



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

MAR 12 2003

Memorandum

Subject: Science Review in Support of the Registration of OFF! Botanicals 2 (EPA Reg. No. 4822-515), containing 10% p-Menthane-3,8-diol (Chemical No. 011550). Review of Efficacy Studies. DP Barcode D277629; Case No. 065963; Submission No. S602593; MRIDs 454683-01, 454881-01, 454881-02 and 454881-03.

From: Nina Simeonova, Chemist *N. Simeonova 3/12/03*
Biochemical Pesticides Branch
Biopesticides & Pollution Prevention Division (7511C)

To: James Downing, Regulatory Action Leader
Biochemical Pesticides Branch
Biopesticides & Pollution Prevention Division (7511C)

Through: Russell S. Jones, Ph.D., Biologist *Russell S. Jones 3/12/2003*
Biochemical Pesticides Branch
Biopesticides & Pollution Prevention Division (7511C)

Action Requested

The registrant submitted additional data for efficacy of "Off! Botanicals 2", insect repellent lotion formerly named Uick-3 Formula No 15028R21, to obtain unconditional registration, to claim repellence up to two hours and to add two more pests to the label statements.

Study summaries

Vol.1 from 1, MRID 454683-01. An additional field test estimates the efficacy of OFF! Botanical 2 for gnats. The protection time was found to be 222min (3.7 hours). and the protection time at 95% repellence is 237 min.(3.95 hours).

Vol.2 of 4, MRID 454881-01 contains data from field tests about the repellence of biting flies and mosquitoes. The protection time against biting flies was found to be 236 min. (3.9 hours) at 100% repellence and the protection time for mosquitos is 169 min.(2.8 hours) at repellence 100-98%.

Vol. 3 of 4, MRI 454881-02. Data are collected in two laboratory test about the bioefficacy of OFF! Botanocals 2 against ticks following the procedure ENT-REP 004. The repellence was found to be 96%-100% for two hours of exposure, depending of the species used.

Vol. 4 of 4, MPID 454881-03.The data from two laboratory tests prove 100% repellence against chiggers for test times 4 hours. The procedure was ENT-REP 007.

Recommendations and conclusions

Despite some deficiencies and justified deviations from standards, the submitted data support label claims for two hours repellence of OFF! Botanicals 2 against mosquitos, gnats, biting flies ticks and chiggers .

cc: N.Simeonova, J.Downing, BPPD Subject File
N. Simeonova: CM2, (703) 308-0291; 03/10/2003.

DATA EVALUATION RECORD

**P-MENTHANE-3,8-DIOL
(UICK-3)**

**STUDY TYPE: Product Performance, OPPTS 810.3300
MRID 45468301**

Prepared for

Biopesticides and Pollution Prevention Division
Office of Pesticide Programs
U.S. Environmental Protection Agency
1921 Jefferson Davis Highway
Arlington, VA 22202

Prepared by

Toxicology and Hazard Assessment Group
Life Sciences Division
Oak Ridge National Laboratory
Oak Ridge, TN 37830
Assignment No. 121

Primary Reviewer:
Eric B. Lewis, M.S.

Eric B. Lewis

Signature: _____
Date: JUN 04 2002

Secondary Reviewers:
Patricia S. Reno, M.S.

Signature: *Patricia S. Reno*
Date: JUN 04 2002

Robert H. Ross, M.S., Group Leader

Signature: *Robert H. Ross*
Date: JUN 04 2002

Quality Assurance:
Lee Ann Wilson, M.A.

Signature: *L. A. Wilson*
Date: JUN 04 2002

Disclaimer

This review may have been altered subsequent to the contractor's signatures above.

DATA EVALUATION RECORD

Reviewed by:

EPA Reviewer: Nina Simeonova, Chemist

STUDY TYPE: Product Performance, OPPTS 810.3300

MRID NO: 45468301

TEST MATERIAL: Uick-3 (10% p-menthane-3,8-diol) Formula No. 15028R21

STUDY NO: 390E2

SPONSOR: S.C. Johnson & Son, Inc.

TESTING FACILITY: Entomology Research Center, Racine, WI

TITLE OF REPORT: Determining Repellency of Uick-3 (10% p-menthane-3,8-diol) Against Biting Gnats (commonly called no-see-ums) (*Culicoides* spp.), Biting Flies (Black Flies) *Simulium* spp.) and Mosquitoes (*Culicidae*) in the Field

AUTHOR: Ropiak, D.T.

