DATA EVALUATION RECORD

EUGENOL
(Bull Run Japanese & Oriental Beetle Trap)

STUDY TYPE: Waiver Requests
Acute Dermal Toxicity (OPPTS 870.1200)
Acute Eye Irritation (OPPTS 870.2400)
Acute Dermal Irritation (OPPTS 870.2500)
Dermal Sensitization (OPPTS 870.2600)

MRID 47255010

Prepared for
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U.S. Environmental Protection Agency
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Prepared by
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Task Order No. 08-006

Primary Reviewer:
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Date: _____

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DATA EVALUATION RECORD

EPA Secondary Reviewer:	**Angela L. Gonzales /s/ 6/26/08**
STUDY TYPE:	Waiver Requests Acute Dermal Toxicity (OPPTS 870.1200) Acute Eye Irritation (OPPTS 870.2400) Acute Dermal Irritation (OPPTS 870.2500) Dermal Sensitization (OPPTS 870.2600)
MRID NO:	47255010
DECISION NO:	384967
DP BARCODE:	DP348932
TEST MATERIAL:	Bull Run Japanese & Oriental Beetle Trap (a.i., 6.622% w/w geraniol, 15.480% w/w eugenol, 6.622% w/w 2-phenethyl propionate, 0.034% w/w oriental beetle pheromone, 0.013% w/w nuranone)
STUDY NO:	Not provided
SPONSOR:	Bull Run Scientific, VBT, 3808 N. Sullivan Road, Bldg. 16 BV, Spokane Valley, WA 99216-1616
TESTING FACILITY:	Not applicable
TITLE OF REPORT:	Eugenol: Acute Toxicity and Prenatal Developmental Toxicity
AUTHOR:	Smith, C.A.
STUDY COMPLETED:	August 30, 2007
CONFIDENTIALITY CLAIMS:	None.
GOOD LABORATORY PRACTICE:	A signed and dated GLP statement was provided. The report provides descriptive information, and is not subject to the requirements of 40 CFR Part 160.
CONCLUSION:	The information submitted is sufficient to support the requested waivers for Acute Dermal Toxicity, Acute Eye Irritation, Acute Dermal Irritation, and Dermal Sensitization for eugenol. Although waivers were not formally submitted for the rest of the Tier I data requirements, these data are not required. No significant human exposure by any route is anticipated from use or disposal of the attractant cartridge or trap containing this ingredient.

Inert ingredient information may be entitled to confidential treatment

Test Material

Bull Run Japanese & Oriental Beetle Trap (a.i., 15.480% w/w eugenol, 6.622% w/w geraniol, 6.622% w/w 2-phenethyl propionate, 0.034% w/w oriental beetle pheromone, 0.013% w/w nuranone)

Product Description

Bull Run Japanese & Oriental Beetle Trap is an end use product to attract and trap adult male and female Japanese and Oriental beetles. The active ingredients in Bull Run Japanese & Oriental Beetle Trap (w/w) are 15.480% eugenol, 6.622% geraniol, 6.622% 2-phenethyl propionate, 0.034% oriental beetle pheromone, and 0.013% nuranone. The inert ingredients (w/w) are [redacted]

The product consists of a heavyweight plastic bag attached to four yellow plastic panels, and a separate plastic cartridge containing the attractant. The attractant is impregnated in inert polymer beads contained in the cartridge. The attractant cartridge is packaged in vapor-impervious clear plastic. When the trap is assembled by the user, the attractant cartridge is removed from the plastic and attached in the center of the plastic panels over the bag.

Bull Run Japanese & Oriental Beetle Trap is planned for outdoor residential use, with a use season of approximately six weeks. The product label specifies a maximum use rate of eight traps/acre.

