１，１，１－トリクロロエタンのラット及びマウスを用いた
吸 入 に よ る が ん 原 性 予 備 試 験 報 告 書

# APPENDIX

(A1-1～A9-2)
2 週間試験：ラット/0156；マウス/0157

# APPENDIXES

APPENDIXES (CONTINUED)

APPENDIX A 1-1

CLINICAL OBSERVATION : SUMMARY, RAT : MALE

(TOW－WEEK STUDY)

STUDY NO. : 0156
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE



| Clinical sign | Group Name | Administration Week-day 0-0 1 | 1-1 1 | 1-1 2 | 1-2 1 | 1-3 1 | 1-4 1 | 1-4 2 | 1-5 1 | 1-5 2 | 1-6 1 | 1-6 2 | 1-7 1 | 1-7 2 | 2-1 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PILOERECTION | Control | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| | 4400 ppm | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 0 | 4 | 4 |
| | 6700 ppm | 0 | 0 | 5 | 0 | 0 | 0 | 1 | 0 | 5 | 0 | 0 | 0 | 1 | 1 |
| | 10000 ppm | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 5 |
| LACRYMATION | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 3 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| GUM | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EYE OPACITY | Control | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 |
| | 2000 ppm | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| CORNEAL OPACITY | Control | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 2000 ppm | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Clinical sign | Group Name | Administration Week-day 2-1 2 | 2-2 1 | 2-3 1 | 2-4 1 | 2-4 2 | 2-5 1 | 2-5 2 | 2-6 1 | 2-6 2 | 2-7 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PILOERECTION | Control | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| | 4400 ppm | 3 | 0 | 1 | 0 | 1 | 0 | 6 | 0 | 0 | 0 |
| | 6700 ppm | 1 | 1 | 8 | 6 | 10 | 0 | 10 | 0 | 9 | 0 |
| | 10000 ppm | 7 | 8 | 10 | 9 | 10 | 4 | 10 | 0 | 10 | 0 |
| LACRYMATION | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| GUM | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| EYE OPACITY | Control | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 2000 ppm | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 2 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| CORNEAL OPACITY | Control | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 2000 ppm | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

STUDY NO. : 0156
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE



| Clinical sign | Group Name | Administration Week-day 0-0 1 | 1-1 1 | 1-1 2 | 1-2 1 | 1-3 1 | 1-4 1 | 1-4 2 | 1-5 1 | 1-5 2 | 1-6 1 | 1-6 2 | 1-7 1 | 1-7 2 | 2-1 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANTERIOS CHAMBER OPACITY | Control | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IRREGULAR BREATHING | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| | 6700 ppm | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 |
| RESPIRATORY SOUND ABNOR | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| NOISY | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| ABNORMAL RESPIRATION | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| | 6700 ppm | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 1 | 1 |

STUDY NO. : 0156
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE



| Clinical sign | Group Name | Administration Week-day 2-1 2 | 2-2 1 | 2-3 1 | 2-4 1 | 2-4 2 | 2-5 1 | 2-5 2 | 2-6 1 | 2-6 2 | 2-7 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ANTERIOS CHAMBER OPACITY | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IRREGULAR BREATHING | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| | 10000 ppm | 1 | 1 | 0 | 0 | 0 | 0 | 6 | 0 | 3 | 0 |
| RESPIRATORY SOUND ABNOR | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NOISY | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ABNORMAL RESPIRATION | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| | 10000 ppm | 1 | 1 | 0 | 0 | 0 | 0 | 6 | 0 | 3 | 0 |

STUDY NO. : 0156
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE



| Clinical sign | Group Name | Administration Week-day 0-0 1 | 1-1 1 | 1-1 2 | 1-2 1 | 1-3 1 | 1-4 1 | 1-4 2 | 1-5 1 | 1-5 2 | 1-6 1 | 1-6 2 | 1-7 1 | 1-7 2 | 2-1 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEEP BREATHING | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| ABNORMAL RESPIRA.SOUND | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| LOOSE STOOL | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| SALIVATION | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

STUDY NO. : 0156
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE



| Clinical sign | Group Name | Administration Week-day 2-1 2 | 2-2 1 | 2-3 1 | 2-4 1 | 2-4 2 | 2-5 1 | 2-5 2 | 2-6 1 | 2-6 2 | 2-7 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DEEP BREATHING | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ABNORMAL RESPIRA.SOUND | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LOOSE STOOL | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| SALIVATION | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

APPENDIX A 1-2

CLINICAL OBSERVATION : SUMMARY, RAT : FEMALE

(TOW－WEEK STUDY)

| Clinical sign | Group Name | Administration Week-day 0-0 1 | 1-1 1 | 1-1 2 | 1-2 1 | 1-3 1 | 1-4 1 | 1-4 2 | 1-5 1 | 1-5 2 | 1-6 1 | 1-6 2 | 1-7 1 | 1-7 2 | 2-1 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PILOERECTION | Control | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 5 | 4 | 4 | 4 | 4 | 2 | 3 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 6 | 3 | 3 | 3 | 3 | 0 | 1 | 0 | 0 | 0 | 1 | 1 |
| | 4400 ppm | 0 | 0 | 7 | 6 | 7 | 7 | 7 | 2 | 4 | 0 | 0 | 0 | 3 | 3 |
| | 6700 ppm | 0 | 0 | 6 | 3 | 3 | 3 | 2 | 0 | 3 | 0 | 0 | 0 | 2 | 2 |
| | 10000 ppm | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 4 | 0 | 2 | 0 | 4 | 4 |
| SOILED PERI GENITALIA | Control | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| | 2000 ppm | 0 | 0 | 0 | 2 | 2 | 3 | 2 | 1 | 1 | 1 | 1 | 2 | 2 | 2 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| | 6700 ppm | 0 | 0 | 0 | 1 | 2 | 2 | 2 | 1 | 2 | 0 | 0 | 0 | 2 | 2 |
| | 10000 ppm | 0 | 0 | 0 | 2 | 2 | 2 | 2 | 2 | 4 | 2 | 1 | 1 | 3 | 3 |
| LACRYMATION | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 1 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 1 | 0 | 1 | 0 |
| EYE OPACITY | Control | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 2 | 1 | 1 | 1 |
| | 3000 ppm | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| CORNEAL OPACITY | Control | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Clinical sign | Group Name | Administration Week-day 2-1 2 | 2-2 1 | 2-3 1 | 2-4 1 | 2-4 2 | 2-5 1 | 2-5 2 | 2-6 1 | 2-6 2 | 2-7 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PILOERECTION | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 3 | 0 | 0 | 0 | 2 | 0 | 5 | 0 | 0 | 0 |
| | 6700 ppm | 3 | 0 | 3 | 0 | 10 | 0 | 10 | 0 | 10 | 0 |
| | 10000 ppm | 4 | 4 | 9 | 8 | 10 | 7 | 10 | 0 | 10 | 0 |
| SOILED PERI GENITALIA | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 2 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| | 4400 ppm | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 2 | 2 | 2 | 1 | 1 | 0 | 4 | 2 | 2 | 1 |
| | 10000 ppm | 4 | 4 | 2 | 1 | 3 | 0 | 4 | 1 | 1 | 2 |
| LACRYMATION | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| EYE OPACITY | Control | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| | 2000 ppm | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 3000 ppm | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| CORNEAL OPACITY | Control | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 2000 ppm | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

STUDY NO. : 0156
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE



| Clinical sign | Group Name | Administration Week-day 0-0 1 | 1-1 1 | 1-1 2 | 1-2 1 | 1-3 1 | 1-4 1 | 1-4 2 | 1-5 1 | 1-5 2 | 1-6 1 | 1-6 2 | 1-7 1 | 1-7 2 | 2-1 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ANTERIOS CHAMBER OPACITY | Control | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 2 | 1 | 1 | 1 |
| | 3000 ppm | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IRREGULAR BREATHING | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 |
| RESPIRATORY SOUND ABNOR | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NOISY | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ABNORMAL RESPIRATION | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 1 | 1 |

STUDY NO. : 0156
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE



| Clinical sign | Group Name | Administration Week-day 2-1 2 | 2-2 1 | 2-3 1 | 2-4 1 | 2-4 2 | 2-5 1 | 2-5 2 | 2-6 1 | 2-6 2 | 2-7 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ANTERIOS CHAMBER OPACITY | Control | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 2000 ppm | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| IRREGULAR BREATHING | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |
| RESPIRATORY SOUND ABNOR | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NOISY | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ABNORMAL RESPIRATION | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 1 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 |

