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ACUTE AND SUBACUTE TOXICITY TESTS KRONITEX TCP: TRICRESYL PHOSPHATE (REPORT NO. ICD/T-76-030)		
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ARYL PHOSPHATES		

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FMC Industrial Chemical Division
Princeton

File 1

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Report No. ICD/T-76-030
February 10, 1976

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ACUTE AND SUBACUTE TOXICITY TESTS
KRONITEX® TCP: TRICRESYL PHOSPHATE

D. G. MacKellar
and
Food and Drug Research Laboratories, Inc.
and
Foster D. Snell, Inc.

ABSTRACT

Kronitex® TCP was tested for acute toxicity by a battery of standard tests with the following results. These tests are not designed to test for neurotoxicity.

- ✓ Oral LD₅₀ : >20,000 mg/kg.
- ✓ Dermal LD₅₀ : >10,000 mg/kg.
- ✓ Inhalation LC₅₀ : <200 mg/l.
- ✓ Eye Irritation : Non Irritant
- ✓ Skin Irritation : Non Irritant

A subacute, 28 day, dietary feeding study at zero, 1%, 0.5%, and 0.1% levels showed slightly increased mortality, enlarged livers, and increased blood urea nitrogen.

INTRODUCTION

Many of FMC's triaryl phosphates have been tested previously and been shown to have rather low toxicity. The new plant is now operating, and it is desirable to test the current product line. Additionally, an improved battery of standard acute toxicity tests was employed, so as to have means to compare the various products. Individual reports are prepared for each product to facilitate use in responding to outside inquiries.

Neurotoxicity is being studied separately. The animal species used in these tests are not usually susceptible to this injury.

Several typical products, including K-TCP, were further tested by a subacute, dietary feeding study for 28 days. This study seeks to find a diet level which has no effect, and one which has significant effect, but not sufficient to cause death. Study of the resulting tissues and physiological chemistry gives some insight into the route and mechanism of the toxic effect.

EXPERIMENTAL

Sample: Kronitex® TCP tricresyl phosphate, standard plant product Lot SS-578. Detailed analyses are available if desired.

Testing: Tests were done by Food and Drug Research Laboratories, Inc., Waverly, NY. Their reports are attached.

Standard Federal Hazardous Substances Labeling Act tests were used, except that, because of the expected low toxicity, one high dose level was used, and the LD₅₀ and LC₅₀'s are reported as >(greater than) or <(less than) this value.

Subacute feeding studies were done by Foster D. Snell, Inc., Florham Park, NJ. Their complete report is appended.

Pretest screening established the proper dose levels to be 0% control; 1%; 0.5%; and 0.1% of the regular diet.

RESULTS

Acute Oral : >20,000 mg/kg. (Rat) (40% Deaths)
Acute Dermal : >10,000 mg/kg. (Rabbit)
Acute Inhalation : >200 mg/l. (Rat)
Primary Skin Irritation : Non-irritant (Rabbit)
Eye Irritation : Non-irritant; no ocular effects were observed
(Rabbit)

RESULTS - continued

Subacute feeding study--No dose-related effects were noted at the 0.1% level. Slightly increased mortality was observed at the higher levels, together with liver enlargement and increased BUN (blood urea nitrogen).

Liver enlargement was noted in most cases, indicating that the liver is involved in attempting to detoxify K-TCP. Long continued feeding may cause damage.

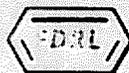
BUN (blood urea nitrogen) is elevated. The most usual cause for this is decreased kidney function. The kidneys, however, appear normal to gross examination. We have requested histopathological examination of several typical kidney and liver sections. These will take some time and will be reported later.

CONCLUSIONS AND RECOMMENDATIONS

This product has low acute toxicity. Subacute studies show relatively low toxicity, but there are some changes which should be further investigated.

Prepared by D. G. MacKellar Approved by W. B. Guemmler
D. G. MacKellar W. B. Guemmler

Read and understood J. J. Rizzo Date 2/26/76
J. J. Rizzo



**FOOD AND DRUG
LABORATORIES, INC.**

R E P O R T

WAVERLY DIVISION
Route 17C
P.O. Box 107
Waverly, New York 14892
(607) 565-2931

Submitted to: FMC Corporation
Industrial Chemical Division
Box 8
Princeton, New Jersey 08540

Date: October 24, 1975

Laboratory No: 2538_e

Sample: Water-white liquid

Marking: Product No. TCP; Kronitex^RTCP; ss-578

Examination Requested: Acute Oral Toxicity in rats.

Procedure: See Appendix I

Results: Forty percent mortality was observed at the dosage level of 20,000 mg/kg of body weight. Gross examination at autopsy revealed visceral hemorrhage.

Dosage * Level mg/kg	No. Rats Dosed															Mortality After 14 Days
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	
20,000	5 M	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2/5
20,000	5 F	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2/5

*Dosed as received

Conclusion: The approximate acute oral LD₅₀ obtained for the test material identified above is greater than 20,000 mg/kg of body weight.

David E. Bailey
David E. Bailey, Ph.D.
Director, Waverly Division



Appendix I

The Approximate Acute Oral LD₅₀ in Rats

Purpose: To determine the toxicity of the test material administered by intragastric intubation.

Procedure: Ten young adult albino rats (Wistar derived) weighing between 200-300 grams equally distributed into five males and five females were housed in mesh-bottom cages and fasted 24 hours prior to administering a single dose of 20,000 mg/kg of the test material. Food and water were available ad libitum after dosage.

The animals were observed daily for 14 days following administration of the test material, and deaths were recorded. ✓



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R E P O R T

Submitted to: FMC Corporation
Industrial Chemical Division
Box 8
Princeton, New Jersey 08540

Date: October 1, 1975

Laboratory No. 2538_e

Sample: Water-white liquid

Marking: Product No. TCP; Kronitex^{RTCP}; SS-578

Examination Requested: Primary Skin Irritation Study with Rabbits

Purpose: To determine the effects of the test material when applied to the rabbit's skin.

Procedure: The acute skin irritation test was conducted on 6 adult albino rabbits selected from healthy, acclimated animals. The method employed is patterned after the Draize procedure as described in 16 CFR 1500.41. The back of each animal was shaved free of hair; intact skin was exposed on the left half of the shaved area, and the abraded on the right half. The material (0.5 ml or 0.5 g) was introduced under a square patch of surgical gauze measuring 1 inch x 1 inch. Patches were removed after 24 hours and observations recorded. Observations were again made after 72 hours.

Results: Scoring of the effects produced by the test material is shown in Table 1. Erythema was observed in the abraded skin of one animal. No edema was observed.

