

Experiment Number: 10472 - 03
Test Type: CHRONIC
Route: RESPIRATORY EXPOSURE WHOLE BODY
Species/Strain: RATS/HSD

P11: STATISTICAL ANALYSIS OF SURVIVAL DATA

p-Chloro-a,a,a-trifluorotoluene

CAS Number: 98-56-6

Date Report Requested: 05/16/2016

Time Report Requested: 11:15:09

First Dose M/F: 01/17/11 / 01/17/11

Lab: BNW

F2_HSD Rats

NTP Study Number: C10472B
Lock Date: 08/29/2013
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: 03/08/2016

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MALE RATS

FIRST TERMINAL SACRIFICE AT 729 DAYS
INDIVIDUAL SURVIVAL TIMES (DAYS)

DOSE = Control

| TOTAL 50 | | UNCENSORED DEATHS 25 | | | | | CENSORED DEATHS 0 | | | | | TERMINAL 25 | | |
|-----------------------|-----|----------------------|-----|-----|-----|-----|-------------------|-----|-----|-----|-----|-------------|-----|--|
| UNCENSORED DEATH DAYS | | | | | | | | | | | | | | |
| 374 | 485 | 488 | 493 | 505 | 516 | 533 | 537 | 542 | 568 | 584 | 588 | 589 | 590 | |
| 618 | 631 | 648 | 661 | 663 | 672 | 674 | 677 | 722 | 723 | 726 | | | | |
| CENSORED DEATH DAYS | | | | | | | | | | | | | | |
| None | | | | | | | | | | | | | | |

DOSE = 100 ppm

| TOTAL 50 | | UNCENSORED DEATHS 29 | | | | | CENSORED DEATHS 0 | | | | | TERMINAL 21 | | |
|-----------------------|-----|----------------------|-----|-----|-----|-----|-------------------|-----|-----|-----|-----|-------------|-----|--|
| UNCENSORED DEATH DAYS | | | | | | | | | | | | | | |
| 303 | 306 | 310 | 318 | 347 | 485 | 515 | 525 | 558 | 565 | 570 | 589 | 607 | 618 | |
| 631 | 640 | 640 | 643 | 650 | 655 | 674 | 676 | 680 | 683 | 695 | 710 | 715 | 717 | |
| 724 | | | | | | | | | | | | | | |
| CENSORED DEATH DAYS | | | | | | | | | | | | | | |
| None | | | | | | | | | | | | | | |

DOSE = 300 ppm

| TOTAL 50 | | UNCENSORED DEATHS 35 | | | | | CENSORED DEATHS 0 | | | | | TERMINAL 15 | | |
|-----------------------|-----|----------------------|-----|-----|-----|-----|-------------------|-----|-----|-----|-----|-------------|-----|--|
| UNCENSORED DEATH DAYS | | | | | | | | | | | | | | |
| 463 | 477 | 500 | 514 | 528 | 528 | 530 | 534 | 571 | 590 | 597 | 603 | 607 | 607 | |
| 611 | 618 | 618 | 626 | 632 | 635 | 655 | 669 | 674 | 678 | 683 | 689 | 691 | 696 | |
| 697 | 697 | 703 | 717 | 717 | 717 | 726 | | | | | | | | |
| CENSORED DEATH DAYS | | | | | | | | | | | | | | |
| None | | | | | | | | | | | | | | |

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MALE RATS

FIRST TERMINAL SACRIFICE AT 729 DAYS
INDIVIDUAL SURVIVAL TIMES (DAYS)

