) [7489W142] in Rats (MRID 438134-01)
Company Sponsor: S.C. Johnson & Son, Inc.
Conducting Laboratory: Hazleton Wisconsin, Inc., Madison, WI
Final Report Date: May 21, 1993
Study Interval: March 22, 1993 to April 5, 1993

II. SUMMARY OF WORKSHEET

A. STUDY STATUS: Is report complete? - Yes
Is study acceptable? - Yes

Yes - **Meets EPA guidelines**
- **Minor variances from guidelines**
- **Major variances from guidelines**
- **Could be upgraded with additional information (see VI-A)**

Yes - **Has useful data**
- **Insufficient data**
- **Non EPA validated study**
Other_____

B. CONCLUSIONS: Does this study as reported demonstrate a possible significant adverse health effect?: No

C. ONE LINER-One or two sentence summary of the study: 128-783; 144641; Acute Oral Toxicity Study; 811; Rat; Hazleton Wisconsin, Inc., Madison, WI; Study No. HWI 30202514; 5/21/93; ULD BP-300 (7489W142); 5 animals/sex; Dose: 5000 mg/kg; No mortality; Clinical Observations: yellow stained urogenital area; Necropsy: liver large with thickened margins of all lobes; LD50 (M/F) > 5000 mg/kg; Toxicity Category IV; Study acceptable. (Moore, 4/3/96)

D. ARE DATA ADEQUATE TO SUPPORT REGISTRATION (if applicable)?: Yes

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(signed) 4-4-96

Staff Toxicologist **Date**

III. PROTOCOL SUMMARY

A. ANIMALS, ROUTE OF ADMINISTRATION, AND DURATION OF TREATMENT:

Species: Rat
Strain: Crl:CD BR
Source of animals: Charles River Laboratories, Inc.
Age at start: Young adult; weight: 204 to 227 gm.
Route of administration: Oral, by gavage.
Vehicle: None.
Period of treatment: Single dose, 14 day observation period.

B. BACKGROUND (including relationship of this study to other studies): NA

C. TREATMENT LEVELS AND GROUP SIZE:

	Units (mg/kg)
	5000
#Males:	5
#Females:	5
	Mortality
#Dead Males:	0
#Dead Females:	0

IV. STUDY DESIGN AND EVALUATION

A. TEST PROCEDURES AND REMARKS (e.g., OK, specific parameters; asterisks denote deficiencies, NA indicates not applicable or no comment).

1. Test article: ULD BP-300 (Pyrethrins/PBO/MGK 264) [7489W142]; lot no. ETA 352; clear, dark-yellow liquid.
2. Analysis of dosing material: Dosed as received.
3. Animal selection: OK.
4. Animal husbandry: OK.
5. Mortality: OK.
6. Number of animals: OK.
7. Randomization of animals: Criteria for selection not reported.
8. Dose level selection: OK.
9. Route of administration: OK.
10. Exposure conditions: Animals were fasted overnight prior to dosing.
11. Controls: NA
12. Observations: Animals were observed frequently on the day of dosing and at least once daily thereafter; body weights were recorded prior to dosing and on days 7 and 14.
13. Necropsies: OK.
14. Appropriateness of methods: OK.
15. Treatment of results: OK.
16. Test report: OK.

17. Consistency: OK.
18. Good Laboratory Practice: GLP compliance statement and quality assurance audit record included in the report.
19. Other: NA

B. ELABORATION OF METHODS OR PROTOCOL DESCRIPTION (if needed):

V. RESULTS

A. EFFECTS REPORTED:
No mortality.

Clinical Observations: yellow stained urogenital area.

Necropsy: liver large with thickened margins of all lobes.

B. ACUTE TOXICITY VALUE (LD50, LC50, etc): LD50 (M/F) > 5000 mg/kg

C. TOXICITY CATEGORY: IV

VI. DISCUSSION

A. MAJOR DEFICIENCIES (if present). What are they and can they be corrected with additional information? Be specific: None.