Conclusion: On the basis of the data presented herein, the test material, FMC Product No. TCP, is not an irritant to the rabbit skin. This material is not considered a corrosive substance.

David E. Bailey
David E. Bailey, Ph.D.
Director, Waverly Division



Table 1

Primary Skin Irritation Scores of Rabbits*
(Dosed with FMC Product No. TCP)

Findings	Exposure Time (Hours)	Exposure Unit (Value)					
		--Rabbit No. --					
		1	2	3	4	5	6
Erythema and eschar formation:							
Intact Skin	24	0	0	0	0	0	0
" "	72	0	0	0	0	0	0
Abraded Skin	24	0	0	1	0	0	0
" "	72	0	0	0	0	0	0
Subtotal - - - - -		0	0	1	0	0	0
Edema formation:							
Intact Skin	24	0	0	0	0	0	0
" "	72	0	0	0	0	0	0
Abraded Skin	24	0	0	0	0	0	0
" "	72	0	0	0	0	0	0
Subtotal - - - - -		0	0	0	0	0	0
Total - - - - -		0	0	1	0	0	0
Score - - - - -		0.00	0.00	0.25	0.00	0.00	0.00

Average = 0.04**

* Draize Scoring Criteria:
 Primary Skin Irritation Indexes of less than 2.0 are mild irritants.
 Primary Skin Irritation Indexes of 2.0 to 5.0 are moderate irritants.
 Primary Skin Irritation Indexes of greater than 5.0 are severe irritants.
 **Non irritants are expected to produce an average score of 0.5 or less.



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R E P O R T

Submitted to: FMC Corporation
Industrial Chemical Division
Box 8
Princeton, New Jersey 08540

Date: October 24, 1975

Laboratory No. 2538_e

Sample: Water-white liquid

Marking: product No. TCP; Kronitex^RTCP; SS-578

Examination Requested: Eye Irritation Test in Rabbits

Purpose: To determine the effects of the test material to the rabbit eye.

Procedure: The acute eye irritation test was determined on 9 young adult albino rabbits, selected from healthy, acclimated animals. The test material at the level of 0.1 ml or 0.1 g was applied to the right eye of each animal.

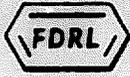
The method employed was patterned after the procedure described in 16 CFR 1500.42.

The test procedure was modified as follows:

Group I: Six rabbits; eyes unwashed following the instillation of the test material.

Group II: Three rabbits; eyes washed 4 seconds following instillation of the test material.

All eyes were observed and ocular reaction recorded at 24, 48, and 72 hours after instillation of the test material. They were observed again after 7 days.



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Results:

See Table 1 for eye irritation scores of rabbit eyes with no washout after instillation of the test material (Group I).

Table 2 presents the ocular reactions of rabbit eyes washed 4 seconds after instillation of the test material (Group II).

Group I: Conjunctival effects were observed in two of the animals. These effects cleared during the 48-hour observation period.

Group II: No ocular effects were observed in any of the three animals.

Conclusion:

On the basis of the data presented herein, the following is concluded for the test material, FMC Corporation Product No. TCP:

Groups I & II: It is not an irritant to the rabbit eye when not followed by a washout or followed by a washout 4-seconds after instillation of the test material.



David E. Bailey, Ph.D.
Director, Waverly Division



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Results:

See Table 1 for eye irritation scores of rabbit eyes with no washout after instillation of the test material (Group I).

Table 2 presents the ocular reactions of rabbit eyes washed 4 seconds after instillation of the test material (Group II).

Group I: Conjunctival effects were observed in two of the animals. These effects cleared during the 48-hour observation period.

Group II: No ocular effects were observed in any of the three animals.

Conclusion:

On the basis of the data presented herein, the following is concluded for the test material, FMC Corporation Product No. TCP:

Groups I & II: It is not an irritant to the rabbit eye when not followed by a washout or followed by a washout 4-seconds after instillation of the test material.



David E. Bailey, Ph.D.
Director, Waverly Division

Individual Rabbit Eye Irritation Scores*

(EMC Corporation Product No. TCP)

No Washout (Group I)

Rabbit No. & Sex	Item	Tissue	Reading			
			24	Hours 48	72	Day 7
1	A	Cornea Opacity	0	0	0	0
	B	Cornea Area	0	0	0	0
		(1) Cornea Total = (AxB) x 5	0	0	0	0
	C	Iris	0	0	0	0
		(2) Iris Total = (C) x 5	0	0	0	0
	D	Conjunctiva Redness	1	0	0	0
	E	Conjunctiva Chemosis	0	0	0	0
	F	Conjunctiva Discharge	0	0	0	0
		(3) Conjunctiva Total = (D+E+F) x 2	2	0	0	0
	Totals Added = (1+2+3)	2	0	0	0	
2	A	Cornea Opacity	0	0	0	0
	B	Cornea Area	0	0	0	0
		(1) Cornea Total = (AxB) x 5	0	0	0	0
	C	Iris	0	0	0	0
		(2) Iris Total = (C) x 5	0	0	0	0
	D	Conjunctiva Redness	0	0	0	0
	E	Conjunctiva Chemosis	0	0	0	0
	F	Conjunctiva Discharge	0	0	0	0
		(3) Conjunctiva Total = (D+E+F) x 2	0	0	0	0
	Totals Added = (1+2+3)	0	0	0	0	
3	A	Cornea Opacity	0	0	0	0
	B	Cornea Area	0	0	0	0
		(1) Cornea Total = (AxB) x 5	0	0	0	0
	C	Iris	0	0	0	0
		(2) Iris Total = (C) x 5	0	0	0	0
	D	Conjunctiva Redness	0	0	0	0
	E	Conjunctiva Chemosis	0	0	0	0
	F	Conjunctiva Discharge	0	0	0	0
		(3) Conjunctiva Total = (D+E+F) x 2	0	0	0	0
	Totals Added = (1+2+3)	0	0	0	0	

*See attached sheet for "Scale for Scoring Ocular Lesions"

Individual Rabbit Eye Irritation Scores*

(EMC Corporation Product No. TCP)

No Washout (Group I)