DOSE = 1000 ppm

| TOTAL 50 | UNCENSORED DEATHS 45 | | | | | CENSORED DEATHS 0 | | | | | TERMINAL 5 | | | |
|-----------------------|----------------------|-----|-----|-----|-----|-------------------|-----|-----|-----|-----|------------|-----|-----|--|
| UNCENSORED DEATH DAYS | | | | | | | | | | | | | | |
| 96 | 421 | 430 | 467 | 476 | 482 | 486 | 486 | 492 | 516 | 528 | 530 | 549 | 549 | |
| 561 | 568 | 571 | 573 | 575 | 575 | 589 | 591 | 612 | 614 | 616 | 617 | 621 | 645 | |
| 648 | 649 | 654 | 654 | 661 | 668 | 668 | 672 | 686 | 688 | 703 | 703 | 704 | 709 | |
| 715 | 718 | 727 | | | | | | | | | | | | |
| CENSORED DEATH DAYS | | | | | | | | | | | | | | |
| None | | | | | | | | | | | | | | |

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MALE RATS

FIRST TERMINAL SACRIFICE AT 729 DAYS

| KAPLAN-MEIER SURVIVAL PROBABILITY ESTIMATES (%) | | | | | | | | | | |
|---|-------------|-------|-------|-------|-------|------|------|------|------|--------|
| DOSE | TIME (DAYS) | | | | | | | | | |
| | 90 | 180 | 270 | 365 | 425 | 485 | 545 | 605 | 665 | 729(A) |
| Control | 100.0 | 100.0 | 100.0 | 100.0 | 98.0 | 96.0 | 82.0 | 72.0 | 62.0 | 50.0 |
| 100 ppm | 100.0 | 100.0 | 100.0 | 90.0 | 90.0 | 88.0 | 84.0 | 76.0 | 60.0 | 42.0 |
| 300 ppm | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 96.0 | 84.0 | 76.0 | 58.0 | 30.0 |
| 1000 ppm | 100.0 | 98.0 | 98.0 | 98.0 | 96.0 | 88.0 | 76.0 | 56.0 | 34.0 | 10.0 |

(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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Lab: BNW

MALE RATS

FIRST TERMINAL SACRIFICE AT 729 DAYS

| SURVIVAL SUMMARY STATISTICS | | | | |
|---|-----------------|-----------------|-----------------|-----------------|
| DOSE | Control | 100 ppm | 300 ppm | 1000 ppm |
| SURVIVAL AT END OF STUDY (KAPLAN-MEIER) | 50.0% | 42.0% | 30.0% | 10.0% |
| SIGNIFICANCE (B) (LIFE TABLE) | P<0.001 | P=0.568 | P=0.137 | P<0.001 |
| MEAN DAY OF NATURAL DEATHS (C) (STANDARD ERROR) | 592.3 (17.8) | 577.6 (25.2) | 622.8 (12.8) | 588.1 (16.7) |
| MEAN LIFE SPAN (D) (STANDARD ERROR) | 660.6 (13.2) | 641.2 (18.0) | 654.7 (11.3) | 602.2 (16.2) |

- (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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Species/Strain: RATS/HSD

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First Dose M/F: 01/17/11 / 01/17/11
Lab: BNW

FEMALE RATS

FIRST TERMINAL SACRIFICE AT 731 DAYS
INDIVIDUAL SURVIVAL TIMES (DAYS)

DOSE = Control

| | | | | | | | | | | | | | | |
|-----------------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-------------------|-----|-----|-----|-------------|--|
| TOTAL 50 | UNCENSORED DEATHS 28 | | | | | | | | CENSORED DEATHS 0 | | | | TERMINAL 22 | |
| UNCENSORED DEATH DAYS | | | | | | | | | | | | | | |
| 303 | 311 | 311 | 373 | 450 | 459 | 484 | 528 | 534 | 534 | 534 | 534 | 536 | 536 | |
| 540 | 556 | 559 | 584 | 590 | 591 | 599 | 646 | 646 | 664 | 674 | 696 | 710 | 729 | |
| CENSORED DEATH DAYS | | | | | | | | | | | | | | |
| None | | | | | | | | | | | | | | |