STUDY COMPLETED: March 26, 2001

CONFIDENTIALITY CLAIMS: None

STUDY SUMMARY: Field tests were conducted with human subjects to determine the efficacy of Uick-3 (10% p-menthane-3,8-diol) Formula 15028R21 to repel sand gnats. Following application of the test substance, the time to first confirmed bite was 129-277 minutes, with an average of 222 minutes. The time to first bite below 95% repellency ranged from 129-277 minutes, with an average of 237 minutes. The control limb gnat landing rate ranged from 0 to 96/hour.

CLASSIFICATION: Acceptable

GOOD LABORATORY PRACTICE The study was conducted in compliance with 40 CFR Parts 160, with minor exceptions that would not affect the outcome of the study.

TEST MATERIAL:

Uick-3 (10% p-menthane-3,8-diol) Formula No. 15028R21

TEST METHOD:

A field test using human subjects was conducted to determine the efficacy of Uick-3 (10% p-methane-3,8-diol) Formula 15028R21 against sand gnats (*Culicoides mississippiensis*). The test was conducted at Crystal River, Florida. Prior to the test, the forearms and lower legs of the test subjects were washed with Ivory soap and water and rinsed with an alcohol/water solution. Using two fingers, the test material was then evenly applied at a rate of 1 g/645 cm² to the forearms and lower legs. One of the four limbs of each individual was left untreated to serve as a control. Control limbs were exposed for a 5-minute period at the beginning of each hour, and the number of landings was counted. A running control average landing rate was determined throughout the test (an example calculation was provided). During the test period, the treated limbs were continuously exposed for approximately four hours and the time of each landing or bite was recorded. When a treated limb received two bites within 30 minutes, it was withdrawn from the test. Protection time was calculated by the traditional method (first bite followed by a confirming bite within 30 minutes) and also by determining 95% repellency [% repellency = 1 - (total number of bites on treated limb/average number of bites on control limb) x 100].

RESULTS SUMMARY:

Using the traditional protection time method, the time until first confirmed bite ranged from 129-277 minutes, with an average protection time of 222 minutes (Table 1). The time to first bite below 95% repellency ranged from 129-277 minutes, with an average of 237 minutes. The control limb gnat landing rate ranged from 0 to 96/hour.

STUDY AUTHOR'S CONCLUSIONS:

The study author concluded that the mean protection time for Uick-3 (10% p-menthane-3,8-diol) Formula 15028R21 against sand gnats was 222 minutes, and the mean time until the first bite below 95% repellency was 237 minutes.

REVIEWER'S CONCLUSIONS:

OPPTS 810.3300 states that a product should generally provide a minimum of 2-3 hours protection time, depending on the biting pressure. The results of this study indicate that the test material at the dosage tested is effective in repelling sand gnats for an average of 222 minutes, and has a 95% repellency time of 237 minutes. These repellency times include those for some test subjects who apparently remained in the test area beyond the established four-hour test time, which would inflate the repellency times compared to what they would have been if the test had ended promptly after four hours. However, the draft label submitted by the applicant claims a protection time of only two hours for gnats, which is well below the reported times. This study was previously found to be unacceptable because not enough information was provided to establish efficacy or duration of repellency. The current submission is an amended study that provides an explanation of how the percent repellency was calculated, an explanation of the environmental habitats at the test sites, a table to show control counts per test subject across the test period, and copies of the field data sheets. Note that although the report title includes black flies and mosquitoes, the black fly and mosquito data are reported separately in MRID 45488101.

| TABLE 1. Protection time provided by Uick-3 (10% p-methane-3,8-diol) against sand gnats. | | | |
|--|-----------|------------------------------|--|
| Subject | Test limb | Time of first confirmed bite | Time until first bite below 95% repellency |
| DAS | L arm | 245 min | 269 min |
| DAS | R arm | 225 min | 234 min |
| DAS | L leg | 266* min | 266* min |
| KAC | L arm | 251 min | 273* min |
| KAC | R arm | 260 min | 264 min |
| KAC | R leg | 248 min | 270* min |
| REV | R arm | 171 min | 257 min |
| REV | L leg | 219 min | 228 min |
| REV | R leg | 171 min | 209 min |
| EBW | L arm | 277* min | 277* min |
| EBW | L leg | 276* min | 276* min |
| EBW | R leg | 274* min | 274* min |
| DTR | L arm | 186 min | 194 min |
| DTR | L leg | 133 min | 136 min |
| DTR | R leg | 129 min | 129 min |

% Repellency = 1 - (total number of bites on treated limb/average number of bites on control limb) x 100

*These entries surpassed the time of the test period, and are the times the treated limbs remained in the test area.