B. DISCUSSION OF RESULTS (if necessary). Were there significant adverse health effects? No **Are there any recommendations specific to this study?:** None.

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I. STUDY IDENTIFICATION

Active Ingredient: Pyrethrins, Piperonyl Butoxide technical, N-Octyl Bicycloheptene Dicarboximide
Formulated Product Name: ULD BP-300 (7489W142)
Chemical Code #: 510, 486, 396 **ID #:** 159784E
Document #: 128-783 **Record #:** 144643
EPA Reg. #: NA **SB 950 #:** 199, 103, 82
Study Type: 812; Acute Dermal Toxicity Study
Full Study Title: Acute Dermal Toxicity Study of ULD BP-300 (Pyrethrins/PBO/MGK 264) [7489W142] in Rabbits (MRID 439211-01)
Company Sponsor: S.C. Johnson & Son, Inc.
Conducting Laboratory: Hazleton Wisconsin, Inc., Madison, WI
Final Report Date: May 14, 1993
Study Interval: March 17, 1993 to March 31, 1993

II. SUMMARY OF WORKSHEET

A. STUDY STATUS: Is report complete? - Yes
Is study acceptable? - Yes

Yes - **Meets EPA guidelines**
- **Minor variances from guidelines**
- **Major variances from guidelines**
- **Could be upgraded with additional information (see VI-A)**

Yes - **Has useful data**
- **Insufficient data**
- **Non EPA validated study**

Other_____

B. CONCLUSIONS: Does this study as reported demonstrate a possible significant adverse health effect?: No

C. ONE LINER-One or two sentence summary of the study: 128-783; 144643; Acute Dermal Toxicity Study; 812; Rabbit; Hazleton Wisconsin, Inc., Madison, WI; Study No. HWI 30202515; 5/14/93; ULD BP-300 (7489W142); 5 animals/sex; Dose: 2000 mg/kg, 24 hour exposure, occlusive wrap; no mortality; Clinical Observations: staggered gait, decreased righting reflex, small feces, dermal irritation at site of application; Necropsy: dermal irritation evident at site of application; LD50 (M/F) > 2000 mg/kg; Toxicity Category III; Study acceptable. (Moore, 4/3/96)

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D. ARE DATA ADEQUATE TO SUPPORT REGISTRATION (if applicable)?: Yes

(signed) 4-4-96

Staff Toxicologist **Date**

III. PROTOCOL SUMMARY

A. ANIMALS, ROUTE OF ADMINISTRATION, AND DURATION OF TREATMENT:

Species: Rabbit
Strain: Hra:(NZW)SPF
Source of animals: Hazleton Research Products, Inc.
Age at start: Young adult; weight: 2.48 to 2.74 kg.
Route of administration: Dermal application.
Vehicle: None.
Period of treatment: Single application, 24 hour exposure, 14 day observation period.

B. BACKGROUND (including relationship of this study to other studies): NA

C. TREATMENT LEVELS AND GROUP SIZE:

	Units (mg/kg)
	2000
#Males:	5
#Females:	5
	Mortality
#Dead Males:	0
#Dead Females:	0

IV. STUDY DESIGN AND EVALUATION

A. TEST PROCEDURES AND REMARKS (e.g., OK, specific parameters; asterisks denote deficiencies, NA indicates not applicable or no comment).

1. Test article: ULD BP-300 (Pyrethrins/PBO/MGK 264) [7489W142]; lot no. ETA 352; clear, dark-yellow liquid.
2. Analysis of dosing material: Dosed as received.
3. Animal selection: OK.
4. Animal husbandry: OK.
5. Mortality: OK.
6. Number of animals: OK.
7. Randomization of animals: Criteria for selection not reported.
8. Dose level selection: OK.
9. Route of administration: OK.
10. Exposure conditions: OK.

