



HAZLETON
WISCONSIN
POST OFFICE BOX 7545
MADISON, WI 53707-7545

AR226-0969

a CORNING Laboratory Services Company

8EHQ-0800-373

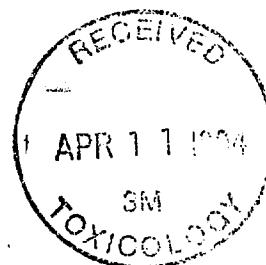
FINAL REPORT

Roger G. Perkins, PhD
3M
Toxicology Services
Building 220-2E-02
St. Paul, MN 55144-1000

HWI Number: 40200470

Study Title:

Primary Eye Irritation/Corrosion
Study of T-5898 in Rabbits
(OECD Guidelines)



00 AUG 21 AM 11:27

RECEIVED

Signed:

Steven M. Glaza
Steven M. Glaza
Study Director
Acute Toxicology

Date

4-7-94

005766

Phone

608-241-4471

Fax

FOR EXPRESS MAIL DELIVERY: 3301 KINSMAN BOULEVARD, MADISON, WISCONSIN 53704

Sample: T-5898

KEY PERSONNEL

Acute Toxicology

Steven M. Glaza
Study Director
Manager

Steven R. Sorenson
Study Coordinator

Patricia Padgham
In-life Supervisor

Rose M. Bridge
Report Supervisor

Laboratory Animal Medicine

Cindy J. Cary, DVM
Diplomate, ACLAM
Supervisor

CONTENTS

	<u>Page</u>
Key Personnel	2
Objective	3
Test Material	3
Test System	3
Procedures	4
Summary of Results	6
Discussion	10
References	10
Appendix - Raw Data	11

Sample: T-5898

OBJECTIVE

The objective of this study was to assess the relative level of irritation/corrosion produced following a single exposure of a test material to one eye of albino rabbits.¹

All procedures used in this study are in compliance with the Animal Welfare Act Regulations. In the opinion of the Sponsor and study director, the study did not unnecessarily duplicate any previous work.

TEST MATERIAL

Identification

The test material was identified as T-5898 and described as a clear, light-yellow liquid.

Purity and Stability

The Sponsor assumes responsibility for purity and stability determinations (including under test conditions).

Storage and Retention

The test material was stored at room temperature. Any unused test material will be returned to the Sponsor after issuance of the final report according to Hazleton Wisconsin (HWI) Standard Operating Procedure (SOP).

Safety Precautions

The test material handling procedures were according to HWI SOPs and policies.

TEST SYSTEM

Test Animal

Adult albino rabbits of the Hra:(NZW)SPF strain were procured from HRP, Inc. and maintained at the Hazleton Wisconsin facility at 3802 Packers Avenue, Madison, Wisconsin. Animal husbandry and housing at HWI comply with standards outlined in the "Guide for the Care and Use of Laboratory Animals".² The animals were individually housed in screen-bottom cages in temperature- and humidity-controlled quarters, provided access to water *ad libitum* and a measured amount of Laboratory Rabbit Diet HF #5326, PMI Feeds, Inc., and held for an acclimation period of at least 7 days. The feed is routinely analyzed by the manufacturer for nutritional components and environmental contaminants.

005768

Sample: T-5898

Samples of the water are periodically analyzed by HWI. There were no known contaminants in the feed or water that would have interfered with or affected the results of the study.

Three female acclimated animals, weighing from 2,628 to 2,722 g, were selected and maintained during the study in the same manner as for the acclimation period. If variations from the required temperature and humidity conditions existed, they were documented and considered to have had no adverse effect on the study outcome. The animals' eyes were examined on the day before test material administration using sodium fluorescein dye procedures. Only those animals with no sign of ocular injury or irritation were used. Animals were identified by animal number and corresponding ear tag.

Justification for Species Selection

Historically, the New Zealand White albino rabbit has been the animal of choice based on its large orbit and nonpigmented iris.

PROCEDURES

Preparation of Test Material

The test material was administered as received. The pH of the test material was determined to be 7.6.

Treatment

Each rabbit received 0.1 mL of the undiluted test material placed into the everted lower lid of the right eye, with the left eye serving as the untreated control. The upper and lower lids were gently held together for 1 second to prevent loss of material and then released. The eyes of the rabbits remained unflushed.