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DATA EVALUATION RECORD

**P-MENTHANE-3,8-DIOL
(UICK-3)**

**STUDY TYPE: Product Performance, OPPTS 810.3300
MRID 45488101**

Prepared for

Biopesticides and Pollution Prevention Division
Office of Pesticide Programs
U.S. Environmental Protection Agency
1921 Jefferson Davis Highway
Arlington, VA 22202

Prepared by

Toxicology and Hazard Assessment Group
Life Sciences Division
Oak Ridge National Laboratory
Oak Ridge, TN 37830
Assignment No. 121

Primary Reviewer:
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Signature: Eric B. Lewis

Date: JUN 04 2002

Secondary Reviewers:
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Date: JUN 04 2002

Robert H. Ross, M.S., Group Leader

Signature: Robert H. Ross

Date: JUN 04 2002

Quality Assurance:
Lee Ann Wilson, M.A.

Signature: L. A. Wilson

Date: JUN 04 2002

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DATA EVALUATION RECORD

Reviewed by:

EPA Reviewer: Nina Simeonova, Chemist

STUDY TYPE: Product Performance, OPPTS 810.3300

MRID NO: 45488101

TEST MATERIAL: Uick-3 (10% p-menthane-3,8-diol) Formula No. 15028R21

STUDY NO: 390E2

SPONSOR: S.C. Johnson & Son, Inc.

TESTING FACILITY: Entomology Research Center, Racine, WI

TITLE OF REPORT: Determining Repellency of Uick-3 (10% p-menthane-3,8-diol) Against Biting Gnats (commonly called no-see-ums) (*Culicoides* spp.), Biting Flies (Black Flies) *Simulium* spp.) and Mosquitoes (*Culicidae*) in the Field

AUTHOR: Verwey, R.E.

STUDY COMPLETED: November 15, 2000

CONFIDENTIALITY CLAIMS: None

STUDY SUMMARY: Field tests were conducted with human subjects to determine the efficacy of Uick-3 (10% p-menthane-3,8-diol) Formula 15028R21 to repel black flies and mosquitoes. The mean protection time for Uick-3 (10% p-menthane-3,8-diol) was >236 minutes for black flies and 169 minutes for mosquitoes. Repellency was calculated as 100% for black flies and 98.1-100% for mosquitoes.

CLASSIFICATION: Acceptable

GOOD LABORATORY PRACTICE The study was conducted in compliance with 40 CFR Parts 160, with minor exceptions that would not affect the outcome of the study.

TEST MATERIAL:

Uick-3 (10% p-menthane-3,8-diol) Formula No. 15028R21

TEST METHOD:

Field tests using human subjects were conducted to determine the efficacy of Uick-3 (10% p-methane-3,8-diol) Formula 15028R21 against black flies (*Simulium venustum*, *S. truncatum*, *S. rostratum*, *S. decorum*), and mosquitoes (*Aedes taeniorhynchus*, *Psorophora ferox*, *Mansonia dyari*). The black fly test was conducted near Huntsville, Ontario, and the mosquito test was conducted near Naples, Florida. Prior to the test, the forearms and legs of the test subjects were washed with Ivory soap and water, followed by an ethanol rinse (70% ethanol in water). Using two fingers, Uick-3 was then evenly applied at a rate of 1 g/645 cm² to the forearms and lower legs. One of the four limbs of each individual was left untreated to serve as a control. During the test, the treated limbs were continuously exposed for approximately four hours and the time of each landing or bite was recorded. When a treated limb received two bites within 30 minutes, it was withdrawn from the test. Control limbs were exposed for 1 minute each hour.

RESULTS SUMMARY:

In the black fly test (total of 12 treated limbs), none of test subjects received a bite during the 224- to 244-minute test period, giving an average protection time of >236 minutes. The single control limb landing rate ranged from 1 to 18 landings/minute. The repellency was 100%.

In the mosquito test (total of 15 treated limbs), the time until first confirmed bite was 79 to >250 minutes, with an average of 169 minutes (Table 1). The single limb control landing rate ranged from 1 to 8 landings/minute. The repellency was 98.1 to 100%.