Rabbit No. & Sex	Iter	Tissue	Reading			
			24	48	72	Day 7
4	A	Cornea Opacity	0	0	0	0
	B	Cornea Area	0	0	0	0
		(1) Cornea Total = (AxB) x 5	0	0	0	0
	C	Iris	0	0	0	0
		(2) Iris Total = (C) x 5	0	0	0	0
	D	Conjunctiva Redness	1	0	0	0
	E	Conjunctiva Chemosis	0	0	0	0
	F	Conjunctiva Discharge	0	0	0	0
		(3) Conjunctiva Total = (D+E+F) x 2	2	0	0	0
	Totals Added = (1+2+3)	2	0	0	0	
5	A	Cornea Opacity	0	0	0	0
	B	Cornea Area	0	0	0	0
		(1) Cornea Total = (AxB) x 5	0	0	0	0
	C	Iris	0	0	0	0
		(2) Iris Total = (C) x 5	0	0	0	0
	D	Conjunctiva Redness	0	0	0	0
	E	Conjunctiva Chemosis	0	0	0	0
	F	Conjunctiva Discharge	0	0	0	0
		(3) Conjunctiva Total = (D+E+F) x 2	0	0	0	0
	Totals Added = (1+2+3)	0	0	0	0	
6	A	Cornea Opacity	0	0	0	0
	B	Cornea Area	0	0	0	0
		(1) Cornea Total = (AxB) x 5	0	0	0	0
	C	Iris	0	0	0	0
		(2) Iris Total = (C) x 5	0	0	0	0
	D	Conjunctiva Redness	0	0	0	0
	E	Conjunctiva Chemosis	0	0	0	0
	F	Conjunctiva Discharge	0	0	0	0
		(3) Conjunctiva Total = (D+E+F) x 2	0	0	0	0
	Totals Added = (1+2+3)	0	0	0	0	

*See attached sheet for "Scale for Scoring Ocular Lesions"

Table 2

Individual Rabbit Eye Irritation Scores*

(EMC Corporation Product No. TCP)

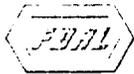
4-Sec. Washout (Group II)

Rabbit No. & Sex	Item	Tissue	Reading			
			24	48	72	Day 7
1	A	Cornea Opacity	0	0	0	0
	B	Cornea Area	0	0	0	0
		(1) Cornea Total = (AxB) x 5	0	0	0	0
	C	Iris	0	0	0	0
		(2) Iris Total = (C) x 5	0	0	0	0
	D	Conjunctiva Redness	0	0	0	0
	E	Conjunctiva Chemosis	0	0	0	0
	F	Conjunctiva Discharge	0	0	0	0
		(3) Conjunctiva Total = (D+E+F) x 2	0	0	0	0
	Totals Added = (1+2+3)	0	0	0	0	
2	A	Cornea Opacity	0	0	0	0
	B	Cornea Area	0	0	0	0
		(1) Cornea Total = (AxB) x 5	0	0	0	0
	C	Iris	0	0	0	0
		(2) Iris Total = (C) x 5	0	0	0	0
	D	Conjunctiva Redness	0	0	0	0
	E	Conjunctiva Chemosis	0	0	0	0
	F	Conjunctiva Discharge	0	0	0	0
		(3) Conjunctiva Total = (D+E+F) x 2	0	0	0	0
	Totals Added = (1+2+3)	0	0	0	0	
3	A	Cornea Opacity	0	0	0	0
	B	Cornea Area	0	0	0	0
		(1) Cornea Total = (AxB) x 5	0	0	0	0
	C	Iris	0	0	0	0
		(2) Iris Total = (C) x 5	0	0	0	0
	D	Conjunctiva Redness	0	0	0	0
	E	Conjunctiva Chemosis	0	0	0	0
	F	Conjunctiva Discharge	0	0	0	0
		(3) Conjunctiva Total = (D+E+F) x 2	0	0	0	0
	Totals Added = (1+2+3)	0	0	0	0	

*See attached sheet for "Scale for Scoring Ocular Lesions"

Table

Scale for Scoring Ocular Lesions
Codes*



(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 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 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 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



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R E P O R T

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Submitted to: FMC Corporation
Industrial Chemical Division
Box 8
Princeton, New Jersey 08540

Date: October 24, 1975

Laboratory No. 2538_e

Sample: Water-white liquid

Marking: Product No. TCP; Kronitex^R TCP; SS-578

Examination Requested: Acute Dermal Toxicity Study in Rabbits

Procedure: The acute dermal toxicity study (single exposure) was conducted on adult albino rabbits selected from healthy, acclimated animals, as described in 16 CFR 1500.40

Results: See table below

Dosage Level mg/kg	No. * Rabbits Dosed	Deaths														Mortality after 14 Days
		-----Day-----														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	
10,000	5 I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0/5
10,000	5 A	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0/5

*I = Intact skin; A = Abraded skin

Conclusion: The acute dermal LD₅₀ of the test material, FMC Product No. TCP is greater than 10,000 mg/kg of body weight when tested on rabbits with intact and abraded skin.

David E. Bailey

David E. Bailey, Ph.D.
Director, Waverly Division

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Appendix I

Acute Inhalation Procedure

- Purpose:** To determine the toxicity of the test material when administered as a gas or vapor under an atmospheric condition as outlined in 16 CFR 1500.3
- Procedure:** Ten adult albino rats (wistar-derived strain) equally distributed into five males and five females weighing between 200-300 g were exposed to the test material administered as a volume of gas or vapor for one hour in an all glass (72 liter) chamber under the following conditions:
- Air Flow: 10 liters per minute
 - Weight of material aerosolized: 2 g/minute
 - Nominal concentration of test material: 200 mg per liter



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R E P O R T

Submitted to: FMC Corporation
Industrial Chemical Division
Box 8
Princeton, New Jersey 08540

Date: October 24, 1975

Laboratory No. 2538_e

Sample: Water-white liquid

Marking: Product No. TCP; Kronitex^RTCP; SS-578

Examination Requested: Acute Inhalation Study in Rats.

Procedure: See Appendix I

Results: Acute symptoms prior to death were: prostration, ataxia, and ocular and nasal irritation. Gross examination of the animals that died revealed sporadic visceral hemorrhage.

Dosage Level mg/liter	No. Rats Dosed	Deaths														Mortality After 14 Days
		Exp. 1	2	3	4	5	6	7	8	9	10	11	12	13	14	
200	5 M	0	0	0	0	0	0	2	1	0	0	0	0	0	0	3/5
200	5 F	0	0	1	3	0	1	-	-	-	-	-	-	-	-	5/5

Conclusion: On the basis of the data presented herein, the acute LC₅₀ in rats for the FMC test material identified above, when administered as an aerosol, is less than 200 mg per liter of air.

David E. Bailey
David E. Bailey, Ph.D.
Director, Waverly Division

KRONITEX[®] K-TCP

28-DAY ORAL ADMINISTRATION IN RATS

Submitted to:

FMC CORPORATION
Industrial Chemical Division
Princeton, New Jersey 08540

By:

FOSTER D. SNELL, INC.
Florham Park, New Jersey 07932

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SUMMARY

During a 28-day study period, Kronitex[®] K-TCP was fed to weanling albino rats at dietary levels of 1.0, 0.5 and 0.1% to assess its effect on behavior, mortality, body weight and food consumption, hematological, biochemical and uranalytical parameters and vital organ weights.