Reason for Route of Administration

Historically, the ocular route has been the route of choice based on the method of Draize.³

Observations

The treated eyes were observed for ocular irritation at 1, 24, 48, 72, and 96 hours and Days 7 and 14 after treatment. Irritation was graded and scored according to the Draize technique. Sodium fluorescein examinations were used to aid in revealing possible corneal injury at 72 hours and Days 7 and 14.

005769

Sample: T-5898

Animals were weighed just before test material administration and at weekly intervals throughout the study.

Termination

At termination of the experimental phase, all animals were designated to be euthanized and discarded.

Statistical Analyses

No statistical analyses were required by the protocol.

Location of Raw Data, Records, and Final Report

The raw data, records, and a copy of the final report will be retained in the archives of HWI in accordance with HWI SOP.

Sample: T-5898

SUMMARY OF RESULTS

Test Animal: Albino Rabbits - Hra:(NZW)SPF
 Source: HRP, Inc., Kalamazoo, MI
 Date Animals Received: 02/17/94

Experimental Start Date: 02/24/94 Experimental Termination Date: 03/10/94

Average Primary Eye Irritation Scores*

<u>Observation Period</u>	<u>Average Score</u>
1 Hour	24.3
24 Hour	26.7
48 Hour	15.0
72 Hour	10.3
96 Hour	7.3
Day 7	4.3
Day 14	0.0

- * The average primary eye irritation score is the total eye irritation score for all the animals divided by the number of animals (3) at each observation period.

Sample: T-5898

Table 1
Individual Eye Irritation Scores

Animal Number	Cornea		Iris C	Conjunctivae			Total Score*
	A	B		D	E	F	
<u>1 Hour</u>							
F49828 ^u	1	1	1 ⁱ	2	2	2 ^c	22.0
F49829 ^t	1	2	1 ⁱ	2 ^b	3	2 ^c	29.0
F49795 ^u	1	1	1 ⁱ	2 ^b	2	2 ^c	22.0
					Mean		24.3
<u>24 Hours</u>							
F49828	1	1	1 ⁱ	2 ^b	2	1 ^c	20.0
F49829	1	3	1 ⁱ	2 ^b	3	2 ^d	34.0
F49795	1	1	1 ⁱ	2 ^b	3	3 ^c	26.0
					Mean		26.7
<u>48 Hours</u>							
F49828	0	0	0	1	0	0	2.0
F49829	1 ^j	2	1 ⁱ	2 ^b	2	2 ^c	27.0
F49795	1 ^j	1	1 ⁱ	2	1	0	16.0
					Mean		15.0

Cornea

A - Degree of opacity
B - Area of involvement

Iris

C - Degree of iridal
irritation

Conjunctivae

D - Redness
E - Chemosis
F - Discharge

* Total score = (A x B x 5) + (C x 5) + [(D + E + F) x 2].

b Blanching.

c Clear discharge.

d Purulent discharge.

i Injected.

j Corneal epithelial peeling.

t No pain response after test material instillation.

u Excessive pawing at the treated eye after test material instillation.

Sample: T-5898

Table 1 (Continued)
Individual Eye Irritation Scores

Animal Number	Cornea		Iris C	Conjunctivae			Total Score*
	A	B		D	E	F	
<u>72 Hours</u>							
F49828	0	0	0	1	0	0	2.0
F49829	1	1	1 ⁱ	2 ^b	1	1 ^c	18.0
F49795	1 ^j	1	0	2	1	0	11.0
Mean							10.3
<u>96 Hours</u>							
F49828	0	0	0	0	0	0	0.0
F49829	1	1	0	2	1	0	11.0
F49795	1	1	0	2	1	0	11.0
Mean							7.3
<u>Day 7</u>							
F49828	0	0	0	0	0	0	0.0
F49829	0	0	0	1	0	0	2.0
F49795	1 ^j	1	0	2	1	0	11.0
Mean							4.3

Cornea

A - Degree of opacity
B - Area of involvement

Iris

C - Degree of iridal
irritation

Conjunctivae

D - Redness
E - Chemosis
F - Discharge

* Total score = (A x B x 5) + (C x 5) + [(D + E + F) x 2].

b Blanching.

c Clear discharge.

i Injected.

j Corneal epithelial peeling.