STUDY AUTHOR'S CONCLUSIONS:

The study author concluded that the mean protection time for Uick-3 (10% p-menthane-3,8-diol) was >236 minutes for black flies and 169 minutes for mosquitoes. Repellency was calculated as 100% for black flies and 98.1-100% for mosquitoes.

REVIEWER'S CONCLUSIONS:

OPPTS 810.3300 states that a product should generally provide a minimum of 2-3 hours protection time, depending on the biting pressure. The results of this study indicate that the test material at the dosage tested is effective in repelling black flies for >3 hours and mosquitoes for >2 hours. The draft label submitted by the applicant claims a protection time of up to two hours for black flies and mosquitoes. This study was previously found to be unacceptable because not enough information was provided to establish efficacy or duration of repellency. The current submission is an amended study that provides sufficient repellency data and includes an explanation of how repellency was calculated. Acceptable control data, which were apparently missing in the previous submission, were included with the current submission. Additional information on the environmental habitat of the testing area was also included. Note that although the report title includes biting gnats, the biting gnat data are reported separately in MRID 45468301.

| TABLE 1. Protection time provided by Uick-3 (10% p-methane-3,8-diol) against mosquitoes. | | | | |
|--|-----------|--------------------|---------------------|--|
| Subject | Test limb | Time of first bite | Time of second bite | Time of last bite/ % repellency at time when limb was removed from test |
| EBW | R arm | 96 min | 96 min | 96 min/98.3% |
| EBW | L leg | 121 min | 121 min | 135 min/98.3% |
| EBW | R leg | 212 min | 249 min | 249 min/98.3% |
| KAC | L arm | 136 min | >255 min | 174 min/98.8% |
| KAC | L leg | 142 min | 183 min | 213 min/98.1% |
| KAC | R leg | 92 min | 138 min | 138 min/98.3% |
| JFB | L arm | >250 min | >250 min | 250+ min/100% |
| JFB | R arm | 202 min | 202 min | 203 min/99.5% |
| JFB | R leg | 219 min | >245 min | 219 min/99.8% |
| DAS | L arm | 233 min | 233 min | 233 min/99.4% |
| DAS | R arm | 52 min | 52 min | 79 min/98.9% |
| DAS | L leg | 70 min | >240 min | 238 min/99.1% |
| DTR | L arm | 71 min | 71 min | 98 min/99.6% |
| DTR | R arm | 47 min | 80 min | 86 min/99.4% |
| DTR | R leg | 77 min | 124 min | 128 min/99.4% |

% Repellency = 1 - (total number of bites on treated limb/average number of bites on control limb) x 100

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DATA EVALUATION RECORD

P-MENTHANE-3,8-DIOL

**STUDY TYPE: Product Performance, OPPTS 810.3300
MRID 45488102**

Prepared for

Biopesticides and Pollution Prevention Division
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Prepared by

Toxicology and Hazard Assessment Group
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Quality Assurance:
Lee Ann Wilson, M.A.

Signature: *J. A. Wilson*
Date: JUN 04 2002

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DATA EVALUATION RECORD

Reviewed by:

EPA Reviewer: Nina Simeonova, Chemist

STUDY TYPE: Product Performance, OPPTS 810.3300

MRID NO: 45488102

TEST MATERIAL: Uick-3 (10% p-menthane-3,8-diol) Formula No. 15028R21

STUDY NO: 390E3

SPONSOR: S.C. Johnson & Son, Inc.

TESTING FACILITY: Entomology Research Center, Racine, WI

TITLE OF REPORT: Determining Repellency of Uick-3 (10% p-menthane-3,8-diol) Against Ticks (*Ixodes scapularis* and *Amblyomma americanum* Adults) in the Laboratory

AUTHOR: Ropiak, D.T.

STUDY COMPLETED: July 26, 2001

CONFIDENTIALITY CLAIMS: None

STUDY SUMMARY: A laboratory test was conducted with human subjects to determine the efficacy of Uick-3 (10% p-menthane-3,8-diol) Formula No. 15028R21 against ticks. The test material provided 90-97% protection against *Amblyomma americanum*, and 100% protection against *Ixodes scapularis* over the four-hour test period.

CLASSIFICATION: Acceptable

GOOD LABORATORY PRACTICE: The study was conducted in compliance with 40 CFR Part 160, with minor exceptions that would not affect the outcome of the study.