11. Controls: NA
12. Observations: Animals were observed frequently on the day of dosing and at least once daily thereafter; body weights were recorded prior to dosing and on days 7 and 14.
13. Necropsies: OK.
14. Appropriateness of methods: OK.
15. Treatment of results: OK.
16. Test report: OK.
17. Consistency: OK.
18. Good Laboratory Practice: GLP compliance statement and quality assurance audit record included in the report.
19. Other: NA

B. ELABORATION OF METHODS OR PROTOCOL DESCRIPTION (if needed): NA

V. RESULTS

A. EFFECTS REPORTED:
No mortality.

Clinical Observations: staggered gait, decreased righting reflex, small feces, dermal irritation at site of application.

Necropsy: dermal irritation evident at site of application.

B. ACUTE TOXICITY VALUE (LD50, LC50, etc): LD50 (M/F) > 2000 mg/kg

C. TOXICITY CATEGORY: III

VI. DISCUSSION

A. MAJOR DEFICIENCIES (if present). What are they and can they be corrected with additional information? Be specific: None

B. DISCUSSION OF RESULTS (if necessary). Were there significant adverse health effects? No **Are there any recommendations specific to this study?:** None.

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I. STUDY IDENTIFICATION

Active Ingredient: Pyrethrins, Piperonyl Butoxide technical, N-Octyl Bicycloheptene Dicarboximide
Formulated Product Name: ULD BP-300 (7489W142)
Chemical Code #: 510, 486, 396 **ID #:** 159784E
Document #: 128-783 **Record #:** 144644
EPA Reg. #: NA **SB 950 #:** 199, 103, 82
Study Type: 813; Acute Inhalation Toxicity Study
Full Study Title: An Acute (4-Hour) Inhalation Toxicity Study of ULD BP-300 (Pyrethrins/PBO/MGK 264) [7489W142] in the Rat Via Nose-Only Exposure (MRID 438134-02)
Company Sponsor: S.C. Johnson & Son, Inc.
Conducting Laboratory: Pharmaco LSR, Inc., Toxicology Services North America, East Millstone, NJ
Final Report Date: August 11, 1993
Study Interval: March 30, 1993 to April 13, 1993

II. SUMMARY OF WORKSHEET

A. STUDY STATUS: Is report complete? - Yes
Is study acceptable? - Yes

Yes - **Meets EPA guidelines**
- **Minor variances from guidelines**
- **Major variances from guidelines**
- **Could be upgraded with additional information (see VI-A)**

Yes - **Has useful data**
- **Insufficient data**
- **Non EPA validated study**

Other_____

B. CONCLUSIONS: Does this study as reported demonstrate a possible significant adverse health effect?: No

C. ONE LINER-One or two sentence summary of the study: 128-783; 144644; Acute Inhalation Toxicity Study; 813; Rat; Pharmaco LSR, Inc., Toxicology Services North America, East Millstone, NJ; Study No. 93-5131; 8/11/93; ULD BP-300 (7489W142); 5 animals/sex; Exposure Concentration (analytical): 7.7 mg/l, (gravimetric): 7.4 mg/l, mean MMAD (GSD): 1.7 (2.0) mm, 4 hour, nose-only exposure; Mortality: (M) 0/5, (F) 1/5; Clinical Observations: labored breathing, rales, gasping, ano-genital staining, chromodacryorrhea; Necropsy: (decedent) red colored lungs; LC50 (M/F) > 7.7 mg/l; Toxicity Category IV; Study acceptable. (Moore, 4/3/96)

D. ARE DATA ADEQUATE TO SUPPORT REGISTRATION (if applicable)?: Yes

(signed) 4-4-96

Staff Toxicologist **Date**

III. PROTOCOL SUMMARY

A. ANIMALS, ROUTE OF ADMINISTRATION, AND DURATION OF TREATMENT:

Species: Rat
Strain: Sprague-Dawley
Source of animals: Charles River Breeding Laboratories, Inc., Kingston, NY
Age at start: 10 to 11 weeks old.
Route of administration: Inhalation, nose-only.
Vehicle: None.
Period of treatment: 4 hour exposure, 14 day observation period.

