EPA Reviewer: M. Perry MDP, Date 4-26-96
Review Section __, Toxicology Branch __ (7505W)
EPA Secondary Reviewer: _____, Date _____
Review Section __, Toxicology Branch __ (7505W)

DATA EVALUATION RECORD

STUDY TYPE: Dermal Sensitization - Guinea pig
OPPTS 870.2600 [81-6]

DP BARCODE: D216119
P.C. CODE: 103601
EPA REG. NO.: 524-308

SUBMISSION CODE:
TOX. CHEM. NO.:

TEST MATERIAL (PURITY): MON-0139 (47.6% glyphosate acid)

SYNONYMS: None specified

CITATION: Blaszcak, D. (1994) Closed-patch repeated insult dermal sensitization study in guinea pigs with MON 0139 (Buehler Method). Pharmaco LSR, Inc., East Millstone, NJ. Laboratory Study Number 94-1006. Sponsor Study Number PL-94-128. October 7, 1994. MRID 43404902. Unpublished.

SPONSOR: Monsanto Agricultural Company, St. Louis, MO

EXECUTIVE SUMMARY: In a dermal sensitization study (MRID 43404902) conducted with MON-0139 (47.6% glyphosate acid), five young adult Dunkin Hartley albino guinea pigs/sex were tested using methods based on those derived by Buehler. Results of two studies using dinitrochlorobenzene (DNCB) were included in the report to confirm the validity of the protocol used.

No dermal irritation was observed during the induction phase or following the challenge application. Similarly, no dermal irritation was observed in naive control animals. Based on the results of this study, **MON-0139 is not a dermal sensitizer.** This study is classified as **acceptable**, and satisfies the guideline requirement for a dermal sensitization study (81-6) in the guinea pig.

COMPLIANCE: Signed and dated GLP, Quality Assurance, and Data Confidentiality statements were provided.

I. MATERIALS AND METHODS

A. MATERIALS:

1. Test Material: MON-0139
Description: Clear liquid
Lot/Batch #: LUL-9404-5904-F
Purity: 47.6% Glyphosate acid
CAS #: Not specified

2. Vehicle and positive control: No vehicle was employed. Results of two studies (March 23-April 29 and June 7-July 14, 1994) using dinitrochlorobenzene (DNCB), a known sensitizer, were included in the report to confirm the validity of the protocol used: 0.5% DNCB in 80% ethanol and 0.3% DNCB in acetone were used for induction and challenge treatments, respectively.

3. Test animals: Species: Guinea pig
Strain: Dunkin Hartley Haz:(DH)fBR, albino
Age: 9-10 weeks (preliminary study) or 5-6 weeks (definitive study)
Weight: 283-410 g males; 300-378 g females (definitive study)
Source: HRP, Inc., Denver, PA
Acclimation period: 9 days (preliminary study) or 16 days (definitive study)
Diet: Agway Prolab Guinea Pig Diet, ad libitum
Water: Filtered tap water, ad libitum

B. STUDY DESIGN and METHODS:

1. In life dates: June 1-July 8, 1994 (preliminary and definitive studies)

2. Animal assignment and treatment: The study was conducted using methods based on those derived by Buehler [Buehler, E., Arch. Dermatol, Vol. 91, pp. 171-175 (1965); and Ritz, H. and E. Buehler, Current Concepts in Cutaneous Toxicity, pp. 25-40, Academic Press (1980)]. Based on the results of preliminary experiments conducted with MON-0139 at 10, 25, 50, or 100%, the test material was administered undiluted (100%) in the definitive study.

For the induction phase, fur on the back and sides

of five animals/sex was clipped 1 day prior to dermal administration of 0.3 mL of MON-0139 to the right side of the midline using a Hill Top Chamber. Each chamber was covered with impermeable plastic, and secured with elastic adhesive bandage. Following a 6-hour exposure period, the chambers were removed, and any excess test substance was removed from the skin by gently wiping with distilled water and clean gauze. Application of the test substance was repeated weekly for a total of three applications.

For the challenge phase, a single treatment was applied using MON-0139 in the same manner as described, to the previously untreated left side of each animal 14 days following the final induction treatment. To serve as naive controls, an additional five animals/sex were included for the challenge treatment. The guinea pigs were observed for dermal irritation 24 and 48 hours following each induction and challenge exposure. Skin reactions were scored according to the following scale:

0 - No reaction
0.5 - Very slight erythema, usually non-confluent
1 - Slight erythema, usually confluent
2 - Moderate erythema
3 - Severe erythema, with or without edema

The animals were observed for mortality twice daily, and for general health once weekly. Body weights were recorded 1 day prior to the first induction treatment and 2 days following the challenge treatment.

II. RESULTS AND DISCUSSION:

A. Induction reactions and duration: No dermal irritation was observed during the induction phase.

B. Challenge reactions and duration: No dermal irritation was observed following the challenge application. Similarly, no dermal irritation was observed in naive control animals. Based on the results of this study, MON-0139 is not a dermal sensitizer.

C. Positive control: Results for the induction phases of the two studies were not provided.

Following the single challenge treatment, very slight to severe erythema (scores of 0.5-3), accompanied by edema, necrosis, white tissue, and/or foci of white tissue, was observed at all test sites of previously induced animals, compared to very slight erythema observed at up to 12/20 sites of naive control animals.

D. Deficiencies: None.

ACUTE TOX ONE-LINER

1. PC CODE: 103601

2. CURRENT DATE: 2/22/95

3. TEST MATERIAL: Glyphosate 41%

Study/Species/Lab/ Study#/Date	MRID No.	Results	Tox. Cat.	Core Grade
81-2, Rat, Bio/ Dynamics, 4547-87, 10/10/94	434345-02	LD50 greater than 5000 mg/kg	IV	A
81-5, Rabbit, Bio/ dynamics, 4548-87, 10/10/94	434345-04	No irritation at 72 hours	IV	A
81-6, Guinea pig, Pharmaco LSR, 94-1006, 10/7/94	434049-02	Non-sensitizer	---	A

Core Grade Key:

A = Acceptable
S = Supplementary
U = Unacceptable

ACUTE TOX ONE-LINER

1. PC CODE: 103601

2. CURRENT DATE: 4/26/96

3. TEST MATERIAL: Glyphosate 41%

Study/Species/Lab/ Study#/Date	MRID No.	Results	Tox. Cat.	Core Grade
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