TEST MATERIAL:

Uick-3 (10% p-menthane-3,8-diol) Formula No. 15028R21

TEST METHOD:

Laboratory tests were conducted with human subjects to determine the efficacy of Uick-3 (10% p-menthane-3,8-diol) Formula 15028R21 against adult ticks (*Ixodes scapularis* and *Amblyomma*

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americanum). One forearm of five human test subjects was used for the tests, and the other forearm served as a control. Prior to the test, both forearms received an ethanol wash (70% ethanol in water). Using two fingers, the test material was evenly applied at a rate of 1 g/645 cm² to the treated forearm, and a line was drawn 3 cm above the wrist on both forearms. Ticks were placed on the back of the hand, and the arm was inverted to promote upward movement toward the treated surface, as ticks are negatively geotropic. Ticks were considered non-repelled if they crossed the line onto the treated forearm. The first exposure occurred one-hour post-treatment, with subsequent exposures at one-hour intervals during the four-hour test period. Each exposure lasted 5 minutes. Five ticks/forearm were used in the initial exposure, but the number was reduced to three in subsequent exposures due to the difficulty of keeping track of five ticks.

RESULTS SUMMARY:

The test material provided 90-97% protection against *Amblyomma americanum* and 100% protection against *Ixodes scapularis* during the four-hour test period.

TABLE 1. Mean percent protection^a provided by Uick-3 against ticks.

| Reps | Species | Percent repelled | | | |
|------|---------------------------------------|------------------|---------|---------|---------|
| | | 1 hour | 2 hours | 3 hours | 4 hours |
| 5 | <i>Amblyomma americanum</i> | 97 | 96 | 94 | 90 |
| 5 | <i>Ixodes scapularis</i> ^b | 100 | 100 | 100 | 100 |

^aCalculated as 1-(number of ticks on treated forearm/number on control forearm) x 100.

^bIn the original test conducted 5/24/00, the *Ixodes* ticks were very lethargic and did not move or attempt to cross the line on either forearm, and it was assumed there had been a problem in shipping. Therefore, the *Ixodes* test was repeated on 6/7/01 using the same protocol. The results given are for the re-test.

STUDY AUTHOR'S CONCLUSIONS:

The study author concluded that Uick-3 is effective in repelling ticks.

REVIEWER'S CONCLUSIONS:

OPPTS 810.3300 states that a product should generally provide a minimum of 2-3 hours protection time, depending on the biting pressure. The results of this study indicate that the test material at the dosage tested protects against ticks for a minimum of 4 hours. The draft label submitted by the applicant claims a protection time of up to two hours for ticks.

DATA EVALUATION RECORD

**P-MENTHANE-3,8-DIOL
(UICK-3)**

**STUDY TYPE: Product Performance, OPPTS 810.3300
MRID 45488103**

Prepared for

Biopesticides and Pollution Prevention Division
Office of Pesticide Programs
U.S. Environmental Protection Agency
1921 Jefferson Davis Highway
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Prepared by

Toxicology and Hazard Assessment Group
Life Sciences Division
Oak Ridge National Laboratory
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DATA EVALUATION RECORD

Reviewed by:

EPA Reviewer: Nina Simeonova

STUDY TYPE: Product Performance, OPPTS 810.3300

MRID NO: 45488103

TEST MATERIAL: Uick-3 (10% p-menthane-3,8-diol) Formula No. 15028R21

STUDY NO: 390E1

SPONSOR: S.C. Johnson & Son, Inc.

TESTING FACILITY: Entomology Research Center, Racine, WI

TITLE OF REPORT: Determining Repellency of Uick-3 Against Chiggers in the Laboratory

AUTHOR: Verwey, R.E.

STUDY COMPLETED: April, 1999

CONFIDENTIALITY CLAIMS: None

STUDY SUMMARY: A laboratory test was conducted with human subjects to determine the efficacy of Uick-3 (10% p-menthane-3,8-diol) Formula No. 15028R21 against chiggers. The test material provided 100% protection against chiggers for the 4-hour test period.

CLASSIFICATION: Acceptable

GOOD LABORATORY PRACTICE The study was conducted in compliance with 40 CFR Part 160.