005773

Sample: T-5898

Table 1 (Continued)
Individual Eye Irritation Scores

Animal Number	Cornea		Iris C	Conjunctivae			Total Score*
	A	B		D	E	F	
	Day 14						
F49828	0	0	0	0	0	0	0.0
F49829	0	0	0	0	0	0	0.0
F49795	0	0	0	0	0	0	0.0
					Mean		0.0

Cornea

A - Degree of opacity
B - Area of involvement

Iris

C - Degree of iridal
irritation

Conjunctivae

D - Redness
E - Chemosis
F - Discharge

* Total score = (A x B x 5) + (C x 5) + [(D + E + F) x 2].

Table 2
Sodium Fluorescein Examination

Animal Number	Sex	Observation Period			
		Preinitiation	72 Hour	Day 7	Day 14
F49828	F	NEG	NEG	NEG	NEG
F49829	F	NEG	NEG	NEG	NEG
F49795	F	NEG	POS (5%)	POS (5%)	NEG

NEG Negative stain retention.

POS Positive stain retention (area of cornea involved).

005774

Sample: T-5898

DISCUSSION

The test material, T-5898, when evaluated for its primary eye irritation potential in rabbits, produced corneal and iridal involvement and moderate to severe conjunctival irritation. All treated eyes had returned to a normal appearance by Day 14 after treatment.

REFERENCES

1. "Acute Eye Irritation/Corrosion," *Organisation for Economic Cooperation and Development's Guidelines for Testing of Chemicals*, Section 405 (adopted May 12, 1981).
2. NIH Publication No. 86-23 (revised 1985).
3. Draize, J. H., "Eye Mucosa," In: *Appraisal of the Safety of Chemicals in Foods, Drugs and Cosmetics - Dermal Toxicity*, Association of Food and Drug Officials of the U.S., pp. 49-50 (1959).

005775

HWI Number: 40200470

Page 11

Sample: T-5898

APPENDIX

Raw Data

005776

HWI: 40200470

PERSONNEL SIGNATURE SHEET
ACUTE TOXICOLOGY

Name	Job Title	Signature	Initials
Rose M. Bridge	Report Supervisor	<u>Rose M. Bridge</u>	RB
Anthony Cass	Lab Animal Technician	<u>Anthony Cass</u>	AC
Cindy J. Cary, DVM	Lab Animal Veterinarian	<u>Cindy J. Cary</u>	CC
Donna J. Clemons, DVM, MS	Lab Animal Veterinarian	<u>Donna J. Clemons</u>	DC
John A. Disch	Lab Animal Caretaker	<u>John A. Disch</u>	JD
Charles W. Fritz	Lab Animal Technician	<u>Charles W. Fritz</u>	CF
Kari Garfoot	Lab Animal Technician	<u>Kari Garfoot</u>	KG
Steven M. Glaza	Manager	<u>Steven M. Glaza</u>	SG
Kevin Grossman	Lab Animal Caretaker	<u>Kevin Grossman</u>	KG
Jeff Hicks	Lab Animal Technician	<u>Jeff Hicks</u>	JH
Sharen L. Howery	Research Assistant	<u>Sharen L. Howery</u>	SH
Wayne A. Madison	Supervisor	<u>Wayne A. Madison</u>	WAM
Doug McConnell	Lab Animal Technician	<u>Doug McConnell</u>	DM
Eileen McConnell	Staff Assistant	<u>Eileen McConnell</u>	EM
Bud McDonald	Study Coordinator	<u>Bud McDonald</u>	BMD
Albert Oleson	Lab Animal Caretaker	<u>Albert Oleson</u>	AO
Patricia Padgham	In-life Supervisor	<u>Patricia Padgham</u>	PP
Steven R. Sorenson	Study Coordinator	<u>Steven R. Sorenson</u>	SRS
Annette R. Turner	Staff Assistant	<u>Annette R. Turner</u>	AT
Tamra L. Walker	Staff Assistant	<u>Tamra L. Walker</u>	TW
Lana M. Weeden	Staff Assistant	<u>Lana M. Weeden</u>	LW
Heather M. Weber	Lab Animal Caretaker	<u>Heather M. Weber</u>	HW
Janice Griffiths	Lab Animal Caretaker	<u>Janice Griffiths</u>	JG