No toxic effects were observed in the group of animals receiving 0.1% K-TCP in their diet, although significant treatment-related toxic effects, including mortality and elevated liver weight to body weight ratios were observed in animals receiving 0.5% and 1.0% K-TCP in their diets.

SAMPLES

Kronitex® K-TCP was received from FMC Corporation, Industrial Chemicals
Division.

METHODS

A. General Procedures

Eighty Sprague-Dawley weanling rats were selected for this study. The rats (40 male and 40 female) were divided into four groups such that parity was attained with respect to group body weights. Individual animal identification and group assignments are presented in Table 1.

Animals were maintained in individual cages with food and water available ad libitum. Body weights were determined prior to the start of the study and weekly thereafter. Food consumption was recorded weekly.

Each animal was examined daily for survival, appearance and physical condition as well as for signs of gross pharmacological and/or toxicological effects.

B. Compound Administration

Kronitex® , K-TCP was intimately mixed with Purina Rat Meal at 0.1%, 0.5% and 1.0% and fed to the designated groups. No K-TCP was fed to the Control Group (Table 1).

C. Laboratory Studies

Hematological examinations, clinical chemistry, urinalyses and fecal occult blood studies were conducted on surviving animals at the termination of the study (28th day). Hematological studies were carried out on 5 female and 5 male rats per dosage group (including the control group) and included the determination of the following:

- . hemoglobin concentration
- . hematocrit
- . erythrocyte count
- . total and differential leukocyte count

Determinations of several clinical chemistry parameters were completed on 5 male and 5 female rats per group at termination of the study and included:

- . blood urea nitrogen
- . glutamic-pyruvic transaminase
- . bilirubin
- . glucose
- . cholesterol
- . lactic acid dehydrogenase
- . total protein
- . albumin

Urinalyses were carried out on 5 female and 5 male rats per group at termination of the study and included:

- . pH
- . glucose
- . ketones
- . bilirubin
- . occult blood

D. Sacrifice and Necropsy Examination

At the conclusion of the 28-day study period, the surviving rats (49) were anesthetized with ether, sacrificed by exsanguination and subjected to gross necropsy. Selected organs from each of the animals sacrificed were weighed prior to fixation for calculation of organ weights and organ-to-body weight ratios. The organs studied included the following:

- . brain
- . thyroid
- . heart
- . liver
- . spleen
- . gonads (testes in males, ovaries in females)
- . kidney

Representative samples of these tissues were retained in 10% neutral formalin for possible histopathological examination.

RESULTS

A. Mortality, Appearance and Behavior

Animals receiving the control and feed admixed with K-TCP at 0.1% maintained an essentially normal physical appearance during the 28 days of the study. Nineteen (10M - 9F) rats fed 1.0% and 9 (4M - 5F) rats fed 0.5% K-TCP failed to survive the study period. The distribution and time to death of these animals is shown in Table 2. Mild to severe enteritis was noted in most of the animals receiving K-TCP which failed to survive the study period.

Observations of loosely formed stools and lethargic behavior patterns were noted in the animals receiving 0.5% and 1.0% K-TCP. Normally formed stools were generally seen in the control and 0.1% K-TCP.

B. Body Weights

No effect on growth was noted when final body weights of rats fed 0.1% K-TCP were compared to the control group. Males fed 0.5% K-TCP demonstrated lower body weights at the end of the 28-day study period. Average weekly body weights for all groups are summarized in Table 3 and for all individuals in Table 4.

C. Food and Compound Consumption

Significant reductions in food consumption were observed in both male and female animals receiving 1.0% and in female rats receiving 0.5% K-TCP. No effect

on food consumption was observed in the animals receiving 0.1% K-TCP. Weekly food and K-TCP intake data are presented in detail in Table 5.

D. Hematological Studies

Hematological values for both control and treated animals were within acceptable limits for those animals surviving at the termination of the study. These data are presented in Table 6.

E. Biochemical Studies

Significantly elevated BUN's and cholesterol levels were observed in animals receiving 0.5% K-TCP. Comparison of other data from animals in the control and treated groups does not suggest any differences resulting from consumption of the test material. These data are presented in Table 7.

F. Urine and Fecal Analyses

Urinary and fecal analyses values for both control and treated animals were within acceptable limits after the 28 days of the study. These data are presented in Table 8.

G. Necropsy and Organ to Body Weight Ratios

At the conclusion of the 28-day experimental period, all surviving animals were anesthetized with ether, sacrificed by exsanguination and subjected to gross

necropsy examination. No gross lesions, considered to be K-TCP induced were observed in any of the animals at the time of sacrifice.

Organ weights and organ to body weight ratios are presented in Table 9. Although a treatment-induced increase in liver to body weight ratio was observed in all surviving animals receiving 0.5% K-TCP, no such increase was observed in the animals receiving 0.1% K-TCP. Comparison of other data from animals in the control and treated groups does not suggest any differences resulting from consumption of the test material.

K-TCP: 28-DAY ORAL ADMINISTRATION IN RATS

Table 1. Study Organization: Animal Identification and Group Assignment

<u>Group</u>	<u>Concentration (%) K-TCP in Diet</u>	<u>Rat Number and Sex</u>	
I Control	none	81-90	M
		91-100	F
II High Level	1.0	101-110	M
		111-120	F
III Mid Level	0.5	121-130	M
		131-140	F
IV Low Level	0.1	141-150	M
		151-160	F

K-TCP: 28-DAY ORAL ADMINISTRATION IN RATS

Table 2. Cumulative Mortality Data

<u>Group and Designation</u>	<u>Sex</u>	----- Study Week -----			
		1	2	3	4
I Control	M	0	0	0	1
	F	0	0	1	2
II High Level 1% K-TCP	M	6	7	7	9
	F	6	8	9	10
III Mid Level 0.5% K-TCP	M	1	2	3	4
	F	1	1	2	5
IV Low Level 0.1% K-TCP	M	0	1	1	1
	F	0	0	0	0