STUDY NO. : 0156
ANIMAL : RAT F344
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE



| Clinical sign | Group Name | Administration Week-day 0-0 1 | 1-1 1 | 1-1 2 | 1-2 1 | 1-3 1 | 1-4 1 | 1-4 2 | 1-5 1 | 1-5 2 | 1-6 1 | 1-6 2 | 1-7 1 | 1-7 2 | 2-1 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DEEP BREATHING | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| ABNORMAL RESPIRA.SOUND | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SALIVATION | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| Clinical sign | Group Name | Administration Week-day 2-1 2 | 2-2 1 | 2-3 1 | 2-4 1 | 2-4 2 | 2-5 1 | 2-5 2 | 2-6 1 | 2-6 2 | 2-7 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DEEP BREATHING | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ABNORMAL RESPIRA.SOUND | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SALIVATION | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4400 ppm | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 10000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

APPENDIX A 1-3

CLINICAL OBSERVATION : SUMMARY, MOSUE : MALE

(TOW－WEEK STUDY)

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE



| Clinical sign | Group Name | Administration Week-day 0-0 1 | 1-1 1 | 1-2 1 | 1-3 1 | 1-3 2 | 1-4 1 | 1-4 2 | 1-5 1 | 1-5 2 | 1-6 1 | 1-6 2 | 1-7 1 | 1-7 2 | 2-1 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PILOERECTION | Control | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 1 |
| | 1300 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 1 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 2 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| | 4500 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| LOSS OF HAIR | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1300 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4500 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE



| Clinical sign | Group Name | Administration Week-day 2-2 1 | 2-3 1 | 2-3 2 | 2-4 1 | 2-4 2 | 2-5 1 | 2-5 2 | 2-6 1 | 2-6 2 | 2-7 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PILOERECTION | Control | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 0 |
| | 1300 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 |
| | 2000 ppm | 1 | 1 | 0 | 0 | 0 | 0 | 3 | 2 | 2 | 0 |
| | 3000 ppm | 1 | 1 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| | 4500 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| LOSS OF HAIR | Control | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 1300 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4500 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

APPENDIX A 1-4

CLINICAL OBSERVATION : SUMMARY, MOSUE: FEMALE

(TOW－WEEK STUDY)

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE



| Clinical sign | Group Name | Administration Week-day 0-0 1 | 1-1 1 | 1-2 1 | 1-3 1 | 1-3 2 | 1-4 1 | 1-4 2 | 1-5 1 | 1-5 2 | 1-6 1 | 1-6 2 | 1-7 1 | 1-7 2 | 2-1 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LOSS OF HAIR | Control | 0 | 0 | 3 | 3 | 3 | 3 | 3 | 3 | 0 | 3 | 3 | 3 | 3 | 1 |
| | 1300 ppm | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 1 | 1 | 1 | 1 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4500 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
REPORT TYPE : A1 2

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE



| Clinical sign | Group Name | Administration Week-day | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2-2 | 2-3 | 2-3 | 2-4 | 2-4 | 2-5 | 2-5 | 2-6 | 2-6 | 2-7 |
| | | 1 | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 | 1 |
| LOSS OF HAIR | Control | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | 1300 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 2000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 3000 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 4500 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | 6700 ppm | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

APPENDIX A 2-1

BODY WEIGHT CHANGES :SUMMARY, RAT : MALE

(TOW－WEEK　STUDY)

STUDY NO. : 0156
ANIMAL : RAT F344
UNIT : g
REPORT TYPE : A1 2
SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS



| Group Name | Administration week-day 0-0 | 1-1 | 1-7 | 2-7 |
|---|---|---|---|---|
| Control | 131± 4 | 133± 4 | 158± 6 | 185± 7 |
| 2000 ppm | 131± 4 | 132± 4 | 153± 9 | 178± 13 |
| 3000 ppm | 131± 4 | 131± 4 | 151± 7 | 178± 8 |
| 4400 ppm | 131± 6 | 129± 6 | 149± 10 | 176± 13 |
| 6700 ppm | 131± 4 | 127± 5** | 145± 7** | 170± 8** |
| 10000 ppm | 131± 5 | 125± 5** | 134± 6** | 151± 8** |

Significant difference : * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX A 2-2

# BODY WEIGHT CHANGES : SUMMARY, RAT : FEMALE

(TOW－WEEK　STUDY)

STUDY NO. : 0156
ANIMAL : RAT F344
UNIT : g
REPORT TYPE : A1 2
SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS



| Group Name | Administration week-day 0-0 | 1-1 | 1-7 | 2-7 |
|---|---|---|---|---|
| Control | 104± 4 | 105± 4 | 117± 8 | 128± 8 |
| 2000 ppm | 104± 3 | 103± 3 | 116± 5 | 129± 6 |
| 3000 ppm | 104± 4 | 103± 4 | 115± 5 | 126± 7 |
| 4400 ppm | 104± 5 | 102± 5 | 113± 8 | 127± 7 |
| 6700 ppm | 104± 3 | 101± 3 | 112± 5 | 126± 7 |
| 10000 ppm | 103± 5 | 100± 5 | 106± 5** | 115± 4** |

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX A 2-3

BODY WEIGHT CHANGES :SUMMARY, MOSUE : MALE

(TOW－WEEK　STUDY)

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
UNIT : g
REPORT TYPE : A1 2
SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS



| Group Name | Administration week-day 0-0 | 1-1 | 1-7 | 2-7 |
|---|---|---|---|---|
| Control | 23.1± 0.7 | 22.7± 0.7 | 23.0± 0.8 | 23.7± 0.9 |
| 1300 ppm | 23.1± 0.7 | 22.7± 0.6 | 22.6± 0.9 | 23.6± 0.9 |
| 2000 ppm | 23.1± 0.7 | 22.5± 0.3 | 22.8± 0.6 | 23.7± 0.7 |
| 3000 ppm | 23.1± 0.7 | 22.7± 0.7 | 23.1± 0.6 | 24.0± 0.6 |
| 4500 ppm | 23.1± 0.7 | 22.7± 0.6 | 23.2± 0.6 | 23.9± 0.9 |
| 6700 ppm | 23.1± 0.7 | 22.3± 0.6 | 23.5± 1.0 | 24.3± 1.1 |

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX A 2-4

BODY WEIGHT CHANGES : SUMMARY, MOSUE: FEMALE

(TOW－WEEK STUDY)

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
UNIT : g
REPORT TYPE : A1 2
SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS



| Group Name | Administration week-day 0-0 | 1-1 | 1-7 | 2-7 |
|---|---|---|---|---|
| Control | 19.9± 0.7 | 19.3± 0.9 | 19.8± 0.8 | 20.9± 0.7 |
| 1300 ppm | 19.9± 0.8 | 19.1± 0.7 | 19.8± 0.7 | 20.2± 0.9 |
| 2000 ppm | 19.9± 0.7 | 19.0± 0.9 | 19.5± 0.9 | 20.4± 0.8 |
| 3000 ppm | 19.8± 0.8 | 19.2± 0.8 | 19.4± 0.8 | 20.6± 1.1 |
| 4500 ppm | 19.9± 0.8 | 19.2± 0.8 | 19.8± 1.2 | 21.0± 1.0 |
| 6700 ppm | 19.9± 0.7 | 19.2± 0.8 | 20.2± 0.7 | 21.1± 1.0 |

Significant difference ; * : $P \leqq 0.05$ ** : $P \leqq 0.01$ Test of Dunnett

APPENDIX A 3-1

FOOD CONSUMPTION CHANGES : SUMMARY, RAT : MALE

(TOW－WEEK STUDY)

STUDY NO. : 0156
ANIMAL : RAT F344
UNIT : g
REPORT TYPE : A1 2
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS



| Group Name | Administration 1-7(7) | week-day(effective) 2-7(7) |
|---|---|---|
| Control | 16.6± 1.1 | 16.6± 1.0 |
| 2000 ppm | 15.4± 1.5 | 16.7± 1.9 |
| 3000 ppm | 15.2± 1.0* | 15.9± 1.0 |
| 4400 ppm | 14.8± 1.3** | 16.0± 1.0 |
| 6700 ppm | 14.6± 1.0** | 15.7± 0.6 |
| 10000 ppm | 12.1± 0.8** | 13.4± 0.8** |