(G2/10-06-93)

005777

HWI No.: 40200470

TEST MATERIAL ADMINISTRATION RECORD

Test Material: T-5898

Physical Description: CLEAR LIGHT YELLOW LIQUID

pH Result: 7.6 with Corning pH Meter No. 05510

pH was determined on: ☒ undiluted material / NA dilution of NA % NA / NA

U - Unable to determine pH due to NA

Storage conditions of test material: ROOM TEMPERATURE

~~Approximately 5 minutes before test material instillation 2 drops of 0.5% proparacaine HCl (Ophthaine Lot #) were placed on the corneal surface of eye(s) of each rabbit. Tech./Time/Date: / /~~

Group NA Dose: 0.1 mL / NA g (NA mL equivalent) Time: From 14:06 To 14:08

☒ Unflushed

~~NA Flushed: NA seconds after test material instillation, the test eye of each animal was flushed with NA mL of lukewarm tap water for NA seconds / minutes. Time: From NA To NA~~

~~Group Dose: mL / g (mL equivalent) Time: From To~~

~~Unflushed~~

~~Flushed: seconds after test material instillation, the test eye of each animal was flushed with mL of lukewarm tap water for seconds / minutes. Time: From To~~

☒ Dose was administered using a 1-mL disposable syringe.

NA Dose was administered using a NA - μ L glass syringe.

NA Dose was weighed into and administered using a weighing paper.

NA Dose was placed directly on the corneal surface of the right eye. The eyelids were released immediately without forced blinking or manipulation.

☒ Dose was placed into the everted lower lid of the right eye. The upper and lower lids were gently held together for one second and then released.

NA Other: NA

Dosing Technician/Date: JE ac 12-24-94

Time of 1-hour scores: 15:09 Technician/Date: ac 12-24-94

NA Not applicable. ① entry error ac 2-24-94

(E8/12-09-92)

Final data review by/Date: JH 12-26-94

005778

HWI No.: 40200470

BODY WEIGHT / TREATMENT EFFECT RECORD

Test Material: T-5898Species/Source Strain/Location: Rabbit/Hra:(NZW)SPF/M1Date Animals Received: 2-17-94[†]
12-29-93Initiated in Room Number: 104

Animal Number	Group	Sex	Initial SF* Time: <u>13:41</u>	Pain Response Following Dosing	Animal Body Weights (g)			
					Initiation	Day 7	Day 14	Day 21
<u>9828</u>	<u>NA</u>	<u>♀</u>	<u>NEG</u>	<u>E</u>	<u>2643</u>	<u>2621^{ac}</u>	<u>2712</u>	
<u>9829</u>	<u>↓</u>	<u>↓</u>	<u>NEG</u>	<u>N</u>	<u>2722</u>	<u>2950</u>	<u>2936^K</u>	
<u>9795</u>	<u>↓</u>	<u>↓</u>	<u>NEG</u>	<u>E</u>	<u>2628</u>	<u>2716</u>	<u>2844</u>	
Technician		<u>K</u>	<u>K</u>	<u>ac</u>	<u>ac</u>	<u>ac</u>	<u>K</u>	
Date		<u>1994</u>	<u>2/23</u>	<u>2/23</u>	<u>2-24</u>	<u>2-24</u>	<u>3-3</u>	
Scale Used				<u>AID</u>	<u>CS604465</u>	<u>CS604465</u>	<u>CS104465</u>	

* Sodium fluorescein examination.

[†] RECEIVED AT ASL ON 2-17-94.
K 2-25-94

NEG Negative.

POS Positive.

NA Not applicable.

V Vocalization.

E Excessive pawing of treated eye.

N None.

On the day of treatment, all animals were weighed and appeared normal before test material administration.

Technician/Date: ac / 2-24-94

Surviving animals were designated for sacrifice and discard.

