

Experiment Number: 04049 - 01

Test Type: 28-DAY

Route: GAVAGE

Species/Strain: RATS/HSD

P11: STATISTICAL ANALYSIS OF SURVIVAL DATA

Perfluorononanoic Acid

CAS Number: 375-95-1

Date Report Requested: 02/06/2018

Time Report Requested: 12:36:11

First Dose M/F: 02/02/12 / 02/03/12

Lab: BAT

PFNA_Final 1

NTP Study Number: C04049
Lock Date: 01/22/2016
Cage Range: ALL
Date Range: ALL
Reasons For Removal: ALL
Removal Date Range: ALL
Treatment Groups: Include ALL
Study Gender: Both
TDMSE Version: 3.0.2.3_002
PWG Approval Date: NONE

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MALE RATS

FIRST TERMINAL SACRIFICE AT 29 DAYS

INDIVIDUAL SURVIVAL TIMES (DAYS)

DOSE = 0 mg/kg/d M

TOTAL 10 UNCENSORED DEATHS 0 CENSORED DEATHS 0 TERMINAL 10

UNCENSORED DEATH DAYS

None

CENSORED DEATH DAYS

None

DOSE = 0.625mg/kg/d M

TOTAL 10 UNCENSORED DEATHS 0 CENSORED DEATHS 0 TERMINAL 10

UNCENSORED DEATH DAYS

None

CENSORED DEATH DAYS

None

DOSE = 1.25 mg/kg/d M

TOTAL 10 UNCENSORED DEATHS 0 CENSORED DEATHS 0 TERMINAL 10

UNCENSORED DEATH DAYS

None

CENSORED DEATH DAYS

None

DOSE = 2.5 mg/kg/d M

TOTAL 10 UNCENSORED DEATHS 0 CENSORED DEATHS 0 TERMINAL 10

UNCENSORED DEATH DAYS

None

CENSORED DEATH DAYS

None

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MALE RATS

FIRST TERMINAL SACRIFICE AT 29 DAYS

INDIVIDUAL SURVIVAL TIMES (DAYS)

DOSE = 5 mg/kg/d M

TOTAL 10

UNCENSORED DEATHS 8

CENSORED DEATHS 0

TERMINAL 2

UNCENSORED DEATH DAYS

24 24 24 24 25 25 25 26

CENSORED DEATH DAYS

None

DOSE = 10 mg/kg/d M

TOTAL 10

UNCENSORED DEATHS 10

CENSORED DEATHS 0

TERMINAL 0

UNCENSORED DEATH DAYS

15 15 16 16 17 17 17 17 17 18

CENSORED DEATH DAYS

None

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MALE RATS

FIRST TERMINAL SACRIFICE AT 29 DAYS

KAPLAN-MEIER SURVIVAL PROBABILITY ESTIMATES (%)										
DOSE	TIME (DAYS)									
	3	6	9	12	15	18	21	24	27	29(A)
0 mg/kg/d M	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
0.625mg/kg/d M	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1.25 mg/kg/d M	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2.5 mg/kg/d M	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
5 mg/kg/d M	100.0	100.0	100.0	100.0	100.0	100.0	100.0	60.0	20.0	20.0
10 mg/kg/d M	100.0	100.0	100.0	100.0	80.0	0.0	0.0	0.0	0.0	0.0

(A) FIRST TERMINAL SACRIFICE

(B) THE FIRST ENTRY IS THE TREND TEST (TARONE, 1975) RESULT. SUBSEQUENT ENTRIES ARE THE RESULTS OF PAIRWISE TESTS (COX, 1972). NEGATIVE TRENDS ARE INDICATED BY "N".

(C) MEAN OF ALL UNCENSORED DEATHS PRIOR TO TERMINAL SACRIFICE

(D) MEAN OF ALL DEATHS (UNCENSORED, CENSORED, TERMINAL SACRIFICE)

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First Dose M/F: 02/02/12 / 02/03/12

Lab: BAT

MALE RATS

FIRST TERMINAL SACRIFICE AT 29 DAYS

SURVIVAL SUMMARY STATISTICS

DOSE	0 mg/kg/d M	0.625mg/kg/d M	1.25 mg/kg/d M	2.5 mg/kg/d M
SURVIVAL AT END OF STUDY (KAPLAN-MEIER)	100.0%	100.0%	100.0%	100.0%
SIGNIFICANCE (B) (LIFE TABLE)	P<0.001	-----	-----	-----
MEAN DAY OF NATURAL DEATHS (C) (STANDARD ERROR)	(.)	(.)	(.)	(.)
MEAN LIFE SPAN (D) (STANDARD ERROR)	29.0 (0.0)	29.0 (0.0)	29.0 (0.0)	29.0 (0.0)