TEST MATERIAL:

Uick-3 (10% p-menthane-3,8-diol) Formula No. 15028R21

TEST METHOD:

Laboratory tests were conducted to determine the efficacy of Uick-3 (10% p-menthane-3,8-diol) Formula 15028R21 against chiggers (*Eutrombicula splendens*). Laboratory testing was chosen due to the difficulty of locating testable chigger populations in the field, and, due to their small size, better control of the test specimens is provided in the laboratory. An 8-cm diameter test area on the forearm of four human test subjects was used for the tests (the area was shaved, if necessary). The

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other forearm of the test subject served as a control. Prior to the test, both forearms received an ethanol wash (70% ethanol in water). Using two fingers, the test material was evenly applied at a rate of 1 g/645 cm² to the forearm, and the test area was bordered with a layer of grease to contain the chiggers. Individual chiggers were exposed to each forearm for 5 minutes at 1-hour intervals over 4 hours. The chiggers were collected on a 1-cm² piece of black construction paper, and the paper and chigger were placed in the test area on the forearm. The chigger was allowed to crawl in the test area. A microscope was used to observe the chiggers' mobility during each 5-minute test period. Exposure was terminated when it was determined that the chigger was either moribund or reached the grease border, or 5 minutes expired.

RESULTS SUMMARY:

All chiggers on the treated forearms were moribund within the 5-minute test periods. All chiggers on the control forearms were not moribund or reached the grease border within the test periods.

STUDY AUTHOR'S CONCLUSIONS:

The study author concluded that Uick-3 (10% p-menthane-3,8-diol) provided 100% protection against chiggers for 4 hours in the laboratory.

REVIEWER'S CONCLUSIONS:

OPPTS 810.3300 states that a product should generally provide a minimum of 2-3 hours protection time, depending on the biting pressure. The results of this study indicate that the test material at the dosage tested protects against chiggers for a minimum of 4 hours. The draft label submitted by the applicant claims a protection time of up to two hours for chiggers. This study was previously found to be unacceptable because not enough information was provided to establish efficacy. The current submission is an amended study that provides the explanation that ethanol was used as a prewash, not a treatment, and includes the test method and raw data sheets.

S.C. Johnson & Son, Inc.
A Family Company

OFF! Botanicals 2



- (NEW!)
- (Contains a botanically-derived insect repellent)
- (Botanical)
- (Feels great on. Keeps bugs OFF!)
- (Non-greasy)
- (Unscented Lotion)
- (Protects your entire family from annoying mosquitoes, black flies, gnats, no-see-ums, chiggers, and ticks) (for up to two hours)
- (Not sticky or greasy)
- (Duplicates the repellency of eucalyptus)
- (Botanically inspired (insect) repellent)
- (Protection from annoying mosquitoes, black flies, gnats, no-see-ums, chiggers, and ticks) (for up to two hours))
- ((Contains) (With) Aloe (Vera))
- (Outdoor Protection)
- (Moisturizes with Aloe (Vera))
- (Provides protection from mosquitoes, black flies, gnats, no-see-ums, chiggers, and ticks)
- (Contains no dyes (or fragrances))
- (Contains no (added) fragrances (or dyes))
- ((With)(Contains) Eucalypta™)
- (Insect Repellent)
- ((Insect Repellent) for the whole family)
- (Plant-based (repellent))
- (Repels mosquitoes, black flies, gnats, no-see-ums, chiggers, and ticks))
- (Clean fresh scent)
- (Light, pleasant scent)
- (Contains plant extracts (oils, derivatives))
- (With (a delicate blend of) (botanical) plant extracts (oils, derivatives))
- (A luxurious insect repellent)
- (Contains the insect repellent found in eucalyptus)
- (Repels mosquitoes, black flies, gnats, no-see-ums, chiggers, and ticks) up to 2 hours)
- (Leaves your skin feeling smooth and natural)
- (Eucalyptus scent)
- (Family formula)
- (Anti-insect formula with moisturizer)
- (Dermatologist Tested)
- (Moisturizing (formula) (for beauty without bites))
- (New eucalyptus ingredient repels mosquitoes, black flies, gnats, no-see-ums, chiggers, and ticks))
- (Plant-based Eucalypta™ repels mosquitoes, black flies, gnats, no-see-ums, chiggers, and ticks))

ACTIVE INGREDIENT:

Eucalypta™ [p-Menthane-3,8-diol]* 10.0%

OTHER INGREDIENTS 90.0%

™ Trademark of S.C. Johnson & Son, Inc.

* cis/trans isomer ratio: min. 60% (+/-) cis and max. 40% (+/-) trans

KEEP OUT OF REACH OF CHILDREN

CAUTION

See back panel for additional precautionary statements and complete directions for use.

Net Contents: 0.4 through 16-fl. oz.