Technician/Date: K / 3-10-94

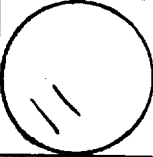
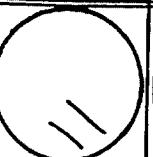
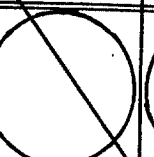
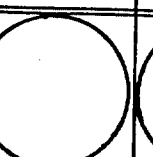
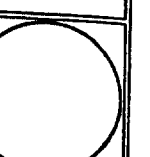
(E2/12-09-92)

Final data review by/Date: C7 / 3-11-94

005779

PRIMARY EYE IRRITATION OBSERVATIONS

Test Material: T-5898Group: NATest eye: RightObservation Period: 1 hour

Animal Number		<u>F4</u>	<u>9828</u>	<u>9829</u>	<u>9795</u>			
Location of Corneal Lesions								
Cornea	Opacity	<u>1</u>	<u>1</u>	<u>1</u>				
	Area	<u>1</u>	<u>2</u>	<u>1</u>				
Iris		<u>1I</u>	<u>1I</u>	<u>1I</u>				
Conjunctivae	Redness	<u>2</u>	<u>2^B</u>	<u>2^B</u>				
	Chemosis	<u>2</u>	<u>3</u>	<u>2</u>				
	Discharge	<u>2^C</u>	<u>2^C</u>	<u>2^C</u>				
Sodium Fluorescein exam		<u>NA</u>	<u>NA</u>	<u>NA</u>				

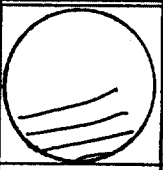
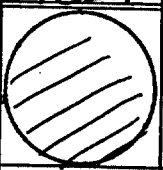
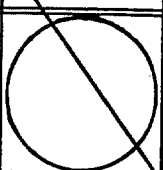
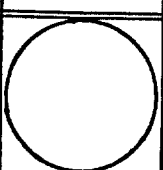
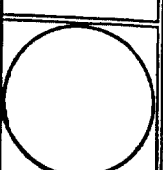
Technician: acEye Irritation Score: 24.3Date: 2-24-94Calculated by/Date: ac / 2-24-94Verified by/Date: JH / 2-26-94

NA Not applicable.
 A Petite hemorrhaging.
 B Blanching.
 C Clear discharge.
 D Purulent discharge.
 E Hair loss around the eye.
 F Possible necrotic areas.
 G Unable to visualize due to severe conjunctival swelling.
 H No reaction to light.
 I Injected.

J Corneal epithelial peeling.
 K Corneal epithelial pitting.
 L Corneal edema.
 M Hypopyon.
 N Corneal neovascularization.
 P Pannus.
 R Unable to visualize due to severe corneal opacity.
 S Granulation scar tissue.
 POS Positive stain retention.
 NEG Negative stain retention.

PRIMARY EYE IRRITATION OBSERVATIONS

Test Material: T-5898Group: NATest eye: RightObservation Period: 24 HOUR

Animal Number		<u>FL</u>	<u>9828</u>	<u>9829</u>	<u>9795</u>			
Location of Corneal Lesions								
Cornea	Opacity	<u>1</u>	<u>1</u>	<u>1</u>				
	Area	<u>1</u>	<u>3</u>	<u>1</u>				
Iris		<u>1⁺</u>	<u>1⁺</u>	<u>1⁺</u>				
Conjunctivae	Redness	<u>2^B</u>	<u>2^B</u>	<u>2^B</u>				
	Chemosis	<u>2</u>	<u>3</u>	<u>3</u>				
	Discharge	<u>1^C</u>	<u>2^D</u>	<u>3^C</u>				
Sodium Fluorescein exam		<u>NA</u>	<u>NA</u>	<u>NA</u>				

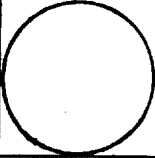
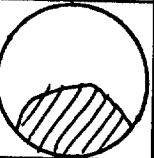
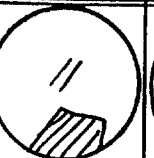
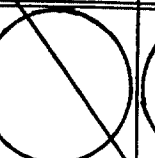
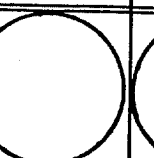
Technician: KGEye Irritation Score: 26.7Date: 2-25-94Calculated by/Date: KG / 2-25-94Verified by/Date: JH / 2-26-94

NA Not applicable.
 A Petite hemorrhaging.
 B Blanching.
 C Clear discharge.
 D Purulent discharge.
 E Hair loss around the eye.
 F Possible necrotic areas.
 G Unable to visualize due to severe conjunctival swelling.
 H No reaction to light.
 I Injected.