B. BACKGROUND (including relationship of this study to other studies): NA

C. TREATMENT LEVELS AND GROUP SIZE:

	Units (mg/l)
	7.7
#Males:	5
#Females:	5
	Mortality
#Dead Males:	0
#Dead Females:	1

IV. STUDY DESIGN AND EVALUATION

A. TEST PROCEDURES AND REMARKS (e.g., OK, specific parameters; asterisks denote deficiencies, NA indicates not applicable or no comment).

1. Test article: ULD BP-300 (Pyrethrins/PBO/MGK 264) [7489W142]; lot no. ETA 352; liquid.

2. Analysis of dosing material: OK.

3. Animal selection: OK.

4. Animal husbandry: Animals were maintained in an environmentally-controlled room (temperature: 22 ± 2°C, relative humidity: 48 ± 9%, 12 hour light/dark cycle).

5. Mortality: OK.

6. Number of animals: OK.

7. Randomization of animals: Animals were examined as to health prior to selection on the study.

8. Dose level selection: OK.

9. Route of administration: OK.
10. Exposure conditions: Exposure Concentration (analytical): 7.7 mg/l, (gravimetric): 7.4 mg/l, mean MMAD (GSD): 1.7 (2.0) mm.
11. Controls: NA
12. Observations: Animals were observed frequently during and after the exposure on the first day and at least once daily thereafter; body weights were recorded prior to exposure (day 1) and on days 2, 3, 5, 8 and 15.
13. Necropsies: OK.
14. Appropriateness of methods: OK.
15. Treatment of results: OK.
16. Test report: OK.
17. Consistency: OK.
18. Good Laboratory Practice: GLP compliance statement and quality assurance audit record included in the report.
19. Other: NA

B. ELABORATION OF METHODS OR PROTOCOL DESCRIPTION (if needed): NA

V. RESULTS

A. EFFECTS REPORTED:
Mortality: (M) 0/5, (F) 1/5.

Clinical Observations: labored breathing, rales, gasping, ano-genital staining, chromodacryorrhea.

Necropsy: (decedent) red colored lungs.

B. ACUTE TOXICITY VALUE (LD50, LC50, etc): LC50 (M/F) > 7.7 mg/l

C. TOXICITY CATEGORY: IV

VI. DISCUSSION

A. MAJOR DEFICIENCIES (if present). What are they and can they be corrected with additional information? Be specific: None.

B. DISCUSSION OF RESULTS (if necessary). Were there significant adverse health effects? No **Are there any recommendations specific to this study?:** None.

I. STUDY IDENTIFICATION

Active Ingredient: Pyrethrins, Piperonyl Butoxide technical, N-Octyl Bicycloheptene Dicarboximide
Formulated Product Name: ULD BP-300 (7489W142)
Chemical Code #: 510, 486, 396 **ID #:** 159784E
Document #: 128-783 **Record #:** 144645
EPA Reg. #: NA **SB 950 #:** 199, 103, 82
Study Type: 814; Primary Eye Irritation Study
Full Study Title: Primary Eye Irritation of ULD BP-300 (Pyrethrins/PBO/MGK 264) [7489W142] in Rabbits (MRID 439211-02)
Company Sponsor: S.C. Johnson & Son, Inc.
Conducting Laboratory: Hazleton Wisconsin, Inc.; Madison, WI
Final Report Date: April 28, 1993
Study Interval: March 17, 1993 to March 21, 1993

II. SUMMARY OF WORKSHEET

A. STUDY STATUS: Is report complete? - Yes
Is study acceptable? - Yes

Yes - **Meets EPA guidelines**
- **Minor variances from guidelines**
- **Major variances from guidelines**
- **Could be upgraded with additional information (see VI-A)**

