

Study Title

Skin Irritation Test with H-20349 in Rabbits

Laboratory Project ID

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Performing Laboratory

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GENERAL INFORMATION

Substance Tested:

[REDACTED]

Synonyms:

• H-20349

[REDACTED]

Physical Form:

Yellow to amber semi-solid (at room temperature)

Composition:

Available from Sponsor upon request

Contaminants:

Available from Sponsor upon request

Purity:

[REDACTED]

Submitter's Notebook No.:

None submitted

CAS Registry No.:

[REDACTED]

Sponsor:

Specialty Chemicals
E. I. du Pont de Nemours and Company
Wilmington, Delaware

Study Initiated - Completed:

12/6/93 - 2/25/94

In Life Phase
Initiated - Completed:

12/7/93 - 12/10/93

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Skin Irritation Test with H-20349 in Rabbits

SUMMARY

H-20349 was evaluated for acute skin irritation potential in 6 male rabbits. The test substance produced slight erythema in 2 rabbits by 24 hours after application that was still present at 48 hours. By 72 hours no erythema was observed. Four rabbits exhibited no erythema during the study. No edema was observed in any of the rabbits during this study.

Under the conditions of this study, H-20349 was a slight skin irritant.

Work by:

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Reviewed and
Approved for Issue:

John W. Sarver
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2/25/94

Acknowledgement: Bryan Crossley also participated in the conduct of this study.

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INTRODUCTION

The purpose of this study was to evaluate the skin irritation potential of H-20349 when applied to the shaved, intact skin of New Zealand White rabbits. This study was conducted according to the applicable EPA Good Laboratory Practice Standards.

MATERIALS AND METHODS

A. Animal Husbandry

Young adult male New Zealand White rabbits were received from Hare Marland, Hewitt, New Jersey. The rabbits were housed singly in suspended, stainless steel, wire-mesh cages. Each rabbit was assigned a unique identification number which was recorded on a card affixed to the cage. The last 3 digits of the identification number were written on the inside of the rabbit's ear with a water insoluble marker.

The rabbits were offered approximately 125 grams of Purina Certified High Fiber Rabbit Chow® #5325 daily during the study. Water was available ad libitum. Haskell Laboratory has a monitoring program which consists of periodic food and water analysis for contaminants. This program is monitored and administered by the Laboratory Veterinarian; data from this program are maintained separately from study records. On the basis of these analyses, there is no evidence suggesting that contaminants were present in the feed or water in amounts which may have interfered with the results of this study.

Rabbits were quarantined, weighed, and observed for general health for approximately 2 weeks. Animal rooms were maintained on a timer-controlled, 12-hour light/12-hour dark cycle. Environmental conditions of the rooms were targeted for a temperature of $20^{\circ}\text{C} \pm 2^{\circ}\text{C}$ and relative humidity of $50\% \pm 10\%$. Excursions outside these ranges were judged to have been of insufficient magnitude and/or duration to have adversely affected the validity of the study.

B. Protocol

On the day prior to treatment, the hair of 6 male New Zealand White rabbits was closely shaved to expose the skin from the scapular to the lumbar region of the back. The body weights of the rabbits ranged from 1916 to 2346 grams on the day of treatment.

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Each rabbit was placed into a stock which had been fitted with a piece of rubber sheeting, approximately 8" x 18". The rabbits remained in the stocks throughout the exposure period and during that time did not have access to food or water. Approximately 0.5 mL aliquot of H-20349, heated to 50°C was applied directly on the test site beneath a 2-inch gauze square that was held in place with non-irritating tape. The rubber sheeting was then wrapped around the animal and secured with clips to retard evaporation and to keep the test substance in contact with the skin without undue pressure. In the absence of visible evidence to the contrary, the test substance was assumed to be stable under the conditions of administration. Two other substances were tested concurrently on separate localized test sites on these rabbits.

Approximately 24 hours after application of the test substance, the rubber sheeting was loosened, and the skin at the corners of the gauze squares was marked with a waterproof pen; wrappings and gauze squares were then removed. The test sites were gently washed with Ivory® soap and warm water to remove excess test substance. The skin was gently patted dry, and the animals were returned to their cages.

Approximately 24, 48, and 72 hours after application of the test substance, the test sites were evaluated for erythema, edema, and other evidence of dermal effects and were scored according to the Draize scale (Table I). The adjacent areas of the untreated skin were used for comparison.

C. Records Retention

All raw data and the final report will be stored in the archives of Haskell Laboratory for Toxicology and Industrial Medicine, E. I. du Pont de Nemours and Company, Newark, Delaware or in the DuPont Records Management Center, Wilmington, Delaware.

RESULTS AND CONCLUSIONS

H-20349 produced slight erythema with no edema in 2 rabbits and no dermal erythema or edema in 4 rabbits by 24 and 48 hours following application. By 72 hours, no dermal irritation was observed in the treated rabbits. Individual skin irritation scores are presented in Table II. A summary of skin responses is presented in the following table.

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Summary of Skin Responses to H-20349

Response	Erythema			Edema		
	24 hr	48 hr	72 hr	24 hr	48 hr	72 hr
No Response	4/6	4/6	6/6	6/6	6/6	6/6
Slight	2/6	2/6	0/6	0/6	0/6	0/6

Under the conditions of this study, H-20349 was a slight skin irritant.

If these test scores are to be used for EEC/OECD classification, according to the guide to the labeling of dangerous substances published in the Official Journal of European Communities (EEC Directive 91/325, Annex VI), H-20349 probably could be classified as a "NON-IRRITANT" until further data are available.

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SKIN IRRITATION TEST WITH H-20349

TABLE I

DRAIZE¹ SCALE FOR SCORING PRIMARY SKIN IRRITATION

<u>Evaluation of Skin Reactions</u>	<u>Value</u>	
Erythema and eschar formation:	0	
No erythema	1 (Slight)	
Very slight erythema (barely perceptible)	2 (Mild)	
Well-defined erythema	3 (Moderate)	
Moderate to severe erythema		
Severe erythema (beet redness) to slight eschar formation (injuries in depth)	4 (Severe)	
Edema formation:	0	
No edema	1 (Slight)	
Very slight edema (barely perceptible)		
Slight edema (edges of area well defined by definite raising)	2 (Mild)	
Moderate edema (raised approximately 1.0 mm)	3 (Moderate)	
Severe edema (raised more than 1.0 mm extending beyond the area of exposure)	4 (Severe)	
Abbreviations of other dermal effects are:		
A = Abraded	F = Fissuring	L = Sloughing
I = Intact	N = Necrosis	R = Raw Areas
T = Thickening	G = Fissuring with Bleeding	X = Compound Adhered to Skin
C = Eschar	S = Epidermal Scaling	SN = Superficial Necrosis
- = No Effect		
B = Blanching		

¹ Draize, J. H., "Dermal Toxicity." Appraisal of the Safety of Chemicals in Foods, Drugs and Cosmetics. The Editorial Committee of the Association of Food and Drug Officials of the United States, Austin, Texas, 1959, pp. 46-59.

SKIN IRRITATION TEST WITH E-20349

TABLE IIINDIVIDUAL SKIN IRRITATION SCORESSKIN RESPONSES OBSERVED IN RABBITS

Rabbit Number	Erythema			Edema		
	24 hr	48 hr	72 hr	24 hr	48 hr	72 hr
28733	0	0	0	0	0	0
28734	1	1	0	0	0	0
28735	0	0	0	0	0	0
28736	1	1	0	0	0	0
28738	0	0	0	0	0	0
28740	0	0	0	0	0	0

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