DOSE	5 mg/kg/d M	10 mg/kg/d M
SURVIVAL AT END OF STUDY (KAPLAN-MEIER)	20.0%	0.0%
SIGNIFICANCE (B) (LIFE TABLE)	P=0.001	P<0.001
MEAN DAY OF NATURAL DEATHS (C) (STANDARD ERROR)	24.6 (0.3)	16.5 (0.3)
MEAN LIFE SPAN (D) (STANDARD ERROR)	25.5 (0.6)	16.5 (0.3)

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(C) MEAN OF ALL UNCENSORED DEATHS PRIOR TO TERMINAL SACRIFICE

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Lab: BAT

FEMALE RATS

FIRST TERMINAL SACRIFICE AT 29 DAYS

INDIVIDUAL SURVIVAL TIMES (DAYS)

DOSE = 0 mg/kg/d F

TOTAL 10	UNCENSORED DEATHS 0	CENSORED DEATHS 0	TERMINAL 10
UNCENSORED DEATH DAYS			
None			
CENSORED DEATH DAYS			
None			

DOSE = 1.56mg/kg/d F

TOTAL 10	UNCENSORED DEATHS 0	CENSORED DEATHS 0	TERMINAL 10
UNCENSORED DEATH DAYS			
None			
CENSORED DEATH DAYS			
None			

DOSE = 3.12mg/kg/d F

TOTAL 10	UNCENSORED DEATHS 0	CENSORED DEATHS 0	TERMINAL 10
UNCENSORED DEATH DAYS			
None			
CENSORED DEATH DAYS			
None			

DOSE = 6.25mg/kg/d F

TOTAL 10	UNCENSORED DEATHS 0	CENSORED DEATHS 0	TERMINAL 10
UNCENSORED DEATH DAYS			
None			
CENSORED DEATH DAYS			
None			

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Lab: BAT

FEMALE RATS

FIRST TERMINAL SACRIFICE AT 29 DAYS

INDIVIDUAL SURVIVAL TIMES (DAYS)

DOSE = 12.5mg/kg/d F

TOTAL 10

UNCENSORED DEATHS 9

CENSORED DEATHS 0

TERMINAL 1

UNCENSORED DEATH DAYS

13 15 15 15 16 17 25 27 27

CENSORED DEATH DAYS

None

DOSE = 25mg/kg/d F

TOTAL 10

UNCENSORED DEATHS 10

CENSORED DEATHS 0

TERMINAL 0

UNCENSORED DEATH DAYS

11 12 12 12 12 12 12 12 14 15

CENSORED DEATH DAYS

None

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Lab: BAT

FEMALE RATS

FIRST TERMINAL SACRIFICE AT 29 DAYS

KAPLAN-MEIER SURVIVAL PROBABILITY ESTIMATES (%)										
DOSE	TIME (DAYS)									
	3	6	9	12	15	18	21	24	27	29(A)
0 mg/kg/d F	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1.56mg/kg/d F	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
3.12mg/kg/d F	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
6.25mg/kg/d F	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
12.5mg/kg/d F	100.0	100.0	100.0	100.0	60.0	40.0	40.0	40.0	10.0	10.0
25mg/kg/d F	100.0	100.0	100.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0

(A) FIRST TERMINAL SACRIFICE

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(C) MEAN OF ALL UNCENSORED DEATHS PRIOR TO TERMINAL SACRIFICE

(D) MEAN OF ALL DEATHS (UNCENSORED, CENSORED, TERMINAL SACRIFICE)

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FEMALE RATS

FIRST TERMINAL SACRIFICE AT 29 DAYS

SURVIVAL SUMMARY STATISTICS

DOSE	0 mg/kg/d F	1.56mg/kg/d F	3.12mg/kg/d F	6.25mg/kg/d F
SURVIVAL AT END OF STUDY (KAPLAN-MEIER)	100.0%	100.0%	100.0%	100.0%
SIGNIFICANCE (B) (LIFE TABLE)	P<0.001	----	----	----
MEAN DAY OF NATURAL DEATHS (C) (STANDARD ERROR)	(.)	(.)	(.)	(.)
MEAN LIFE SPAN (D) (STANDARD ERROR)	29.0 (0.0)	29.0 (0.0)	29.0 (0.0)	29.0 (0.0)

DOSE	12.5mg/kg/d F	25mg/kg/d F
SURVIVAL AT END OF STUDY (KAPLAN-MEIER)	10.0%	0.0%
SIGNIFICANCE (B) (LIFE TABLE)	P<0.001	P<0.001
MEAN DAY OF NATURAL DEATHS (C) (STANDARD ERROR)	18.9 (1.9)	12.4 (0.4)
MEAN LIFE SPAN (D) (STANDARD ERROR)	19.9 (2.0)	12.4 (0.4)

*** END OF REPORT ***

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(C) MEAN OF ALL UNCENSORED DEATHS PRIOR TO TERMINAL SACRIFICE

(D) MEAN OF ALL DEATHS (UNCENSORED, CENSORED, TERMINAL SACRIFICE)