Yes - **Has useful data**
- **Insufficient data**
- **Non EPA validated study**

Other_____

B. CONCLUSIONS: Does this study as reported demonstrate a possible significant adverse health effect?: No

C. ONE LINER-One or two sentence summary of the study: 128-783; 144645; Primary Eye Irritation Study; 814; Rabbit; Hazleton Wisconsin, Inc., Madison, WI; Study No. HWI 30202517; 4/28/93; ULD BP-300 (7489W142); 6 animals; Dose: 0.1 ml/eye; Observations: No corneal opacity nor iritis evident, conjunctiva (redness) grades 2 (2/6) and 1 (4/6) at 24 hours, clear by 96 hours, (chemosis) grade 1 (1/6) at 24 hours, clear by 72 hours, no discharge evident at 24 hours; Toxicity Category III; Study acceptable. (Moore, 4/3/96)

D. ARE DATA ADEQUATE TO SUPPORT REGISTRATION (if applicable)?: Yes

(signed) 4-4-96

Staff Toxicologist **Date**

III. PROTOCOL SUMMARY

A. ANIMALS, ROUTE OF ADMINISTRATION, AND DURATION OF TREATMENT:

Species: Rabbit
Strain: Hra:(NZW)SPF
Source of animals: Hazleton Research Products, Inc., Kalamazoo, MI
Age at start: Adult, weight: 2.57 to 2.85 kg.
Route of administration: Ocular instillation.
Vehicle: None.
Period of treatment: Single dose, 4 day observation period.

B. BACKGROUND (including relationship of this study to other studies): NA

C. TREATMENT LEVELS AND GROUP SIZE:

	Units (0.1 ml/eye)
#Males:	6
	Mortality
#Dead Males:	0

IV. STUDY DESIGN AND EVALUATION

A. TEST PROCEDURES AND REMARKS (e.g., OK, specific parameters; asterisks denote deficiencies, NA indicates not applicable or no comment).

1. Test article: ULD BP-300 (Pyrethrins/PBO/MGK 264) [7489W142]; lot no. ETA 352; clear, dark-yellow liquid.
2. Analysis of dosing material: Dosed as received.
3. Animal selection: OK.
4. Animal husbandry: OK.
5. Mortality: NA
6. Number of animals: OK.
7. Randomization of animals: Both eyes of each animal were examined for defects with fluorescein prior to inclusion in the study.
8. Dose level selection: OK.
9. Route of administration: OK.
10. Exposure conditions: OK.

11. Controls: Contralateral eye.
12. Observations: Ocular irritation scores were recorded at 1, 24, 48, 72 and 96 hours after dosing.
13. Necropsies: NA
14. Appropriateness of methods: OK.
15. Treatment of results: OK.
16. Test report: OK.
17. Consistency: OK.
18. Good Laboratory Practice: GLP compliance statement and quality assurance audit record included in the report.
19. Other: NA

B. ELABORATION OF METHODS OR PROTOCOL DESCRIPTION (if needed): NA

V. RESULTS

A. EFFECTS REPORTED: Observations: No corneal opacity nor iritis evident, conjunctiva (redness) grades 2 (2/6) and 1 (4/6) at 24 hours, clear by 96 hours, (chemosis) grade 1 (1/6) at 24 hours, clear by 72 hours, no discharge evident at 24 hours.

B. ACUTE TOXICITY VALUE (LD50, LC50, etc): NA

C. TOXICITY CATEGORY: III

VI. DISCUSSION

A. MAJOR DEFICIENCIES (if present). What are they and can they be corrected with additional information? Be specific: None.

B. DISCUSSION OF RESULTS (if necessary). Were there significant adverse health effects? No **Are there any recommendations specific to this study?:** None.