Waiver Request

The registrant is requesting waivers of the following requirements for eugenol:

Acute Dermal Toxicity	(OPPTS 870.1200)
Acute Eye Irritation	(OPPTS 870.2400)
Acute Dermal Irritation	(OPPTS 870.2500)
Dermal Sensitization	(OPPTS 870.2600)

Registrant's Justification

Eugenol (2-methoxy-4-(2-propenyl)phenol) (CAS No. 97-53-0, PC code 102701) is an allylbenzene that has a pleasant, spicy, clove-like odor and acts as a floral attractant for target pests. It occurs naturally in cloves, nutmeg, cinnamon, and bay leaves.

Eugenol is classified by the Agency as a minimum risk pesticide per 40 CFR 152.25.

No significant exposure of production workers to eugenol is anticipated. The manufacturing steps for Bull Run Japanese & Oriental Beetle Trap are conducted in a fume hood or in a room with the equivalent of a whole-room fume hood. Additionally, the workers wear long sleeves and pants, shoes, socks, gloves, a face shield, and a respirator.

The cartridge holding the attractant is a hollow cylinder with a cap. After the attractant beads have been placed in the cartridge at the manufacturing facility, the cap is attached and sealed with eight spot welds. It cannot be opened without the use of a tool. The cartridge is for a single use and is not designed to be reused or refilled.

No oral or dermal exposure is anticipated from normal use of the product. If a cartridge were to be opened with a tool and an accidental exposure were to occur, the maximum oral or dermal exposure would be to 5.814 g of attractant beads. The beads contain 15.480% eugenol, so the reasonable worst-case maximum acute oral or dermal exposure to eugenol is 0.900 g.

Use of the product will result in *de minimus* inhalation exposure to eugenol based on the following worst-case assumptions: 1) the product is used at the maximum label rate, 2) the active ingredients are released instantaneously into a volume of air measuring one acre x 10 feet, and 3) there is no dissipation of the active ingredients by wind. The calculations are as follows:

(8 traps/A) x (5.814 g attractant/trap) x (15.480 g eugenol/100 g attractant) = 7200 mg eugenol/A.

(43,560 ft^2/A) x (10 ft) = 435,600 ft^3

(435,600 ft^3) x (0.3048^3 m^3/ft^3) x (100^3 cm^3/m^3) x (1 L/10 cm^3) = 1.233×10^{10} L

7200 mg eugenol/$1.233\ 10^{10}$ L = 5839×10^{-10} mg eugenol/L = 5.839×10^{-7} mg eugenol/L.

The actual air concentration of eugenol is likely to be significantly less than the estimated 5.839×10^{-7} mg/L based on the following: 1) the typical use rate is likely to be only 1-2 traps/A, 2) eugenol is released from the polymer matrix over a period of weeks rather than instantaneously, and 3) eugenol will be dissipated by the wind.

No eye exposure is anticipated from normal use of the product. If a cartridge were to be opened with a tool, the beads are large enough (6 mm x 4 mm) that entry into the eye is unlikely, and if it did occur, the beads could simply be removed. The attractant beads are made of a polymer, and grinding the beads does not produce a dust. The beads compress, resuming their shape when the pressure is removed. Therefore, exposure to the eye by dust is not anticipated.

No significant acute exposure is anticipated by any route. Therefore, there is no anticipated subchronic exposure to any of the active ingredients.

No significant human exposure by any route is anticipated from disposal of the attractant cartridge or trap. For disposal, the twist tie is removed and the plastic cartridge is removed from the yellow panels. The trap is then collapsed and the yellow panels are folded down to keep the beetles trapped. The trap and cartridge are then wrapped in newspaper and placed in the household trash for collection.

Reviewer's Conclusion

The information submitted is sufficient to support the requested waivers for acute dermal toxicity, acute eye irritation, acute dermal irritation, and dermal sensitization. The registrant also submitted information addressing acute oral and inhalation toxicity. If waivers for those requirements are

being requested, the requirements should be added the list of waivers being requested in MRID 47255010. Although waivers were not formally submitted for the rest of the Tier I data requirements, these data are not required. No significant human exposure by any route is anticipated from use or disposal of the attractant cartridge or trap containing eugenol as an active ingredient.