K-TCP: 28-DAY ORAL ADMINISTRATION IN RATS

Table 3. Average Weekly Body Weights ± Standard Error

Group and Designation	Sex	Study Week				
		0	1	2	3	4
I Control	M	53.3 ± 1.5	96.6 ± 4.0	145.1 ± 8.2	163.6 ± 12.0	206.0 ± 18.2
	F	51.5 ± 1.4	86.6 ± 5.0	123.8 ± 5.2	143.7 ± 7.4	161.1 ± 11.0
II High Level 1.0% K-TCP	M	53.3 ± 1.5	55.5 ± 4.8	78.3 ± 1.9	80.7 ± 6.7	-
	F	51.9 ± 1.6	52.8 ± 7.8	81.5 ± 9.5	-	-
III Mid Level 0.5% K-TCP	M	51.3 ± 1.8	73.2 ± 5.6	107.2 ± 6.1	118.1 ± 6.3	133.3* ± 10.1
	F	51.9 ± 1.6	72.4 ± 3.2	101.2 ± 7.8	109.9 ± 8.7	136.2 ± 9.3
IV Low Level 0.1% K-TCP	M	53.0 ± 1.5	96.7 ± 3.5	141.8 ± 5.2	162.9 ± 6.2	190.6 ± 10.9
	F	51.7 ± 2.2	87.9 ± 3.6	133.5 ± 4.4	147.8 ± 4.1	165.7 ± 5.8

* significantly different than control (P < 0.05)

K-TCP: 28-DAY ORAL ADMINISTRATION IN RATS

Table 4. Individual Weekly Body Weights (grams)

Group: I

% K-TCP: None

Animal Number	Sex	----- Study Week -----					Change
		0	1	2	3	4	
81	M	60	78	78	65	81	+ 21
82	M	58	98	149	155	163	+ 105
83	M	58	118	168	195	247	+ 189
84	M	55	93	156	197	237	+ 182
85	M	55	110	167	175	229	+ 174
86	M	53	104	156	169	229	+ 176
87	M	50	92	139	171		+ 121
88	M	50	90	134	148	189	+ 139
89	M	47	80	146	178	244	+ 197
90	M	47	103	158	183	235	+ 188
91	F	60	106	142			+ 82
92	F	54	98	128	117		+ 63
93	F	54	103	147	170	203	+ 149
94	F	54	100	133	157	179	+ 125
95	F	54	92	112	110	110	+ 56
96	F	50	74	102	130	151	+ 101
97	F	50	77	139	159	174	+ 124
98	F	47	85	106	147	149	+ 102
99	F	47	58	121	170	190	+ 143
100	F	45	73	108	133	133	+ 88

0 0 3 1

K-TCP: 28-DAY ORAL ADMINISTRATION IN RATS

Table 4. Individual Weekly Body Weights (grams) (continued)

Group: II

% K-TCP: 1.0

Animal Number	Sex	Study Week					Change
		0	1	2	3	4	
101	M	60	67	77	75		+ 15
102	M	58	58	82	94		+ 15
103	M	58					
104	M	55					
105	M	55					
106	M	53					
107	M	50	50	76	73		+ 23
108	M	50	45				- 5
109	M	47					
110	M	47					
111	F	60	68	91			+ 31
112	F	58					
113	F	54					
114	F	54	60	72	57		+ 3
115	F	54					
116	F	50					
117	F	50	38				- 12
118	F	47	40				- 7
119	F	47					
120	F	45					

K-TCP: 28-DAY ORAL ADMINISTRATION IN RATS

Table 4. Individual Weekly Body Weights (grams) (continued)

Group: III

% K-TCP: 0.5

<u>Animal Number</u>	<u>Sex</u>	----- Study Week -----					<u>Change</u>
		<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	
121	M	40	35				- 5
122	M	58					
123	M	58	93	109			+ 51
124	M	55	62	70	93	108	+ 53
125	M	55	83	122	134	162	+ 107
126	M	53	86	114	118		+ 65
127	M	50	75	116	123	131	+ 81
128	M	50	80	123	129	144	+ 94
129	M	47	73	98	100	101	+ 54
130	M	47	72	111	120	154	+ 107
131	F	60	60	115	128		+ 68
132	F	58	88	135	128	160	+ 102
134	F	54	87	134	130	150	+ 96
135	F	54	69	80	58		+ 4
136	F	50	67	98	112	129	+ 74
137	F	50	75	107	116	106	+ 56
138	F	47	66	78	117	136	+ 86
139	F	47					
140	F	45	65	91	90		+ 45

K-TCP: 28-DAY ORAL ADMINISTRATION IN RATS

Table 4. Individual Weekly Body Weights (grams) (continued)

Group: IV

% K-TCP: 0.1

Animal Number	Sex	----- Study Week -----					Change
		<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	
141	M	60	108	162	190	212	+ 152
142	M	60	108	161	185	213	+ 153
143	M	55	102	150	165	188	+ 133
144	M	55	101	124	142	168	+ 113
145	M	53	103	146	160	181	+ 128
146	M	53	87	134	157	242	+ 189
147	M	50	95	147	177	207	+ 157
148	M	50	71	116	134	128	+ 98
149	M	47	97				+ 50
150	M	47	95	136	156	176	+ 129
151	F	63	91	130	145	153	+ 90
152	F	58	102	146	160	175	+ 117
153	F	54	104	156	162	198	+ 144
154	F	54	85	135	158	180	+ 126
155	F	54	100	151	157	182	+ 128
156	F	54	88	132	150	161	+ 107
157	F	50	81	123	148	163	+ 113
158	F	40	70	111	126	138	+ 98
159	F	45	80	122	125	143	+ 98
160	F	45	78	129	147	164	+ 119

K-TCP: 28-DAY ORAL ADMINISTRATION IN RATS

Table 5. Weekly Food and Compound Consumption Data

Group: I

% K-TCP: None

Animal Number	Sex	Study Week							
		1		2		3		4	
		Food (g)	Compound (mg)	Food (g)	Compound (mg)	Food (g)	Compound (mg)	Food (g)	Compound (mg)
81	M	42	-	168	-	216	-	360	-
82	M	87	-	173	-	303	-	397	-
83	M	80	-	196	-	351	-	523	-
84	M	95	-	196	-	344	-	513	-
85	M	87	-	194	-	349	-	516	-
86	M	75	-	184	-	326	-	476	-
87	M	70	-	174	-	326	-	-	-
88	M	72	-	172	-	305	-	431	-
89	M	75	-	167	-	320	-	481	-
90	M	85	-	189	-	349	-	521	-
91	F	78	-	187	-	-	-	-	-
92	F	85	-	174	-	226	-	-	-
93	F	87	-	215	-	362	-	516	-
94	F	88	-	194	-	334	-	462	-
95	F	72	-	160	-	235	-	317	-
96	F	70	-	123	-	218	-	320	-
97	F	73	-	177	-	317	-	475	-
98	F	75	-	162	-	306	-	465	-
99	F	65	-	141	-	274	-	449	-
100	F	60	-	140	-	248	-	385	-

K-TCP: 28-DAY ORAL ADMINISTRATION IN RATS

Table 5. Weekly Food and Compound Consumption Data (continued)

