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ARMY ENVIRONMENTAL HYGIENE AGENCY ABERDEEN PROVING GR--ETC F/G 6/7
TOPICAL HAZARD EVALUATION PROGRAM OF CANDIDATE INSECT REPELLENT--ETC(U)
AUG 77 M H WEEKS, B J DESENA
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TOPICAL HAZARD EVALUATION PROGRAM OF
CANDIDATE INSECT REPELLENT AI3-12078
USDA PROPRIETARY COMPOUND
STUDY NO. 51-0866-78
MAY 1976 - AUGUST 1977

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ABERDEEN PROVING GROUND, MD 21010



DEPARTMENT OF THE ARMY
U. S. ARMY ENVIRONMENTAL HYGIENE AGENCY
ABERDEEN PROVING GROUND, MARYLAND 21010

Mr. Weeks/aq/584-3980

HSE-LT/WP

16 JAN 1978

SUBJECT: Topical Hazard Evaluation Program of Candidate Insect Repellent
AI3-12078, USDA Proprietary Compound, Study No. 51-0866-78, May
1976-August 1977

Executive Secretary
Armed Forces Pest Control Board
Forest Glen Section, WRAMC
Washington, DC 20012

A summary of pertinent findings and discussion of the inclosed report follows:

AI3-12078 was evaluated on New Zealand White rabbits for its potential to cause skin and eye irritation. No further toxicity testing is planned for AI3-12078 because of the eye injury produced. It is recommended that if this compound shows pest repellent properties that are a significant improvement over currently available compounds, this compound or its modified formulations be submitted for further toxicological evaluation at its proposed use formulation and/or concentration.

FOR THE COMMANDER:

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| 20. ABSTRACT (Continue on reverse side if necessary and identify by block number) AI3-12078 was evaluated on New Zealand White rabbits for its potential to cause skin and eye irritation. No further toxicity testing is planned for AI3-12078 because of the eye injury produced. It is recommended that if this compound shows pest repellent properties that are a significant improvement over currently available compounds, this compound or its modified formulations be submitted for further toxicological evaluation at its proposed use formulation and/or concentration. | | |

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CANDIDATE INSECT REPELLENT AI3-12078
USDA PROPRIETARY COMPOUND
STUDY NO. 51-0866-78
MAY 1976 - AUGUST 1977

1. AUTHORITY.

a. Letter, US Department of Agriculture, Agricultural Research Service, Southern Region, Insects Affecting Man Research Laboratory, Gainesville, FL, 5 May 1976.

b. Memorandum of Understanding between the Department of the Army; Office of The Surgeon General; the US Army Health Services Command; the US Army Environmental Hygiene Agency; the Armed Forces Pest Control Board; and the US Department of Agriculture, effective 1970 with Amendment No. 1 effective August 1974.

2. REFERENCE. Toxicology Division Procedural Guide, USAEHA, 1972, revised 1976.

3. PURPOSE. The purpose of this program is to provide guidance for further entomological testing of the candidate insect repellent AI3-12078.

4. SUMMARY OF FINDINGS. A preliminary hazard evaluation of the candidate repellent AI3-12078 (USDA Proprietary Compound) was conducted by this Agency using New Zealand White rabbits for skin and eye studies. A tabular presentation of animal toxicity data developed in this Agency follows:*

* In conducting the studies described in this report, the investigators adhered to the "Guide for the Care and Use of Laboratory Animals," US Department of Health, Education and Welfare Publication No. (NIH) 74-23, revised 1972 - second printing 1974. The experiments reported herein were performed in animal facilities fully accredited by the American Association for the Accreditation of Laboratory Animal Care.

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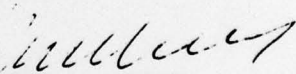
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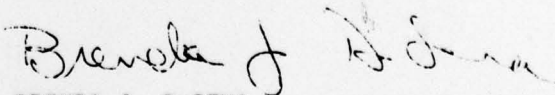
Study No. 51-0866-78, May 76-Aug 77

| Study No. | AI3 No.* | Physical State of Chemical Compound | Categories | | Chemical Compound Name |
|------------|----------|-------------------------------------|-----------------|-----|------------------------|
| | | | Categories Skin | Eye | |
| 51-0866-77 | 12078 | clear, yellow liquid | I | F | USDA Proprietary |

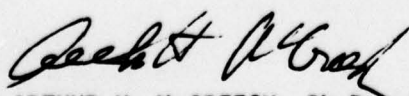
*US Department of Agriculture Identification Number.

5. RECOMMENDATIONS. Recommendations pertaining to the compound studied can be found in the Appendix by referring to its topical hazard evaluation program categories. No further preliminary toxicity testing is planned for AI3-12078 because of the severe corneal and conjunctival injury. If this compound shows pest repellent properties that are a significant improvement over currently available compounds, it is requested that this compound or its modified formulations be submitted for further toxicological evaluation at its proposed use formulation and/or concentration.


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APPENDIX

TOPICAL HAZARD EVALUATION PROGRAM
DEFINITIONS OF CATEGORIES OF COMPOUNDS BEING
CONSIDERED FOR ACUTE SKIN APPLICATION

CATEGORY I - Compounds producing no primary irritation of the intact skin or no greater than mild primary irritation of the skin surrounding an abrasion. (INTERPRETATION: No restriction for acute application to the human skin.)

CATEGORY II - Compounds producing mild primary irritation of the intact skin and the skin surrounding an abrasion. (INTERPRETATION: Should be used only on human skin found by examination to have no abrasions or may be used as a clothing impregnant.)

CATEGORY III - Compounds producing moderate primary irritation of the intact skin and the skin surrounding an abrasion. (INTERPRETATION: Should not be used directly on the skin without a prophetic patch test having been conducted on humans to determine irritation potential to human skin. May be used without patch testing, with extreme caution, as clothing impregnants. Compound should be resubmitted in the form and at the intended use concentration so that its irritation potential can be reexamined using other test techniques on animals.)

CATEGORY IV - Compounds producing moderate to severe primary irritation of the intact skin and of the skin surrounding an abrasion and, in addition, producing necrosis, vesiculation and/or eschars. (INTERPRETATION: Should be resubmitted for testing in the form and at the intended use concentration. Upon resubmission, its irritation potential will be reexamined using other test techniques on animals. prior to possible prophetic patch testing in humans, at concentrations which have been shown not to produce primary irritation in animals.)

CATEGORY V - Compounds impossible to classify because of staining of the skin or other masking effects owing to physical properties of the compound. (INTERPRETATION: Not suitable for use on humans.)

EYE CATEGORIES:

A. Compounds noninjurious to the eye. INTERPRETATION: Irritation of human eyes is not expected if the compound should accidentally get into the eyes, provided it is washed out as soon as possible.

B. Compounds producing mild injury to the cornea. INTERPRETATION: Should be used with caution around the eyes.

C. Compounds producing mild injury to the cornea, and in addition some injury to the conjunctiva. INTERPRETATION: Should be used with caution around the eyes and mucosa.

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D. Compounds producing moderate injury to the cornea. INTERPRETATION: Should be used with extreme caution around the eyes.

E. Compounds producing moderate injury to the cornea, and in addition producing some injury to the conjunctiva. INTERPRETATION: Should be used with extreme caution around the eyes and mucosa.

F. Compounds producing severe injury to the cornea and to the conjunctiva. INTERPRETATION: Should be used with extreme caution. It is recommended that use be restricted to areas other than the face.