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX A 3-2

FOOD CONSUMPTION CHANGES : SUMMARY, RAT : FEMALE

(TOW－WEEK STUDY)

STUDY NO. : 0156
ANIMAL : RAT F344
UNIT : g
REPORT TYPE : A1 2
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS



| Group Name | Administration week-day(effective) 1-7(7) | 2-7(7) |
|---|---|---|
| Control | 12.7± 1.3 | 12.0± 0.9 |
| 2000 ppm | 12.2± 0.6 | 12.3± 0.6 |
| 3000 ppm | 11.7± 0.7 | 11.2± 0.6* |
| 4400 ppm | 11.5± 1.1* | 12.1± 0.7 |
| 6700 ppm | 11.3± 0.8** | 11.8± 0.9 |
| 10000 ppm | 9.7± 0.7** | 10.8± 0.6** |

Significant difference : * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX A 3-3

FOOD CONSUMPTION CHANGES : SUMMARY, MOSUE : MALE

(TOW−WEEK STUDY)

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
UNIT : g
REPORT TYPE : A1 2
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS



| Group Name | Administration week-day(effective) 1-7(7) | 2-7(7) |
|---|---|---|
| Control | 4.2± 0.4 | 4.3± 0.3 |
| 1300 ppm | 4.1± 0.1 | 4.3± 0.2 |
| 2000 ppm | 4.2± 0.5 | 4.4± 0.2 |
| 3000 ppm | 4.2± 0.2 | 4.4± 0.1 |
| 4500 ppm | 4.2± 0.2 | 4.3± 0.3 |
| 6700 ppm | 4.3± 0.2 | 4.4± 0.3 |

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX A 3-4

# FOOD CONSUMPTION CHANGES : SUMMARY, MOSUE : FEMALE

(TOW−WEEK STUDY)

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
UNIT : g
REPORT TYPE : A1 2
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS



| Group Name | Administration week-day(effective) 1-7(7) | 2-7(7) |
|---|---|---|
| Control | 3.9± 0.4 | 4.0± 0.2 |
| 1300 ppm | 3.8± 0.3 | 4.0± 0.2 |
| 2000 ppm | 3.7± 0.3 | 3.9± 0.2 |
| 3000 ppm | 3.6± 0.3 | 4.0± 0.3 |
| 4500 ppm | 3.7± 0.4 | 3.9± 0.3 |
| 6700 ppm | 3.7± 0.2 | 4.0± 0.2 |

Significant difference : * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX A 4-1

HEMATOLOGY : SUMMARY, RAT : MALE

(TOW－WEEK　STUDY)

STUDY NO. : 0156
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

HEMATOLOGY(1) (SUMMARY)
SURVIVAL ANIMALS ( 2)



| Group Name | NO. of Animals | RED BLOOD CELL $10^6/\mu\ell$ | HEMOGLOBIN g/dℓ | HEMATOCRIT % | MCV f ℓ | MCH p g | MCHC g/dℓ | PLATELET $10^3/\mu\ell$ |
|---|---|---|---|---|---|---|---|---|
| Control | 10 | 8.05± 0.14 | 15.0± 0.2 | 42.7± 1.0 | 53.2± 0.8 | 18.7± 0.4 | 35.2± 0.7 | 902± 49 |
| 2000 ppm | 10 | 8.18± 0.33 | 15.1± 0.4 | 43.0± 1.6 | 52.6± 0.6 | 18.4± 0.4 | 35.0± 0.8 | 869± 86 |
| 3000 ppm | 10 | 8.12± 0.26 | 15.1± 0.4 | 42.9± 1.0 | 52.9± 0.6 | 18.6± 0.4 | 35.1± 0.5 | 848± 38 |
| 4400 ppm | 9 | 8.12± 0.27 | 15.1± 0.4 | 43.1± 1.4 | 53.1± 0.8 | 18.6± 0.3 | 35.0± 0.9 | 812± 84* |
| 6700 ppm | 10 | 8.38± 0.23* | 15.4± 0.4 | 44.3± 1.4* | 52.9± 0.8 | 18.4± 0.4 | 34.7± 0.7 | 840± 62 |
| 10000 ppm | 10 | 8.54± 0.21** | 15.7± 0.2** | 44.8± 0.9** | 52.5± 0.7 | 18.4± 0.4 | 35.0± 0.5 | 831± 41 |

Significant difference ; * : $P \leqq 0.05$ ** : $P \leqq 0.01$ Test of Dunnett

STUDY NO. : 0156
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

HEMATOLOGY(2) (SUMMARY)
SURVIVAL ANIMALS ( 2)



| Group Name | NO. of Animals | WBC $10^3/\mu\ell$ | Differential WBC (%) N-BAND | N-SEG | EOSINO | BASO | MONO | LYMPHO | OTHERS |
|---|---|---|---|---|---|---|---|---|---|
| Control | 10 | 5.39± 1.82 | 0± 0 | 16± 6 | 0± 1 | 0± 0 | 1± 1 | 82± 6 | 0± 0 |
| 2000 ppm | 10 | 4.69± 1.42 | 0± 0 | 17± 7 | 1± 1 | 0± 0 | 1± 1 | 81± 6 | 0± 0 |
| 3000 ppm | 10 | 5.44± 1.31 | 0± 0 | 15± 4 | 1± 1 | 0± 0 | 2± 2 | 82± 3 | 0± 0 |
| 4400 ppm | 9 | 5.07± 1.42 | 0± 0 | 20± 5 | 1± 1 | 0± 0 | 2± 2 | 77± 5 | 0± 0 |
| 6700 ppm | 10 | 4.60± 1.02 | 0± 0 | 24± 5** | 1± 1 | 0± 0 | 2± 1 | 73± 4** | 0± 0 |
| 10000 ppm | 10 | 4.60± 1.89 | 0± 0 | 20± 3 | 1± 1 | 0± 0 | 2± 1 | 77± 3 | 0± 0 |

Significant difference ; * : $P \leqq 0.05$ ** : $P \leqq 0.01$ Test of Dunnett

APPENDIX A 4-2

HEMATOLOGY : SUMMARY, RAT : FEMALE

(TOW－WEEK　STUDY)

STUDY NO. : 0156
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

HEMATOLOGY(1) (SUMMARY)
SURVIVAL ANIMALS ( 2)



| Group Name | NO. of Animals | RED BLOOD CELL $10^6/\mu\ell$ | HEMOGLOBIN g/dℓ | HEMATOCRIT % | MCV fℓ | MCH pg | MCHC g/dℓ | PLATELET $10^3/\mu\ell$ |
|---|---|---|---|---|---|---|---|---|
| Control | 10 | 8.52± 0.25 | 15.9± 0.4 | 44.9± 1.9 | 52.7± 1.1 | 18.7± 0.2 | 35.4± 0.8 | 842± 57 |
| 2000 ppm | 10 | 8.34± 0.31 | 15.5± 0.3 | 43.5± 1.8 | 52.2± 0.4 | 18.6± 0.5 | 35.6± 1.1 | 841± 48 |
| 3000 ppm | 10 | 8.29± 0.28 | 15.4± 0.5* | 43.3± 1.6 | 52.3± 0.7 | 18.5± 0.3 | 35.5± 0.5 | 812± 60 |
| 4400 ppm | 10 | 8.53± 0.27 | 15.8± 0.4 | 44.5± 1.4 | 52.2± 0.5 | 18.5± 0.3 | 35.5± 0.7 | 816± 69 |
| 6700 ppm | 9 | 8.32± 0.27 | 15.6± 0.5 | 43.4± 1.4 | 52.2± 0.4 | 18.8± 0.3 | 36.0± 0.6 | 799± 60 |
| 10000 ppm | 10 | 8.66± 0.20 | 16.0± 0.4 | 45.1± 1.2 | 52.1± 0.5 | 18.5± 0.3 | 35.5± 0.4 | 843± 55 |