I. STUDY IDENTIFICATION

Active Ingredient: Pyrethrins, Piperonyl Butoxide technical, N-Octyl Bicycloheptene Dicarboximide
Formulated Product Name: ULD BP-300 (7489W142)
Chemical Code #: 510, 486, 396 **ID #:** 159784E
Document #: 128-783 **Record #:** 144646
EPA Reg. #: NA **SB 950 #:** 199, 103, 82
Study Type: 815; Primary Dermal Irritation Study
Full Study Title: Primary Dermal Irritation of ULD BP-300 (Pyrethrins/PBO/MGK 264) [7489W142] in Rabbits (MRID 439211-01)
Company Sponsor: S.C. Johnson & Son, Inc.
Conducting Laboratory: Hazleton Wisconsin, Inc., Madison, WI
Final Report Date: April 30, 1993
Study Interval: March 15, 1993 to March 22, 1993

II. SUMMARY OF WORKSHEET

A. STUDY STATUS: Is report complete? - Yes
Is study acceptable? - Yes

Yes - **Meets EPA guidelines**
- **Minor variances from guidelines**
- **Major variances from guidelines**
- **Could be upgraded with additional information (see VI-A)**

Yes - **Has useful data**
- **Insufficient data**
- **Non EPA validated study**
Other_____

B. CONCLUSIONS: Does this study as reported demonstrate a possible significant adverse health effect?: No

C. ONE LINER-One or two sentence summary of the study: 128-783; 144646; Primary Dermal Toxicity Study; 815; Rabbit; Hazleton Wisconsin, Inc., Madison, WI; Study No. HWI 30202516; 4/30/93; ULD BP-300 (7489W142); 6 animals; Dose: 0.5 ml/site, one site/animal, 4 hour exposure, semi-occlusive wrap; Observations: erythema-grades 2 (2/6) and 1 (4/6) at the conclusion of exposure, persisting with grades 2 (3/6) and 1 (3/6) at 72 and 96 hours, clear by 7 days, edema-grade 1 (4/6) at the conclusion of exposure, persisting with grades 2 (1/6) and 1 (5/6) at 96 hours, clear by 7 days; blanching (1/6) and fissuring (4/6) evident at 96 hours, not present at 7 days; Toxicity Category III; Study acceptable. (Moore, 4/3/96)

D. ARE DATA ADEQUATE TO SUPPORT REGISTRATION (if applicable)?: Yes

(signed) 4-4-96

Staff Toxicologist **Date**

III. PROTOCOL SUMMARY

A. ANIMALS, ROUTE OF ADMINISTRATION, AND DURATION OF TREATMENT:

Species: Rabbit
Strain: Hra:(NZW)SPF
Source of animals: Hazleton Research Products, Inc..
Age at start: Adult, weight: 2.0 to 3.5 kg.
Route of administration: Dermal application.
Vehicle: None.
Period of treatment: Single application, 4 hour exposure, 7 day observation period.

B. BACKGROUND (including relationship of this study to other studies): NA

C. TREATMENT LEVELS AND GROUP SIZE:

	Units (0.5 ml/site)
#Males:	6

	Mortality
#Dead Males:	0

IV. STUDY DESIGN AND EVALUATION

A. TEST PROCEDURES AND REMARKS (e.g., OK, specific parameters; asterisks denote deficiencies, NA indicates not applicable or no comment).

1. **Test article:** ULD BP-300 (Pyrethrins/PBO/MGK 264) [7489W142]; lot no. ETA 352; clear, dark-yellow liquid.
2. **Analysis of dosing material:** Dosed as received.
3. **Animal selection:** OK.
4. **Animal husbandry:** OK.
5. **Mortality:** NA .
6. **Number of animals:** OK.
7. **Randomization of animals:** Criteria used for selecting the animals was not reported.
8. **Dose level selection:** OK.
9. **Route of administration:** OK.
10. **Exposure conditions:** OK.
11. **Controls:** NA