Group: III

% K-TCP: 0.5

Animal Number	Sex	Study Week							
		1		2		3		4	
		Food (g)	Compound (mg)	Food (g)	Compound (mg)	Food (g)	Compound (mg)	Food (g)	Compound (mg)
121	M	26	260	-	-	-	-	-	-
122	M	-	-	-	-	-	-	-	-
123	M	62	310	116	580	-	-	-	-
124	M	35	175	62	310	152	760	274	1370
125	M	70	350	154	770	300	1500	458	2290
126	M	55	275	141	705	251	1255	-	-
127	M	67	355	126	630	239	1195	387	1935
128	M	65	325	159	795	294	1470	455	2275
129	M	50	250	118	590	215	1075	319	1595
130	M	72	1029	187	935	319	1595	466	2330
131	F	45	225	114	570	164	820	-	-
132	F	68	340	167	835	309	1545	478	2390
133	F	70	350	155	775	303	1515	451	2255
134	F	59	295	104	520	164	820	-	-
135	F	55	275	119	595	222	1110	366	1830
136	F	68	340	140	700	245	1225	368	1840
137	F	50	250	102	510	203	1015	333	1665
138	F	15	75	95	475	-	-	-	-
139	F	-	-	-	-	-	-	-	-
140	F	48	240	93	465	175	875	-	-

K-TCP: 28-DAY ORAL ADMINISTRATION IN RATS

Table 5. Weekly Food and Compound Consumption Data (continued)

Group: IV

% K-TCP: 0.1

Animal Number	Sex	Study Week							
		1		2		3		4	
		Food (g)	Compound (mg)	Food (g)	Compound (mg)	Food (g)	Compound (mg)	Food (g)	Compound (mg)
141	M	82	82	181	181	324	324	490	490
142	M	87	87	205	205	359	359	553	553
143	M	85	85	196	196	343	343	525	525
144	M	76	76	206	206	351	351	470	470
145	M	100	100	187	187	347	347	492	492
146	M	75	75	157	157	307	307	489	489
147	M	80	80	162	162	305	305	498	498
148	M	60	60	147	147	284	284	465	465
149	M	83	83	-	-	-	-	-	-
150	M	80	80	160	160	281	281	423	423
151	F	83	83	187	187	317	317	490	490
152	F	87	87	185	185	320	320	442	442
153	F	86	86	199	199	345	345	478	478
154	F	75	75	173	173	315	315	474	474
155	F	94	94	212	212	357	357	490	490
156	F	85	85	165	165	300	300	467	467
157	F	68	68	151	151	276	276	402	402
158	F	70	70	149	149	276	276	407	407
159	F	75	75	162	162	277	277	403	403
160	F	72	72	152	152	295	295	433	433

K-TCP: 28-DAY ORAL ADMINISTRATION IN RATS

Table 6. Results of Hematological Studies

Group: I

% K-TCP: None

<u>Animal Number</u>	<u>Sex</u>	<u>HCT</u>	<u>Hgb (gm %)</u>	<u>RBC (x 10⁶)</u>	<u>WBC</u>	<u>Segs.</u>	<u>Non-Segs.</u>	<u>Lymph.</u>	<u>Mono.</u>	<u>Eos.</u>
83	M	40	14.6	7.68	12,350	15	3	79	3	0
84	M	45	14.8	6.60	8,200	12	3	81	4	0
85	M	46	15.9	7.95	14,100	18	1	79	2	0
89	M	40	13.4	7.58	9,600	17	2	77	4	0
90	M	43	15.9	9.57	6,250	13	0	84	3	0
93	F	43	14.0	8.39	8,000	26	4	66	4	0
94	F	42	14.4	6.37	8,950	19	3	76	2	0
95	F	41	14.2	8.18	8,300	24	0	73	3	0
97	F	38	13.8	7.98	6,800	11	2	85	2	0
99	F	39	13.4	7.05	10,550	17	4	77	2	0

K-TCP: 28-DAY ORAL ADMINISTRATION IN RATS

Table 6. Results of Hematological Studies (continued)

Group: III
 % K-TCP: 0.5

Animal Number	Sex	HCT	Hgb (gm %)	RBC (x 10 ⁶)	WBC	Segs.	Non-Segs.	Lymph.	Mono.	Eos.
124	M	38	13.4	7.19	6,900	19	4	74	3	0
125	M	39	11.9	8.06	7,800	11	2	85	2	0
127	M	41	13.6	8.04	9,900	35	0	62	3	0
128	M	43	13.4	7.81	6,750	15	2	80	3	0
130	M	41	13.6	6.84	9,200	16	2	78	4	0
132	F	40	13.4	6.81	11,650	18	1	79	2	0
133	F	42	13.8	8.22	9,250	10	2	85	3	0
135	F	40	12.7	6.41	5,250	33	1	63	3	0
136	F	41	14.0	7.57	29,050	22	6	66	6	0
137	F	39	14.2	6.24	5,050	15	2	79	4	0

Revised

K-TCP: 28-DAY ORAL ADMINISTRATION IN RATS

Table 6. Results of Hematological Studies (continued)

Group: IV

% K-TCP: 0.1

<u>Animal Number</u>	<u>Sex</u>	<u>HCT</u>	<u>Hgb (gm %)</u>	<u>RBC (x 10⁶)</u>	<u>WBC</u>	<u>Segs.</u>	<u>Non-Segs.</u>	<u>Lymph.</u>	<u>Mono.</u>	<u>Eos.</u>
141	M	42	12.9	6.69	7,200	21	3	73	3	0
142	M	43	14.6	7.36	5,850	24	2	71	3	0
143	M	43	14.0	7.68	9,100	22	7	66	5	0
145	M	41	13.4	7.30	4,400	19	4	75	2	0
146	M	42	13.8	6.82	6,200	16	2	78	4	0
151	F	42	14.2	6.94	16,400	21	5	71	3	0
152	F	44	14.8	8.51	5,800	21	3	75	1	0
153	F	41	14.2	7.97	6,550	12	5	78	5	0
154	F	45	14.8	7.32	13,850	12	3	83	2	0
155	F	45	14.6	7.86	4,250	17	4	75	4	0