Significant difference ; * : $P \leqq 0.05$ ** : $P \leqq 0.01$ Test of Dunnett

STUDY NO. : 0156
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

HEMATOLOGY(2) (SUMMARY)
SURVIVAL ANIMALS ( 2)



| Group Name | NO. of Animals | WBC $10^3/\mu\ell$ | Differential WBC (%) N-BAND | N-SEG | EOSINO | BASO | MONO | LYMPHO | OTHERS |
|---|---|---|---|---|---|---|---|---|---|
| Control | 10 | 3.97± 1.25 | 0± 1 | 17± 7 | 1± 1 | 0± 0 | 2± 1 | 79± 7 | 0± 0 |
| 2000 ppm | 10 | 4.04± 1.16 | 0± 0 | 14± 5 | 1± 1 | 0± 0 | 2± 1 | 84± 5 | 0± 0 |
| 3000 ppm | 10 | 4.31± 1.46 | 0± 0 | 12± 3 | 1± 1 | 0± 0 | 1± 1 | 86± 3* | 0± 0 |
| 4400 ppm | 10 | 5.43± 1.85 | 0± 0 | 15± 5 | 1± 1 | 0± 0 | 2± 1 | 81± 5 | 0± 1 |
| 6700 ppm | 9 | 5.36± 1.46 | 0± 1 | 15± 5 | 1± 1 | 0± 0 | 2± 2 | 82± 5 | 0± 0 |
| 10000 ppm | 10 | 3.98± 1.44 | 0± 0 | 20± 6 | 0± 1 | 0± 0 | 2± 2 | 77± 7 | 0± 0 |

Significant difference ; * : $P \leqq 0.05$ ** : $P \leqq 0.01$ Test of Dunnett

APPENDIX A 4-3

HEMATOLOGY : SUMMARY, MOSUE : MALE

(TOW－WEEK　STUDY)

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

HEMATOLOGY(1) (SUMMARY)
SURVIVAL ANIMALS ( 2)



| Group Name | NO. of Animals | RED BLOOD CELL $10^6/\mu\ell$ | HEMOGLOBIN g/dℓ | HEMATOCRIT % | MCV fℓ | MCH pg | MCHC g/dℓ | PLATELET $10^3/\mu\ell$ |
|---|---|---|---|---|---|---|---|---|
| Control | 6 | 10.99± 0.24 | 16.4± 0.4 | 51.3± 1.4 | 46.7± 0.6 | 15.0± 0.2 | 32.1± 0.5 | 1196± 91 |
| 1300 ppm | 7 | 10.93± 0.29 | 16.2± 0.4 | 50.3± 1.1 | 46.0± 0.6 | 14.8± 0.1 | 32.3± 0.3 | 1112± 181 |
| 2000 ppm | 6 | 10.92± 0.22 | 16.4± 0.3 | 50.8± 1.0 | 46.5± 0.6 | 15.0± 0.2 | 32.2± 0.1 | 1061± 167 |
| 3000 ppm | 7 | 11.17± 0.49 | 16.7± 0.7 | 51.9± 2.5 | 46.5± 0.4 | 15.0± 0.2 | 32.2± 0.2 | 1155± 25 |
| 4500 ppm | 6 | 11.23± 0.30 | 16.7± 0.3 | 51.9± 1.0 | 46.3± 0.6 | 14.9± 0.2 | 32.2± 0.2 | 1146± 66 |
| 6700 ppm | 6 | 11.27± 0.27 | 16.8± 0.4 | 51.7± 1.2 | 45.9± 0.4 | 14.9± 0.1 | 32.5± 0.3 | 1126± 84 |

Significant difference ; * : $P \leqq 0.05$ ** : $P \leqq 0.01$ Test of Dunnett

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

HEMATOLOGY(2) (SUMMARY)
SURVIVAL ANIMALS ( 2)



| Group Name | NO. of Animals | WBC $10^3/\mu\ell$ | Differential WBC (%) N-BAND | N-SEG | EOSINO | BASO | MONO | LYMPHO | OTHERS |
|---|---|---|---|---|---|---|---|---|---|
| Control | 6 | 2.19± 1.11 | 0± 0 | 12± 2 | 1± 1 | 0± 0 | 1± 1 | 86± 2 | 0± 0 |
| 1300 ppm | 7 | 1.80± 1.53 | 0± 1 | 14± 6 | 2± 1 | 0± 0 | 0± 1 | 84± 5 | 0± 0 |
| 2000 ppm | 6 | 1.77± 1.08 | 0± 1 | 12± 4 | 2± 1 | 0± 0 | 1± 2 | 85± 6 | 0± 0 |
| 3000 ppm | 7 | 1.82± 1.57 | 0± 1 | 12± 3 | 1± 1 | 0± 0 | 0± 1 | 86± 3 | 0± 0 |
| 4500 ppm | 6 | 1.92± 1.00 | 1± 1 | 13± 4 | 1± 1 | 0± 0 | 0± 0 | 86± 4 | 0± 1 |
| 6700 ppm | 6 | 1.63± 0.62 | 0± 1 | 14± 3 | 1± 1 | 0± 0 | 0± 1 | 85± 3 | 0± 0 |

Significant difference ; * : $P \leqq 0.05$ ** : $P \leqq 0.01$ Test of Dunnett

APPENDIX A 4-4

HEMATOLOGY : SUMMARY, MOSUE : FEMALE

(TOW－WEEK　STUDY)

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

HEMATOLOGY(1) (SUMMARY)
SURVIVAL ANIMALS ( 2)



| Group Name | NO. of Animals | RED BLOOD CELL $10^6/\mu\ell$ | HEMOGLOBIN g/dℓ | HEMATOCRIT % | MCV fℓ | MCH pg | MCHC g/dℓ | PLATELET $10^3/\mu\ell$ |
|---|---|---|---|---|---|---|---|---|
| Control | 6 | 10.53± 0.34 | 15.8± 0.4 | 47.6± 1.0 | 45.2± 0.8 | 15.0± 0.2 | 33.2± 0.5 | 1056± 105 |
| 1300 ppm | 7 | 10.76± 0.29 | 16.0± 0.4 | 48.9± 1.4 | 45.4± 0.5 | 14.9± 0.2 | 32.7± 0.5 | 973± 101 |
| 2000 ppm | 6 | 10.66± 0.48 | 15.8± 0.7 | 49.0± 2.3 | 45.9± 0.9 | 14.8± 0.1 | 32.2± 0.6 | 775± 383 |
| 3000 ppm | 6 | 10.77± 0.42 | 16.1± 0.5 | 49.8± 1.7 | 46.3± 1.0 | 15.0± 0.1 | 32.4± 0.6 | 824± 248 |
| 4500 ppm | 7 | 10.80± 0.34 | 16.1± 0.6 | 49.5± 1.9 | 45.8± 1.2 | 14.9± 0.3 | 32.5± 0.4 | 922± 214 |
| 6700 ppm | 7 | 10.87± 0.37 | 16.3± 0.3 | 49.7± 1.3 | 45.8± 1.0 | 15.0± 0.3 | 32.7± 0.4 | 1032± 152 |

Significant difference ; * : $P \leqq 0.05$ ** : $P \leqq 0.01$ Test of Dunnett

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

HEMATOLOGY(2) (SUMMARY)
SURVIVAL ANIMALS ( 2)



| Group Name | NO. of Animals | WBC $10^3/\mu\ell$ | Differential WBC (%) N-BAND | N-SEG | EOSINO | BASO | MONO | LYMPHO | OTHERS |
|---|---|---|---|---|---|---|---|---|---|
| Control | 6 | 2.05± 0.92 | 0± 0 | 13± 4 | 2± 1 | 0± 0 | 1± 1 | 84± 5 | 1± 1 |
| 1300 ppm | 7 | 2.98± 2.46 | 0± 0 | 14± 5 | 1± 1 | 0± 0 | 1± 1 | 83± 5 | 0± 0 |
| 2000 ppm | 6 | 1.33± 0.38 | 1± 1 | 13± 1 | 2± 1 | 0± 0 | 1± 1 | 84± 2 | 0± 0 |
| 3000 ppm | 6 | 2.67± 1.17 | 0± 0 | 14± 5 | 1± 2 | 0± 0 | 1± 1 | 85± 5 | 0± 0 |
| 4500 ppm | 7 | 1.48± 0.98 | 0± 0 | 13± 5 | 1± 2 | 0± 0 | 0± 1 | 84± 4 | 1± 1 |
| 6700 ppm | 7 | 1.48± 1.05 | 0± 0 | 14± 4 | 2± 2 | 0± 0 | 1± 1 | 83± 4 | 0± 1 |