J Corneal epithelial peeling.
 K Corneal epithelial pitting.
 L Corneal edema.
 M Hypopyon.
 N Corneal neovascularization.
 P Pannus.
 R Unable to visualize due to severe corneal opacity.
 S Granulation scar tissue.
 POS Positive stain retention.
 NEG Negative stain retention.

PRIMARY EYE IRRITATION OBSERVATIONS

Test Material: T-5898Group: NATest eye: RightObservation Period: 48 Hours

Animal Number		<u>FL4</u>	<u>9828</u>	<u>9829</u>	<u>9795</u>			
Location of Corneal Lesions								
Cornea	Opacity	<u>0</u>	<u>J=35%</u> <u>1</u>	<u>J=20%</u> <u>1</u>				
	Area	<u>0</u>	<u>2</u>	<u>1</u>				
Iris		<u>0</u>	<u>1J</u>	<u>1I</u>				
Conjunctivae	Redness	<u>1</u>	<u>2B</u>	<u>2</u>				
	Chemosis	<u>0</u>	<u>2</u>	<u>1</u>				
	Discharge	<u>0</u>	<u>2C</u>	<u>0</u>				
Sodium Fluorescein exam		<u>NA</u>	<u>NA</u>	<u>NA</u>				

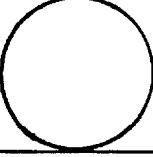
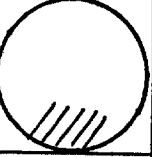
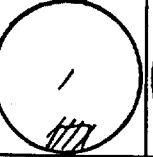
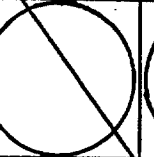
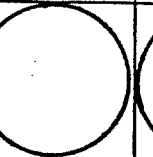
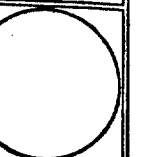
Technician: JHEye Irritation Score: 15.0Date: 2-26-94Calculated by/Date: JH / 2-26-94Verified by/Date: QC / 3-3-94

NA Not applicable.
 A Petite hemorrhaging.
 B Blanching.
 C Clear discharge.
 D Purulent discharge.
 E Hair loss around the eye.
 F Possible necrotic areas.
 G Unable to visualize due to severe conjunctival swelling.
 H No reaction to light.
 I Injected.

J Corneal epithelial peeling.
 K Corneal epithelial pitting.
 L Corneal edema.
 M Hypopyon.
 N Corneal neovascularization.
 P Pannus.
 R Unable to visualize due to severe corneal opacity.
 S Granulation scar tissue.
 POS Positive stain retention.
 NEG Negative stain retention.

PRIMARY EYE IRRITATION OBSERVATIONS

Test Material: T-5898Group: NATest eye: RightObservation Period: 72 Hour

Animal Number		<u>F4</u>	<u>9828</u>	<u>9829</u>	<u>9795</u>			
Location of Corneal Lesions								
Cornea	Opacity	<u>0</u>	<u>1</u>	<u>J=5%</u> <u>1</u>				
	Area	<u>0</u>	<u>1</u>	<u>1</u>				
Iris		<u>0</u>	<u>1⁺</u>	<u>0</u>				
Conjunctivae	Redness	<u>1</u>	<u>2B</u>	<u>2</u>				
	Chemosis	<u>0</u>	<u>1</u>	<u>1</u>				
	Discharge	<u>0</u>	<u>1^o</u>	<u>0</u>				
Sodium Fluorescein exam		<u>NEG</u>	<u>NEG</u>	<u>Pos 5%</u>				

Technician: JHEye Irritation Score: 10.3Date: 2-27-94Calculated by/Date: JH / 2-27-94Verified by/Date: ac / 3-3-94

NA Not applicable.
 A Petite hemorrhaging.
 B Blanching.
 C Clear discharge.
 D Purulent discharge.
 E Hair loss around the eye.
 F Possible necrotic areas.
 G Unable to visualize due to severe conjunctival swelling.
 H No reaction to light.
 I Injected.