12. Observations: Dermal irritation scores were recorded at 0, 24, 48, 72 and 96 hours and 7 days post exposure.
13. Necropsies: NA
14. Appropriateness of methods: OK.
15. Treatment of results: OK.
16. Test report: OK.
17. Consistency: OK.
18. Good Laboratory Practice: GLP compliance statement and quality assurance audit record included in the report.
19. Other: NA

B. ELABORATION OF METHODS OR PROTOCOL DESCRIPTION (if needed): NA

V. RESULTS

A. EFFECTS REPORTED: Observations: erythema-grades 2 (2/6) and 1 (4/6) at the conclusion of exposure, persisting with grades 2 (3/6) and 1 (3/6) at 72 and 96 hours, clear by 7 days, edema-grade 1 (4/6) at the conclusion of exposure, persisting with grades 2 (1/6) and 1 (5/6) at 96 hours, clear by 7 days; blanching (1/6) and fissuring (4/6) evident at 96 hours, not present at 7 days

B. ACUTE TOXICITY VALUE (LD50, LC50, etc): NA

C. TOXICITY CATEGORY: III

VI. DISCUSSION

A. MAJOR DEFICIENCIES (if present). What are they and can they be corrected with additional information? Be specific: None.

B. DISCUSSION OF RESULTS (if necessary). Were there significant adverse health effects? No **Are there any recommendations specific to this study?:** None.

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DATA REVIEW FOR DERMAL SENSITIZATION TESTING (§81-6)

Product Manager:	10	**Reviewer:**	Carol Glasgow, Ph.D.
Report Date:	June 18, 1993	**Report No.:**	HWI 30202518
MRID No.:	438134-03		
Testing Laboratory:	Hazleton Wisconsin, Inc.		
Author(s):	Steven M. Glaza		
Species:	Crl:(HA)BR strain of albino guinea pigs		
Weight:	444 - 548 g		
Age:	young adult		
Sex:	30 male		
Source:	Charles River Laboratories, Inc.		
Test Material:	ULD BP-300 (Pyrethrins/PBO/MGK 264) [7489W142], Lot No. ETA 352; clear, dark-yellow liquid: Isopar M (second challenge only); clear colorless liquid: 7731W24-2 (second challenge only); clear, yellow liquid		
Positive control:	2,4-dinitrochlorobenzene: induction 0.3% (w/v) in 80% aqueous ethanol; challenge 0.1% (w/v) in acetone		

Quality Assurance (40 CFR §160.12): Included, acceptable

Method: Modified Buehler

Summary:

1. **Toxicity Category:** Sensitizer
2. **Classification:** Acceptable

Procedure (Deviation from §81.6): Animals acclimated at least 7 days. Irritation screening of 0.4 ml at 100%, 75%, 50% and 25% concentrations (w/v in mineral oil). An additional test composed of 75% and two further concentrations was performed. Induction was conducted with undiluted test material and the challenge with 75%. Trunks and flanks of guinea pigs clipped and animals weighed on the day prior to application. Test material (0.4 ml) applied to 25 mm Hill Top Chamber® and placed on left side of guinea pig. This was then wrapped with dental dam and overwrapped with Elastoplast® tape. After 6 hours, the covering and chamber removed, and sites wiped with a wet disposable paper towel. Three inductions were given: 1 per week for three weeks. Approximately 3 hours before the 24-hour examination following the irritation screening and challenge applications, test sites of animals were depilated by applying Neet® depilatory for approximately 20 minutes and then washed off with lukewarm water. Animals observed at 24 and 48 hours following inductions and challenge. Challenge performed 13 days after last induction. A second challenge was conducted 10 days following the initial challenge with test material to determine the sensitizing potential of two additional test materials (Isopar M and 7731W24-2). Additional weights taken weekly throughout study and at termination of experimental phase. Grading scale presented in study report.

Results: Sensitization seen with this product and on component product fractions. Animals gained weight during the observation period and positive control significantly positive.