Significant difference ; * : $P \leqq 0.05$ ** : $P \leqq 0.01$ Test of Dunnett

APPENDIX A 5-1

BIOCHEMISTRY : SUMMARY, RAT : MALE

(TOW－WEEK　STUDY)

STUDY NO. : 0156
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS ( 2)



| Group Name | NO. of Animals | TOTAL PROTEIN g/dℓ | ALBUMIN g/dℓ | A/G RATIO | T-BILIRUBIN mg/dℓ | GLUCOSE mg/dℓ | T-CHOLESTEROL mg/dℓ | GOT IU/ℓ |
|---|---|---|---|---|---|---|---|---|
| Control | 10 | 6.1± 0.2 | 3.7± 0.1 | 1.6± 0.1 | 0.20± 0.05 | 195± 15 | 56± 3 | 61± 2 |
| 2000 ppm | 10 | 6.0± 0.2 | 3.7± 0.1 | 1.7± 0.1 | 0.21± 0.05 | 193± 17 | 57± 4 | 58± 3 |
| 3000 ppm | 10 | 5.9± 0.2* | 3.7± 0.1 | 1.7± 0.1* | 0.19± 0.05 | 188± 15 | 61± 5* | 58± 3 |
| 4400 ppm | 9 | 6.0± 0.1 | 3.7± 0.1 | 1.7± 0.1 | 0.23± 0.07 | 187± 13 | 57± 3 | 60± 3 |
| 6700 ppm | 10 | 6.0± 0.1 | 3.8± 0.1 | 1.7± 0.1* | 0.21± 0.05 | 190± 12 | 65± 5** | 57± 4* |
| 10000 ppm | 10 | 6.1± 0.1 | 3.9± 0.1* | 1.7± 0.1** | 0.23± 0.07 | 191± 6 | 62± 3** | 58± 3 |

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0156
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS ( 2)



| Group Name | NO. of Animals | GPT IU/ℓ | | LDH IU/ℓ | | CPK IU/ℓ | | UREA NITROGEN mg/dℓ | | SODIUM mEq/ℓ | | POTASSIUM mEq/ℓ | | CHLORIDE mEq/ℓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Control | 10 | 20± | 2 | 194± | 58 | 126± | 17 | 13.2± | 1.4 | 141± | 1 | 4.2± | 0.4 | 105± | 1 |
| 2000 ppm | 10 | 20± | 1 | 168± | 47 | 124± | 20 | 13.9± | 0.8 | 141± | 2 | 4.4± | 0.5 | 105± | 2 |
| 3000 ppm | 10 | 19± | 2 | 170± | 54 | 120± | 22 | 12.5± | 1.5 | 141± | 2 | 4.3± | 0.4 | 105± | 1 |
| 4400 ppm | 9 | 20± | 2 | 212± | 74 | 140± | 38 | 13.1± | 1.4 | 141± | 2 | 4.6± | 0.6 | 104± | 1 |
| 6700 ppm | 10 | 20± | 3 | 178± | 51 | 133± | 24 | 12.6± | 1.7 | 141± | 1 | 4.2± | 0.5 | 106± | 1 |
| 10000 ppm | 10 | 20± | 2 | 212± | 69 | 125± | 28 | 13.7± | 1.2 | 141± | 2 | 4.3± | 0.5 | 106± | 1 |

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0156
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS ( 2)



| Group Name | NO. of Animals | CALCIUM mg/dℓ | INORGANIC PHOSPHORUS mg/dℓ |
|---|---|---|---|
| Control | 10 | 11.8± 0.8 | 8.6± 0.7 |
| 2000 ppm | 10 | 11.6± 0.7 | 8.1± 1.0 |
| 3000 ppm | 10 | 11.7± 0.5 | 8.0± 1.0 |
| 4400 ppm | 9 | 11.9± 0.6 | 8.3± 0.6 |
| 6700 ppm | 10 | 11.3± 0.5 | 8.0± 0.8 |
| 10000 ppm | 10 | 11.4± 0.5 | 8.3± 0.8 |

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX A 5-2

BIOCHEMISTRY : SUMMARY, RAT : FEMALE

(TOW－WEEK　STUDY)

STUDY NO. : 0156
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS ( 2)



| Group Name | NO. of Animals | TOTAL PROTEIN g/dℓ | ALBUMIN g/dℓ | A/G RATIO | T-BILIRUBIN mg/dℓ | GLUCOSE mg/dℓ | T-CHOLESTEROL mg/dℓ | GOT IU/ℓ |
|---|---|---|---|---|---|---|---|---|
| Control | 10 | 5.8± 0.2 | 3.6± 0.2 | 1.7± 0.1 | 0.28± 0.07 | 184± 16 | 67± 6 | 64± 16 |
| 2000 ppm | 10 | 5.8± 0.2 | 3.6± 0.1 | 1.7± 0.1 | 0.27± 0.07 | 182± 13 | 68± 6 | 58± 3 |
| 3000 ppm | 10 | 5.8± 0.2 | 3.6± 0.1 | 1.7± 0.1 | 0.29± 0.10 | 179± 11 | 68± 4 | 57± 4 |
| 4400 ppm | 10 | 5.7± 0.1 | 3.6± 0.1 | 1.7± 0.1 | 0.27± 0.07 | 180± 8 | 72± 5 | 59± 3 |
| 6700 ppm | 9 | 5.8± 0.3 | 3.6± 0.1 | 1.6± 0.1 | 0.26± 0.06 | 176± 8 | 80± 5** | 59± 3 |
| 10000 ppm | 10 | 5.9± 0.2 | 3.7± 0.1 | 1.7± 0.1 | 0.28± 0.11 | 174± 11 | 70± 4 | 57± 5 |

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0156
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS ( 2)



| Group Name | NO. of Animals | GPT IU/ℓ | | LDH IU/ℓ | | CPK IU/ℓ | | UREA NITROGEN mg/dℓ | | SODIUM mEq/ℓ | | POTASSIUM mEq/ℓ | | CHLORIDE mEq/ℓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Control | 10 | 19± | 2 | 225± | 52 | 128± | 43 | 16.7± | 2.0 | 140± | 2 | 4.2± | 0.6 | 107± | 2 |
| 2000 ppm | 10 | 18± | 2 | 210± | 65 | 114± | 25 | 14.3± | 2.0** | 140± | 1 | 4.2± | 0.5 | 107± | 1 |
| 3000 ppm | 10 | 18± | 2 | 244± | 82 | 118± | 21 | 13.9± | 1.3** | 139± | 2 | 4.3± | 0.5 | 108± | 2 |
| 4400 ppm | 10 | 19± | 1 | 213± | 48 | 122± | 17 | 14.0± | 1.3** | 140± | 2 | 4.1± | 0.4 | 107± | 2 |
| 6700 ppm | 9 | 19± | 1 | 221± | 50 | 120± | 15 | 13.7± | 1.5** | 140± | 2 | 4.1± | 0.4 | 107± | 2 |
| 10000 ppm | 10 | 20± | 2 | 232± | 94 | 123± | 24 | 13.4± | 1.4** | 141± | 3 | 4.2± | 0.7 | 109± | 2 |

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0156
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS ( 2)



| Group Name | NO. of Animals | CALCIUM mg/dℓ | INORGANIC PHOSPHORUS mg/dℓ |
|---|---|---|---|
| Control | 10 | 10.9± 0.8 | 7.4± 1.0 |
| 2000 ppm | 10 | 10.8± 0.5 | 6.3± 1.2* |
| 3000 ppm | 10 | 10.8± 0.7 | 6.4± 1.2 |
| 4400 ppm | 10 | 10.9± 0.5 | 7.0± 0.6 |
| 6700 ppm | 9 | 10.9± 0.4 | 7.2± 0.8 |
| 10000 ppm | 10 | 10.6± 0.4 | 7.6± 0.5 |

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX A 5-3

BIOCHEMISTRY : SUMMARY, MOSUE : MALE

(TOW－WEEK　STUDY)