J Corneal epithelial peeling.
 K Corneal epithelial pitting.
 L Corneal edema.
 M Hypopyon.
 N Corneal neovascularization.
 P Pannus.
 R Unable to visualize due to severe corneal opacity.
 S Granulation scar tissue.
 POS Positive stain retention.
 NEG Negative stain retention.

PRIMARY EYE IRRITATION OBSERVATIONS

Test Material: T-5898Group: NATest eye: RightObservation Period: 96 HOUR

Animal Number		<u>F4</u>	<u>9828</u>	<u>9829</u>	<u>9795</u>			
Location of Corneal Lesions								
Cornea	Opacity	<u>0</u>	<u>1</u>	<u>1</u>				
	Area	<u>0</u>	<u>1</u>	<u>1</u>				
Iris		<u>0</u>	<u>0</u>	<u>0</u>				
Conjunctivae	Redness	<u>0</u>	<u>2</u>	<u>2</u>				
	Chemosis	<u>0</u>	<u>1</u>	<u>1</u>				
	Discharge	<u>0</u>	<u>0</u>	<u>0</u>				
Sodium Fluorescein exam		<u>NA</u>	<u>NA</u>	<u>NA</u>				

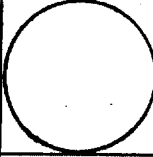
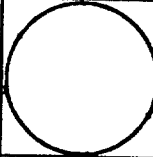
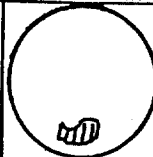
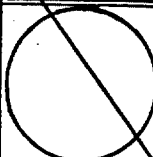
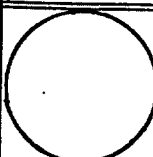
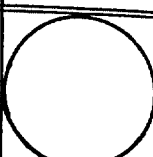
Technician: KGEye Irritation Score: 7.3Date: 2-28-94Calculated by/Date: KG / 2-28-94Verified by/Date: ac / 3-3-94

NA Not applicable.
 A Petite hemorrhaging.
 B Blanching.
 C Clear discharge.
 D Purulent discharge.
 E Hair loss around the eye.
 F Possible necrotic areas.
 G Unable to visualize due to severe conjunctival swelling.
 H No reaction to light.
 I Injected.

J Corneal epithelial peeling.
 K Corneal epithelial pitting.
 L Corneal edema.
 M Hypopyon.
 N Corneal neovascularization.
 P Pannus.
 R Unable to visualize due to severe corneal opacity.
 S Granulation scar tissue.
 POS Positive stain retention.
 NEG Negative stain retention.

PRIMARY EYE IRRITATION OBSERVATIONS

Test Material: T-5898Group: NATest eye: RightObservation Period: Day 7

Animal Number		<u>F4</u>	<u>9828</u>	<u>9829</u>	<u>9795</u>			
Location of Corneal Lesions								
Cornea	Opacity	0	0	J=5% 1				
	Area	0	0	1				
Iris		0	0	0				
Conjunctivae	Redness	0	1	2				
	Chemosis	0	0	1				
	Discharge	0	0	0				
Sodium Fluorescein exam		NEG	NEG	Pos 5%				

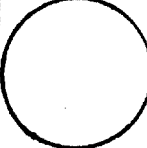
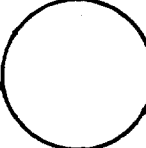
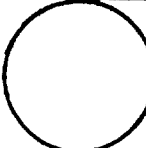
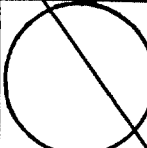
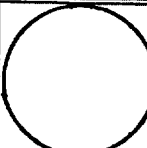
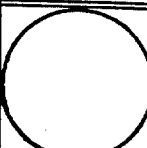
Technician: acEye Irritation Score: 4.3Date: 3-3-94Calculated by/Date: ac / 3-3-94Verified by/Date: KG / 3-5-94

- NA Not applicable.
 A Petite hemorrhaging.
 B Blanching.
 C Clear discharge.
 D Purulent discharge.
 E Hair loss around the eye.
 F Possible necrotic areas.
 G Unable to visualize due to severe conjunctival swelling.
 H No reaction to light.
 I Injected.