DOSE = 100 ppm

| | | | | | | | | | | | | | | |
|-----------------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-------------------|-----|-----|-----|-------------|--|
| TOTAL 50 | UNCENSORED DEATHS 28 | | | | | | | | CENSORED DEATHS 1 | | | | TERMINAL 21 | |
| UNCENSORED DEATH DAYS | | | | | | | | | | | | | | |
| 395 | 458 | 459 | 463 | 511 | 534 | 534 | 534 | 537 | 558 | 585 | 612 | 612 | 618 | |
| 640 | 643 | 646 | 646 | 646 | 648 | 652 | 673 | 674 | 674 | 674 | 691 | 692 | 708 | |
| CENSORED DEATH DAYS | | | | | | | | | | | | | | |
| 65 | | | | | | | | | | | | | | |

DOSE = 300 ppm

| | | | | | | | | | | | | | | |
|-----------------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-------------------|-----|-----|-----|-------------|--|
| TOTAL 50 | UNCENSORED DEATHS 25 | | | | | | | | CENSORED DEATHS 0 | | | | TERMINAL 25 | |
| UNCENSORED DEATH DAYS | | | | | | | | | | | | | | |
| 395 | 457 | 458 | 459 | 478 | 523 | 541 | 558 | 564 | 584 | 590 | 602 | 605 | 640 | |
| 642 | 643 | 654 | 665 | 666 | 668 | 692 | 702 | 702 | 714 | 717 | | | | |
| CENSORED DEATH DAYS | | | | | | | | | | | | | | |
| None | | | | | | | | | | | | | | |

DOSE = 1000 ppm

| | | | | | | | | | | | | | | |
|-----------------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-------------------|-----|-----|-----|-------------|--|
| TOTAL 50 | UNCENSORED DEATHS 20 | | | | | | | | CENSORED DEATHS 0 | | | | TERMINAL 30 | |
| UNCENSORED DEATH DAYS | | | | | | | | | | | | | | |
| 530 | 549 | 558 | 590 | 590 | 599 | 618 | 626 | 642 | 646 | 646 | 650 | 674 | 674 | |
| 674 | 690 | 698 | 698 | 702 | 702 | | | | | | | | | |
| CENSORED DEATH DAYS | | | | | | | | | | | | | | |
| None | | | | | | | | | | | | | | |

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FEMALE RATS

FIRST TERMINAL SACRIFICE AT 731 DAYS

| KAPLAN-MEIER SURVIVAL PROBABILITY ESTIMATES (%) | | | | | | | | | | |
|---|-------------|-------|-------|-------|-------|-------|------|------|------|--------|
| DOSE | TIME (DAYS) | | | | | | | | | |
| | 90 | 180 | 270 | 365 | 425 | 485 | 545 | 605 | 665 | 731(A) |
| Control | 100.0 | 100.0 | 100.0 | 94.0 | 92.0 | 86.0 | 70.0 | 58.0 | 52.0 | 44.0 |
| 100 ppm | 100.0 | 100.0 | 100.0 | 100.0 | 98.0 | 91.8 | 81.6 | 77.6 | 57.1 | 42.9 |
| 300 ppm | 100.0 | 100.0 | 100.0 | 100.0 | 98.0 | 90.0 | 86.0 | 74.0 | 64.0 | 50.0 |
| 1000 ppm | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 98.0 | 88.0 | 76.0 | 60.0 |

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FIRST TERMINAL SACRIFICE AT 731 DAYS

| SURVIVAL SUMMARY STATISTICS | | | | |
|---|-----------------|-----------------|-----------------|-----------------|
| DOSE | Control | 100 ppm | 300 ppm | 1000 ppm |
| SURVIVAL AT END OF STUDY (KAPLAN-MEIER) | 44.0% | 42.9% | 50.0% | 60.0% |
| SIGNIFICANCE (B) (LIFE TABLE) | P=0.029N | P=0.884N | P=0.419N | P=0.045N |
| MEAN DAY OF NATURAL DEATHS (C) (STANDARD ERROR) | 543.3 (21.9) | 597.0 (16.0) | 596.8 (18.6) | 637.8 (12.0) |
| MEAN LIFE SPAN (D) (STANDARD ERROR) | 625.9 (18.0) | 642.7 (17.5) | 663.9 (13.3) | 693.7 (8.1) |

*** END OF REPORT ***

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