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS ( 2)



| Group Name | NO. of Animals | TOTAL PROTEIN g/dℓ | ALBUMIN g/dℓ | A/G RATIO | T-BILIRUBIN mg/dℓ | GLUCOSE mg/dℓ | T-CHOLESTEROL mg/dℓ | GOT IU/ℓ |
|---|---|---|---|---|---|---|---|---|
| Control | 6 | 5.5± 0.3 | 3.2± 0.2 | 1.4± 0.1 | 0.33± 0.11 | 278± 35 | 92± 9 | 42± 9 |
| 1300 ppm | 7 | 5.3± 0.3 | 3.0± 0.2 | 1.3± 0.1 | 0.32± 0.12 | 278± 26 | 90± 7 | 42± 9 |
| 2000 ppm | 6 | 5.3± 0.3 | 3.1± 0.2 | 1.4± 0.1 | 0.25± 0.18 | 292± 32 | 91± 9 | 41± 5 |
| 3000 ppm | 7 | 5.5± 0.5 | 3.2± 0.3 | 1.4± 0.1 | 0.31± 0.13 | 308± 17 | 96± 8 | 40± 6 |
| 4500 ppm | 6 | 5.5± 0.3 | 3.2± 0.2 | 1.4± 0.1 | 0.27± 0.15 | 286± 21 | 100± 6 | 42± 8 |
| 6700 ppm | 6 | 5.6± 0.3 | 3.3± 0.1 | 1.5± 0.1 | 0.34± 0.08 | 290± 24 | 114± 5** | 37± 1 |

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS ( 2)



| Group Name | NO. of Animals | GPT IU/ℓ | | LDH IU/ℓ | | CPK IU/ℓ | | UREA NITROGEN mg/dℓ | | SODIUM mEq/ℓ | | POTASSIUM mEq/ℓ | | CHLORIDE mEq/ℓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Control | 6 | 19± | 5 | 262± | 106 | 131± | 110 | 20.4± | 1.4 | 154± | 4 | 5.0± | 0.5 | 119± | 2 |
| 1300 ppm | 7 | 17± | 6 | 302± | 130 | 108± | 65 | 22.0± | 1.8 | 153± | 4 | 5.0± | 0.4 | 119± | 1 |
| 2000 ppm | 6 | 18± | 4 | 247± | 88 | 93± | 40 | 23.3± | 2.3 | 155± | 2 | 4.7± | 0.5 | 120± | 2 |
| 3000 ppm | 7 | 17± | 4 | 266± | 134 | 146± | 160 | 20.4± | 2.7 | 154± | 4 | 4.8± | 0.8 | 121± | 3 |
| 4500 ppm | 6 | 19± | 6 | 262± | 72 | 75± | 53 | 20.5± | 1.5 | 153± | 3 | 4.7± | 0.6 | 121± | 3 |
| 6700 ppm | 6 | 16± | 2 | 206± | 23 | 50± | 17 | 19.4± | 2.0 | 151± | 1 | 4.8± | 0.7 | 118± | 1 |

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS ( 2)



| Group Name | NO. of Animals | CALCIUM mg/dℓ | | INORGANIC PHOSPHORUS mg/dℓ | |
|---|---|---|---|---|---|
| Control | 6 | 9.1± | 0.3 | 10.3± | 1.8 |
| 1300 ppm | 7 | 9.3± | 0.6 | 10.2± | 1.6 |
| 2000 ppm | 6 | 8.7± | 1.0 | 10.4± | 2.2 |
| 3000 ppm | 7 | 9.1± | 0.6 | 10.0± | 2.4 |
| 4500 ppm | 6 | 9.2± | 0.3 | 9.3± | 1.4 |
| 6700 ppm | 6 | 8.8± | 1.1 | 8.8± | 0.6 |

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX A 5-4

BIOCHEMISTRY : SUMMARY, MOSUE : FEMALE

(TOW－WEEK　STUDY)

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS ( 2)



| Group Name | NO. of Animals | TOTAL PROTEIN g/dℓ | ALBUMIN g/dℓ | A/G RATIO | T-BILIRUBIN mg/dℓ | GLUCOSE mg/dℓ | T-CHOLESTEROL mg/dℓ | GOT IU/ℓ |
|---|---|---|---|---|---|---|---|---|
| Control | 6 | 5.2± 0.2 | 3.3± 0.1 | 1.7± 0.1 | 0.28± 0.11 | 270± 24 | 82± 2 | 42± 4 |
| 1300 ppm | 7 | 5.4± 0.2 | 3.4± 0.2 | 1.7± 0.1 | 0.27± 0.08 | 267± 20 | 80± 8 | 45± 2 |
| 2000 ppm | 5 | 5.3± 0.4 | 3.3± 0.2 | 1.6± 0.1 | 0.32± 0.09 | 253± 22 | 79± 5 | 48± 3 |
| 3000 ppm | 6 | 5.4± 0.3 | 3.4± 0.2 | 1.7± 0.1 | 0.30± 0.14 | 241± 44 | 84± 6 | 55± 12* |
| 4500 ppm | 7 | 5.3± 0.3 | 3.4± 0.1 | 1.7± 0.1 | 0.31± 0.26 | 242± 34 | 83± 6 | 51± 7* |
| 6700 ppm | 7 | 5.6± 0.4 | 3.5± 0.3 | 1.7± 0.2 | 0.35± 0.23 | 243± 48 | 97± 6** | 48± 3 |

Significant difference : * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS ( 2)



| Group Name | NO. of Animals | GPT IU/ℓ | | LDH IU/ℓ | | CPK IU/ℓ | | UREA NITROGEN mg/dℓ | | SODIUM mEq/ℓ | | POTASSIUM mEq/ℓ | | CHLORIDE mEq/ℓ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Control | 6 | 17± | 2 | 246± | 56 | 57± | 11 | 19.1± | 1.9 | 151± | 2 | 4.6± | 0.3 | 118± | 2 |
| 1300 ppm | 7 | 15± | 3 | 232± | 48 | 55± | 15 | 18.6± | 1.6 | 151± | 1 | 4.7± | 0.5 | 119± | 1 |
| 2000 ppm | 5 | 19± | 7 | 276± | 46 | 98± | 52 | 19.5± | 2.2 | 154± | 4 | 5.2± | 0.6 | 121± | 2 |
| 3000 ppm | 6 | 22± | 5 | 295± | 103 | 85± | 37 | 19.9± | 4.1 | 153± | 2 | 5.1± | 0.5 | 121± | 2 |
| 4500 ppm | 7 | 20± | 6 | 283± | 78 | 97± | 69 | 20.2± | 4.0 | 153± | 2 | 5.3± | 0.3* | 119± | 3 |
| 6700 ppm | 7 | 21± | 6 | 275± | 62 | 68± | 22 | 19.3± | 2.2 | 154± | 3 | 5.5± | 0.4** | 120± | 3 |

Significant difference ; * : $P \leq 0.05$ ** : $P \leq 0.01$ Test of Dunnett

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS ( 2)



| Group Name | NO. of Animals | CALCIUM mg/dℓ | | INORGANIC PHOSPHORUS mg/dℓ | |
|---|---|---|---|---|---|
| Control | 6 | 8.8± | 0.4 | 9.2± | 1.0 |
| 1300 ppm | 7 | 8.8± | 0.5 | 8.6± | 1.1 |
| 2000 ppm | 5 | 8.9± | 0.7 | 10.4± | 2.2 |
| 3000 ppm | 6 | 9.3± | 0.3 | 10.0± | 2.3 |
| 4500 ppm | 7 | 9.2± | 0.3 | 10.0± | 0.6 |
| 6700 ppm | 7 | 9.4± | 0.3 | 9.2± | 1.1 |

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Dunnett

APPENDIX A 6-2

GROSS FINDINGS : SUMMARY, MOSUE : FEMALE : ALL ANIMALS

(TOW−WEEK STUDY)

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0- 2W)



| Organ | Findings | Group Name<br>NO. of Animals | Control<br>10 (%) | 1300 ppm<br>10 (%) | 2000 ppm<br>10 (%) | 3000 ppm<br>10 (%) |
|---|---|---|---|---|---|---|
| spleen | black patch/zone | | 0 ( 0) | 2 ( 20) | 1 ( 10) | 1 ( 10) |
| kidney | hydronephrosis | | 1 ( 10) | 0 ( 0) | 0 ( 0) | 0 ( 0) |

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0- 2W)



| Organ | Findings | Group Name<br>NO. of Animals | 4500 ppm<br>10 (%) | 6700 ppm<br>10 (%) |
|---|---|---|---|---|
| spleen | black patch/zone | | 0 ( 0) | 0 ( 0) |
| kidney | hydronephrosis | | 0 ( 0) | 0 ( 0) |