- J Corneal epithelial peeling.
 K Corneal epithelial pitting.
 L Corneal edema.
 M Hypopyon.
 N Corneal neovascularization.
 P Pannus.
 R Unable to visualize due to severe corneal opacity.
 S Granulation scar tissue.
 POS Positive stain retention.
 NEG Negative stain retention.

PRIMARY EYE IRRITATION OBSERVATIONS

Test Material: T-5898Group: NATest eye: RightObservation Period: Day 14

Animal Number		<u>F4</u>	<u>9828</u>	<u>9829</u>	<u>9795</u>			
Location of Corneal Lesions								
Cornea	Opacity							
	Area							
Iris								
Conjunctivae	Redness							
	Chemosis							
	Discharge							
Sodium Fluorescein exam		<u>NEG</u>	<u>NEG</u>	<u>NEG</u>				

Technician: KGDate: 3-10-94Eye Irritation Score: 0.0Calculated by/Date: KG / 3-10-94Verified by/Date: ac / 3-11-94

NA Not applicable.
 A Petite hemorrhaging.
 B Blanching.
 C Clear discharge.
 D Purulent discharge.
 E Hair loss around the eye.
 F Possible necrotic areas.
 G Unable to visualize due to severe conjunctival swelling.
 H No reaction to light.
 I Injected.

J Corneal epithelial peeling.
 K Corneal epithelial pitting.
 L Corneal edema.
 M Hypopyon.
 N Corneal neovascularization.
 P Pannus.
 R Unable to visualize due to severe corneal opacity.
 S Granulation scar tissue.
 POS Positive stain retention.
 NEG Negative stain retention.

SCALE FOR SCORING OCULAR LESIONS
(DRAIZE TECHNIQUE)

(1) Cornea

- (A) Opacity - Degree of density (area most dense taken for reading)
- | | |
|---|----|
| No opacity..... | 0 |
| Scattered or diffuse area, details of iris clearly visible..... | 1* |
| Easily discernible translucent areas, details of iris slightly obscured..... | 2* |
| Opalescent areas, no details of iris visible, size of pupil barely discernible..... | 3* |
| Opaque, iris invisible..... | 4* |
- (B) Area of Cornea Involved
- | | |
|--|---|
| One-quarter (or less), but not zero..... | 1 |
| Greater than one-quarter, but less than half..... | 2 |
| Greater than half, but less than three-quarters..... | 3 |
| Greater than three-quarters up to whole area..... | 4 |

A x B x 5 Total Maximum = 80

(2) Iris

- (A) Values
- | | |
|---|----|
| Normal..... | 0 |
| Folds above normal, congestion, swelling, circumcorneal injection (any or all of these or combination of any thereof) iris is still reacting to light (sluggish reaction is positive) | 1* |
| No reaction to light, hemorrhage, gross destruction (any or all of these)..... | 2* |

A x 5 Total Maximum = 10

(3) Conjunctivae

- (A) Redness (refers to palpebral and bulbar conjunctivae excluding cornea and iris)
- | | |
|--|----|
| Vessels normal..... | 0 |
| Vessels definitely injected above normal..... | 1 |
| More diffuse, deeper crimson red, individual vessels not easily discernible..... | 2* |
| Diffuse beefy red..... | 3* |
- (B) Chemosis
- | | |
|--|----|
| No swelling..... | 0 |
| Any swelling above normal (includes nictitating membrane)..... | 1 |
| Obvious swelling with partial eversion of the lids..... | 2* |
| Swelling with lids about half closed..... | 3* |
| Swelling with lids about half closed to completely closed..... | 4* |
- (C) Discharge
- | | |
|--|---|
| No discharge..... | 0 |
| Any amount different from normal (does not include small amounts observed in inner canthus of normal animals)..... | 1 |
| Discharge with moistening of the lids and hairs just adjacent to the lids..... | 2 |
| Discharge with moistening of the lids and hairs, and considerable area around the eye..... | 3 |

Score (A + B + C) x 2 Total Maximum = 20

The total score for the eye is the sum of all scores obtained for the cornea, iris, and conjunctivae.

* Indicates a positive effect. (FHSA Interpretation)

(E4/01-06-91)