K-TCP: 28-DAY ORAL ADMINISTRATION IN RATS

Table 7. Results of Biochemical Analyses

Group: I

% K-TCP: None

Animal Number	Sex	Urea		Glucose (mg %)	Total Protein (gm %)	Albumin (gm %)	Bilirubin (mg %)	SGPT Karmen Units	Cholesterol (mg %)	LDH B-B units	Inorganic Phosphorus (mg %)	Alkaline Phosphatase Sigma Units
		Nitrogen (mg %)	Alb (mg %)									
83	M	12	138	6.4	3.2	0.15	18	77	1290	9.4	7.1	
84	M	15	107	6.2	3.2	0.10	10	77	1580	8.8	8.2	
85	M	14	126	6.3	3.4	0.20	12	123	1610	9.2	7.0	
89	M	9	160	5.5	3.1	0.10	11	77	1580	9.7	5.1	
90	M	14	160	6.0	3.6	0.15	7	69	1160	9.3	7.9	
93	F	13	126	5.6	3.2	0.15	19	131	> 2000	10.7	3.6	
94	F	19	126	6.2	3.4	0.10	11	146	1020	9.0	5.0	
97	F	11	120	6.2	3.2	0.15	22	108	> 2000	9.8	5.5	
98	F	14	144	5.4	3.0	0.10	11	146	2000	10.0	6.3	
99	F	18	93	5.0	2.8	0.15	8	154	1800	10.2	5.1	

K-TCP: 28-DAY ORAL ADMINISTRATION IN RATS

Table 7. Results of Biochemical Analyses (continued)

Group: III
% K-TCP: 0.5

Animal Number	Sex	Urea Nitrogen (mg %)	Glucose (mg %)	Total Protein (gm %)	Albumin (gm %)	Bilirubin (mg %)	SGPT Karmen Units	Cholesterol (mg %)	LDH B-B units	Inorganic Phosphorus (mg %)	Alkaline Phosphatase Sigma Units
124	M	27	86	5.5	2.8	0.10	12	246	860	7.8	6.0
125	M	20	86	5.5	3.1	0.10	17	131	1250	11.2	8.2
127	M	26	79	5.1	3.0	0.10	14	138	990	10.4	6.7
127	M	21	72	5.3	3.5	0.10	12	92	1480	7.1	4.7
130	M	21	79	5.8	3.4	0.15	18	123	1340	11.4	4.4
132	F	18	79	6.3	3.4	0.20	17	131	> 2000	qns*	5.1
133	F	15	79	5.8	3.2	0.15	11	131	940	9.4	3.1
135	F	23	79	6.8	3.5	0.30	18	185	qns	qns	3.7
136	F	24	100	6.3	3.2	0.10	19	246	1580	qns	5.1
137	F	19	132	5.6	3.2	0.25	20	177	> 2000	qns	7.1

* quantity not sufficient

K-TCP: 28-DAY ORAL ADMINISTRATION IN RATS

Table 7. Results of Biochemical Analyses (continued)

Group: IV

% K-TCP: 0.1

Animal Number	Sex	Urea		Glucose (mg %)	Total Protein (gm %)	Albumin (gm %)	Bilirubin (mg %)	SGPT Karmen Units	Cholesterol (mg %)	LDH B-B units	Inorganic Phosphorus (mg %)	Alkaline Phosphatase Sigma Units
		Nitrogen (mg %)	Nitrogen (mg %)									
141	M	11	11	100	5.9	3.4	0.15	20	92	1520	9.8	11.3
142	M	11	11	164	5.6	3.3	0.15	18	92	1230	10.7	7.6
143	M	11	11	155	5.3	3.5	0.15	20	169	1040	10.4	8.1
145	M	11	11	126	5.1	3.6	0.15	14	92	670	9.3	6.3
146	M	13	13	86	5.9	3.4	0.15	11	131	1460	9.3	6.8
151	F	14	14	100	5.6	3.4	0.15	12	108	1500	10.7	4.0
152	F	11	11	113	6.7	3.6	0.20	18	138	1930	12.2	3.5
153	F	11	11	107	5.6	3.6	0.20	12	154	1740	11.5	5.5
154	F	11	11	132	5.9	3.5	0.25	10	108	920	10.4	3.7
155	F	12	12	100	5.4	3.5	0.10	6	85	1040	8.3	3.5

K-TCP: 28-DAY ORAL ADMINISTRATION IN RATS

Table 8. Results of Urine and Fecal Analyses

Group: I

% K-TCP: None

<u>Animal Number</u>	<u>Sex</u>	----- Urinalysis -----					<u>Occult Blood</u>	- Fecal - <u>Occult Blood</u>
		<u>pH</u>	<u>Glucose</u>	<u>Ketones</u>	<u>Bilirubin</u>			
83	M	7	-	-	-	-	T	
84	M	6	-	-	-	-	-	
85	M	6	-	-	-	-	-	
89	M	6	-	-	-	-	-	
90	M	6	-	-	-	-	-	
93	F	6	-	-	-	+	-	
94	F	6	-	-	-	-	-	
97	F	6	-	-	-	-	-	
98	F	6	-	-	-	-	-	
99	F	6	-	-	-	-	-	

Occult Blood in Urine:

- + small
- ++ moderate
- +++ large

Occult Blood in Feces:

- T - trace
- S - small
- M - moderate
- L - large

K-TCP: 28-DAY ORAL ADMINISTRATION IN RATS

Table 8. Results of Urine and Fecal Analyses (continued)

Group: III

% K-TCP: 0.5

Animal Number	Sex	----- Urinalysis -----					- Fecal -	
		pH	Glucose	Ketones	Bilirubin	Occult Blood	Occult Blood	
124	M	6	-	-	-	-	-	
125	M	6	-	-	-	-	-	
127	M	6	-	-	-	-	-	
128	M	6	-	-	-	-	-	
130	M	6	-	-	-	-	-	
132	F	6	-	-	-	-	-	
133	F	6	-	-	-	+	T	
135	F	6	-	-	-	-	-	
136	F	6	-	-	-	-	-	
137	F	6	-	-	-	-	-	

Occult Blood in Urine:

- + small
- ++ moderate
- +++ large

Occult Blood in Feces:

- T - trace
- S - small
- M - moderate
- L - large

K-TCP: 28-DAY ORAL ADMINISTRATION IN RATS

Table 8. Results of Urine and Fecal Analyses (continued)

Group: IV

% K-TCP: 0.1

Animal Number	Sex	----- Urinalysis -----					Occult Blood	- Fecal - Occult Blood
		pH	Glucose	Ketones	Bilirubin			
141	M	6	-	-	-	-	-	
142	M	6	-	-	-	-	T	
143	M	6	-	-	-	-	-	
145	M	6	-	-	-	-	-	
146	M	6	-	-	-	-	-	
151	F	6	-	-	-	-	-	
152	F	6	-	-	-	+	-	
153	F	6	-	-	-	-	-	
154	F	6	-	-	-	-	-	
155	F	6	-	-	-	-	-	

Occult Blood in Urine:

+ small
++ moderate
+++ large

Occult Blood in Feces:

T - trace
S - small
M - moderate
L - large

K-TCP: 28-DAY ORAL ADMINISTRATION IN RATS

Table Individual Organ Weights and Organ/Body Weight Ratios

Group: I

% K-TCP: None

Animal Number	Sex	Final Body Weight (grams)	Liver		Kidney		Heart		Gonads		Spleen		Brain		Thyroid	
			(g)	(%)	(g)	(%)	(g)	(%)	(g)	(%)	(g)	(%)	(g)	(%)	(g)	(%)
81	M	81	2.23	2.75	1.06	1.31	0.28	0.35	1.12	1.38	0.24	0.30	1.58	1.95	0.02	0.02
82	M	163	7.96	4.88	1.55	0.95	0.70	0.43	2.32	1.42	1.20	0.74	1.60	0.98	0.04	0.02
83	M	247	7.63	3.09	1.66	0.67	0.98	0.40	1.72	0.70	1.32	0.53	1.45	0.59	0.04	0.02
84	M	237	8.11	3.72	1.80	0.76	0.90	0.38	1.96	0.83	0.60	0.25	1.16	0.49	0.03	0.01
85	M	229	7.59	3.31	1.59	0.69	0.88	0.38	2.24	0.98	1.25	0.55	1.20	0.48	0.03	0.01
86	M	229	7.82	3.41	1.83	0.80	0.87	0.38	2.54	1.11	1.53	0.67	1.78	0.78	0.04	0.02
87	M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
88	M	189	7.16	3.79	1.63	0.86	0.74	0.39	2.53	1.34	0.44	0.23	1.66	0.88	0.03	0.02
89	M	244	8.76	3.59	1.98	0.81	0.90	0.37	3.00	1.23	0.90	0.37	2.00	0.82	0.05	0.02
90	M	235	8.11	3.45	2.14	0.91	0.96	0.41	2.33	0.99	1.39	0.59	2.21	0.94	0.05	0.02
91	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
92	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
93	F	203	7.75	3.82	1.60	0.79	0.79	0.39	0.04	0.02	0.64	0.32	1.35	0.67	0.02	0.01
94	F	179	6.09	3.40	1.30	0.73	0.89	0.50	0.05	0.03	0.79	0.44	1.13	0.63	0.02	0.01
95	F	110	4.26	3.87	1.13	1.03	0.45	0.41	0.04	0.04	0.66	0.60	1.54	1.40	0.04	0.04
96	F	151	5.00	3.31	1.30	0.86	0.45	0.30	0.05	0.03	0.40	0.26	1.59	1.05	0.05	0.02
97	F	174	6.37	3.66	1.32	0.76	0.64	0.37	0.05	0.03	0.46	0.26	1.13	0.65	0.02	0.01
98	F	149	6.46	4.34	1.24	0.83	0.65	0.44	0.10	0.07	0.24	0.16	2.40	1.61	0.02	0.01
99	F	190	7.80	4.10	1.65	0.87	0.75	0.39	0.03	0.02	1.68	0.88	1.25	0.66	0.03	0.02
100	F	133	5.23	3.93	0.35	0.26	0.63	0.47	0.03	0.02	0.37	0.28	1.50	1.13	0.03	0.02

K-TCP: 28-DAY ORAL ADMINISTRATION IN RATS

Table 9. Individual Organ Weights and Organ/Body Weight Ratios (continued)

Group: IV
% K-TCP: 0.1

Animal Number	Sex	Final Body Weight (grams)	Liver		Kidney		Heart		Gonads		Spleen		Brain		Thyroid	
			(g)	(%)	(g)	(%)	(g)	(%)	(g)	(%)	(g)	(%)	(g)	(%)	(g)	(%)
141	M	212	7.20	3.40	1.90	0.90	0.80	0.38	2.30	1.08	0.61	0.29	1.62	0.76	0.03	0.01
142	M	213	8.28	3.89	1.95	0.92	0.98	0.46	2.71	1.27	1.30	0.61	1.53	0.72	0.04	0.02
143	M	188	7.69	4.09	1.73	0.92	0.92	0.49	2.35	1.25	0.72	0.38	1.59	0.85	0.04	0.02
144	M	168	6.99	4.16	1.64	0.98	0.94	0.56	2.69	1.60	0.93	0.55	1.63	0.97	0.04	0.02
145	M	181	6.74	3.72	1.74	0.96	0.78	0.43	2.30	1.27	0.57	0.31	1.54	0.85	0.03	0.02
146	M	242	7.63	3.15	1.77	0.73	0.92	0.38	2.31	0.95	1.00	0.41	1.40	0.58	0.03	0.01
147	M	207	9.35	4.52	1.75	0.85	0.85	0.41	2.50	1.21	1.20	0.58	1.70	0.82	0.04	0.02
148	M	128	5.60	4.38	1.15	0.90	0.65	0.51	1.60	1.25	0.55	0.43	1.60	1.25	0.04	0.03
149	M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
150	M	176	7.85	4.46	1.60	0.91	0.70	0.40	2.50	1.42	1.20	0.68	1.70	0.97	0.04	0.02
151	F	153	6.46	4.22	1.40	0.92	0.66	0.43	0.16	0.10	0.81	0.53	1.24	0.81	0.04	0.03
152	F	175	5.16	2.95	1.24	0.71	0.75	0.43	0.15	0.09	0.87	0.50	1.30	0.74	0.03	0.02
153	F	198	6.29	3.18	1.46	0.74	0.72	0.36	0.10	0.05	0.99	0.50	1.30	0.66	0.03	0.02
154	F	180	7.08	3.93	1.25	0.69	0.83	0.46	0.20	0.11	1.08	0.60	1.08	0.60	0.04	0.02
155	F	182	6.10	3.35	1.30	0.71	0.75	0.41	0.10	0.05	0.95	0.52	1.50	0.82	0.03	0.02
156	F	161	6.20	3.85	1.40	0.87	0.70	0.43	0.10	0.06	0.85	0.53	1.65	1.02	0.03	0.02
157	F	163	6.70	4.11	1.45	0.89	0.65	0.40	0.08	0.05	0.50	0.31	1.70	1.04	0.03	0.02
158	F	138	6.10	4.42	1.30	0.94	0.60	0.43	0.08	0.06	0.40	0.29	1.60	1.16	0.03	0.02
159	F	143	5.90	4.13	1.30	0.91	0.60	0.42	0.08	0.06	1.00	0.70	1.55	1.08	0.03	0.02
160	F	164	6.90	4.21	1.50	0.91	0.70	0.43	0.02	0.01	1.20	0.73	1.70	1.04	0.04	0.02

nick polakofsky

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