APPENDIX A 7-1

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : MALE : ALL ANIMALS

(TOW－WEEK STUDY)

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0- 2W)



| Organ | Findings | Group Name<br>NO. of Animals | Control<br>10 (%) | 1300 ppm<br>10 (%) | 2000 ppm<br>10 (%) | 3000 ppm<br>10 (%) |
|---|---|---|---|---|---|---|
| spleen | black patch/zone | | 2 ( 20) | 0 ( 0) | 0 ( 0) | 0 ( 0) |

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0- 2W)



| Organ | Findings | Group Name | 4500 ppm | 6700 ppm |
|---|---|---|---|---|
| | | NO. of Animals | 10 (%) | 10 (%) |
| spleen | black patch/zone | | 0 ( 0) | 1 ( 10) |

APPENDIX A 7-2

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : FEMALE : ALL ANIMALS

(TOW－WEEK STUDY)

STUDY NO. : 0156
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
ALL ANIMALS (0- 2W)



| Organ | Findings | Group Name | Control | | | | 2000 ppm | | | | 3000 ppm | | | | 4400 ppm | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | No. of Animals on Study | 2 | | | | 2 | | | | 2 | | | | 2 | | | |
| | | Grade | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| | | | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) |
| [Respiratory system] | | | | | | | | | | | | | | | | | | |
| nasal cavit | | | < 2> | | | | < 2> | | | | < 2> | | | | < 2> | | | |
| | inflammation:squamous epithelium | | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | ( 0) | ( 0) | ( 0) | ( 0) | ( 50) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) |

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
( c ) c : b / a * 100

| Organ | Findings | Group Name | 6700 ppm | | | | 10000 ppm | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | No. of Animals on Study | 2 | | | | 2 | | | |
| | | Grade | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| | | | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) |
| [Respiratory system] | | | | | | | | | | |
| nasal cavit | | | < 2> | | | | < 2> | | | |
| | inflammation:squamous epithelium | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) |

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
( c ) c : b / a * 100

A APPENDIX A 7-3

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

MOUSE: MALE:ALL ANIMALS

(TOW－WEEK STUDY)

| Organ | Findings | Group Name | Control | | | | 2000 ppm | | | | 3000 ppm | | | | 4400 ppm | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | No. of Animals on Study | 2 | | | | 2 | | | | 2 | | | | 2 | | | |
| | | Grade | 1 (%) | 2 (%) | 3 (%) | 4 (%) | 1 (%) | 2 (%) | 3 (%) | 4 (%) | 1 (%) | 2 (%) | 3 (%) | 4 (%) | 1 (%) | 2 (%) | 3 (%) | 4 (%) |
| [Endocrine system] | | | | | | | | | | | | | | | | | | |
| thyroid | | | < 2> | | | | < 2> | | | | < 2> | | | | < 2> | | | |
| | ultimibranchial body remanet | | 2 (100) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) |

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
( c ) c : b / a * 100

| Organ | Findings | Group Name | 6700 ppm | | | | 10000 ppm | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | No. of Animals on Study | 2 | | | | 2 | | | |
| | | Grade | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| | | | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) |
| [Endocrine system] | | | | | | | | | | |
| thyroid | | | | | | | | | | |
| | ultimibranchial body remanet | | < 2> | | | | < 2> | | | |
| | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) |

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
( c ) c : b / a * 100

APPENDIX A 7-4

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

MOUSE: FEMALE :ALL ANIMALS

(TOW－WEEK STUDY)

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
ALL ANIMALS (0- 2W)



| Organ | Findings | Group Name / No. of Animals on Study / Grade | Control 2 | | | | 1300 ppm 2 | | | | 2000 ppm 2 | | | | 3000 ppm 2 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | 1 (%) | 2 (%) | 3 (%) | 4 (%) | 1 (%) | 2 (%) | 3 (%) | 4 (%) | 1 (%) | 2 (%) | 3 (%) | 4 (%) |
| [Hematopoietic system] | | | | | | | | | | | | | | | | | | |
| spleen | | < 2> | | | | | | | | | | | | | | | | |
| | deposit of melanin | | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 1 ( 50) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 1 ( 50) | 0 ( 0) | 0 ( 0) | 0 ( 0) |
| [Digestive system] | | | | | | | | | | | | | | | | | | |
| stomach | | < 2> | | | | | | | | | | | | | | | | |
| | hyperplasia:forestomach | | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) |
| liver | | < 2> | | | | | | | | | | | | | | | | |
| | granulation | | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 1 ( 50) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 1 ( 50) | 0 ( 0) | 0 ( 0) | 0 ( 0) |
| [Reproductive system] | | | | | | | | | | | | | | | | | | |
| epididymis | | < 2> | | | | | | | | | | | | | | | | |
| | inflammatory infiltration | | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) | 0 ( 0) |

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
( c ) c : b / a * 100

| Organ | Findings | Group Name | 4500 ppm | | | | 6700 ppm | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | No. of Animals on Study | 2 | | | | 2 | | | |
| | | Grade | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| | | | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) |
| [Hematopoietic system] | | | | | | | | | | |
| spleen | | | < 2> | | | | < 2> | | | |
| | deposit of melanin | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) |
| [Digestive system] | | | | | | | | | | |
| stomach | | | < 2> | | | | < 2> | | | |
| | hyperplasia:forestomach | | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| | | | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 50) | ( 0) | ( 0) |
| liver | | | < 2> | | | | < 2> | | | |
| | granulation | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) |
| [Reproductive system] | | | | | | | | | | |
| epididymis | | | < 2> | | | | < 2> | | | |
| | inflammatory infiltration | | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | ( 50) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) |

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
( c ) c : b / a * 100

# APPENDIX A 8-1

# IDENTITY AND PURITY OF 1,1,1-TRICHLOROETHANE

## (TOW−WEEK STUDY)

| Organ | Findings | Group Name | Control | | | | 1300 ppm | | | | 2000 ppm | | | | 3000 ppm | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | No. of Animals on Study | 2 | | | | 2 | | | | 2 | | | | 2 | | | |
| | | Grade | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| | | | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) |
| [Hematopoietic system] | | | | | | | | | | | | | | | | | | |
| spleen | | | < 2> | | | | < 2> | | | | < 2> | | | | < 2> | | | |
| | deposit of melanin | | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | (100) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) |
| [Digestive system] | | | | | | | | | | | | | | | | | | |
| stomach | | | < 2> | | | | < 2> | | | | < 2> | | | | < 2> | | | |
| | hyperplasia:forestomach | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) |
| liver | | | < 2> | | | | < 2> | | | | < 2> | | | | < 2> | | | |
| | granulation | | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| | | | (100) | ( 0) | ( 0) | ( 0) | ( 50) | ( 0) | ( 0) | ( 0) | (100) | ( 0) | ( 0) | ( 0) | (100) | ( 0) | ( 0) | ( 0) |

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
( c ) c : b / a * 100

STUDY NO. : 0157
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

HISTOLOGICAL FINDINGS :NON-NEOPLASTIC LESIONS (SUMMARY)
ALL ANIMALS (0- 2W)



| Organ | Findings | Group Name | 4500 ppm | | | | 6700 ppm | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | No. of Animals on Study | 2 | | | | 2 | | | |
| | | Grade | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| | | | (%) | (%) | (%) | (%) | (%) | (%) | (%) | (%) |
| [Hematopoietic system] | | | | | | | | | | |
| spleen | | | < 2> | | | | < 2> | | | |
| | deposit of melanin | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) | ( 0) |
| [Digestive system] | | | | | | | | | | |
| stomach | | | < 2> | | | | < 2> | | | |
| | hyperplasia:forestomach | | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| | | | ( 0) | ( 0) | ( 0) | ( 0) | ( 50) | ( 0) | ( 0) | ( 0) |
| liver | | | < 2> | | | | < 2> | | | |
| | granulation | | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| | | | ( 50) | ( 0) | ( 0) | ( 0) | ( 50) | ( 0) | ( 0) | ( 0) |

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
< a > a : Number of animals examined at the site
b b : Number of animals with lesion
( c ) c : b / a * 100

APPENDIX A 8-2

STABILITY OF 1,1,1-TRICHLOROETHANE

(TOW－WEEK STUDY)

IDENTITY OF 1,1,1-TRICHLOROETHANE(TWO-WEEK STUDIES)

Lot no. ECG7864

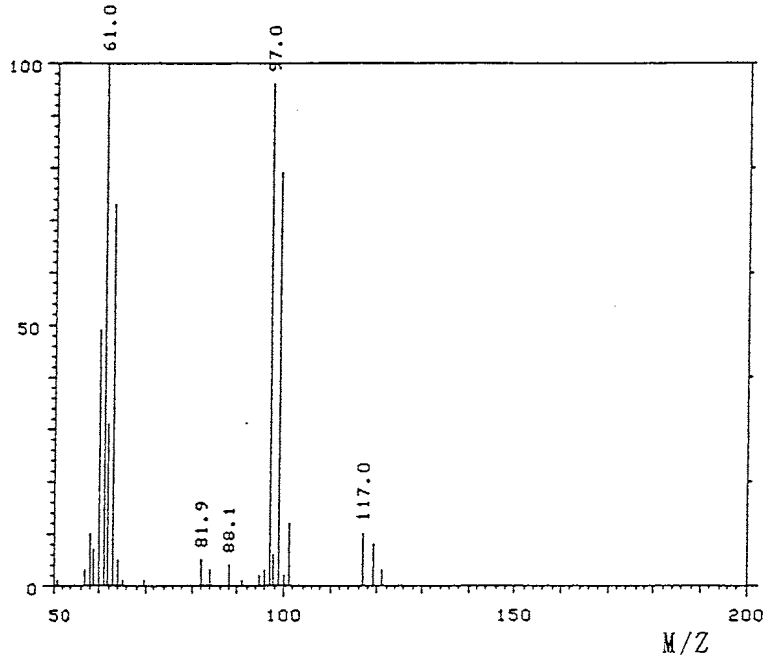
1. Spectral data

Mass Spectrometry

Instrument : Hitachi M-80B Mass Spectrometer

Ionization : EI(Electron Ionization)

Ionization Voltage : 70eV




Mass Spectrum of Test Substance

| Results: Determines Fragment Peak(M/Z) | Literature Values* Fragment Peak(M/Z) |
|---|---|
| 61.0 | 61 |
| 97.0 | 97 |
| 117.0 | 117 |

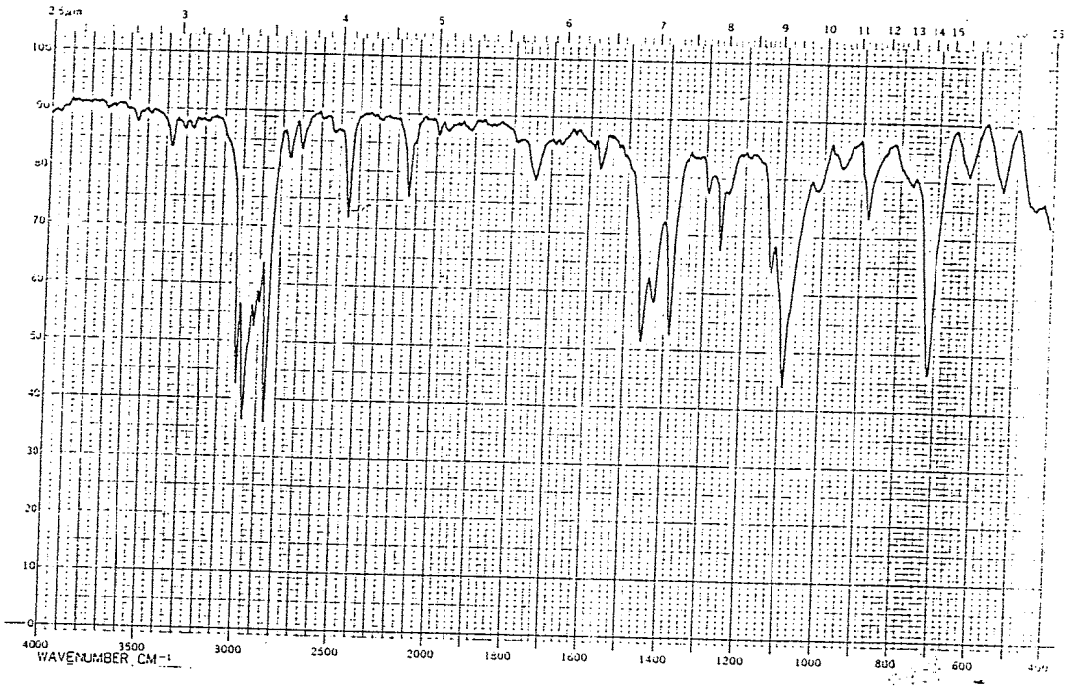
(*EPA/NIH Mass Spectral Data Base (1978) V. 1, p. 278.)

Infrared Spectrometry

Instrument : Hitachi 270-30 Infrared Spectrometer

Cell : KBr

Slit : Medium




Infrared Spectrum of Test Substance

Results:

| Determined Value Wave Number($cm^{-1}$) | Literature Values* Wave Number($cm^{-1}$) |
|---|---|
| 510～ 550 | 500～ 540 |
| 600～ 640 | 600～ 630 |
| 660～ 760 | 660～ 760 |
| 850～ 900 | 860～ 900 |
| 1040～1110 | 1040～1110 |
| 1120～1150 | 1110～1140 |
| 1240～1270 | 1240～1260 |
| 1370～1400 | 1370～1400 |
| 1410～1440 | 1410～1440 |
| 1440～1480 | 1440～1480 |
| 2100～2170 | 2100～2150 |
| 2420～2480 | 2400～2470 |
| 2800～2880 | 2800～2880 |
| 2940～3050 | 2940～3050 |

(*Performed by the WAKO PURE CHEMICAL INDUSTRIES, LTD.)

2. Conclusions: The result of the mass spectrum and the infrared spectrum agreed with the literature values.
Consequently, the test substance was identified as 1,1,1-Trichloroethane.

# APPENDIX A 9-1

# CONCENTRATION OF 1,1,1-TRICHLOROETHANE IN INHALATION CHAMBER

# (TOW−WEEK STUDY)

STABILITY OF 1,1,1-TRICHLOROETHANE(TWO-WEEK STUDIES)

Lot no. ECG7864

1. Sample: This lot was used from 1990.11.1 to 1990.11.15. Test substance was stored at room temperature .

2. Infrared Spectrometry

Instrument : Hitachi 270-30 Infrared Spectrometer

Cell : KBr

Slit : Medium

Results: Infrared spectrum of the test substance agreed with before use and after use.

| 1990.10.29(date analyzed) Wave Number($cm^{-1}$) | 1990.11.16(date analyzed) Wave Number($cm^{-1}$) |
|---|---|
| 510～ 550 | 510～ 550 |
| 600～ 640 | 600～ 640 |
| 660～ 760 | 660～ 760 |
| 850～ 900 | 850～ 900 |
| 1040～1110 | 1040～1110 |
| 1120～1150 | 1120～1150 |
| 1240～1270 | 1240～1270 |
| 1370～1400 | 1370～1400 |
| 1410～1440 | 1410～1440 |
| 1440～1480 | 1440～1480 |
| 2100～2170 | 2100～2170 |
| 2420～2480 | 2420～2480 |
| 2800～2880 | 2800～2880 |
| 2940～3050 | 2940～3050 |

3. Gas Chromatography

Instrument: Hewlett Packard 5890A

Column: Methyl Silicone(0.2mm$\phi$ × 50m)

Column Temperature: 80°C

Flow Rate: 1 ml/min

Detector: FID(Flame Ionization Detector)

Injection Volume: 1 $\mu$l

Results: Gas chromatography indicated one major peak(peak No.5) and five impurities(peak No.1,2,3,4,6 < 5% of total area) analyzed at 1990.10.29 and one major peak(peak No.4) and four impurities(peak No.1,2,3,5 < 5% of total area) analyzed at 1990.11.16. It was identified only by comparing its gas chromatograph with that of the 1,4-Dioxane(peak No.6) in the 1,1,1-Trichloroethane, the amount in the test substance was 3.47% at 1990.10.29. The new treace impurity peak in the test substance analyzed at 1990.11.16 was not detected.

| Date | Peak No. | Retention Time(min) | AREA COUNT |
|---|---|---|---|
| 1990.10.29 | 1 | 2.39 | 24 |
| (date analyzed) | 2 | 2.423 | 116 |
| | 3 | 2.488 | 78 |
| | 4 | 2.577 | 952 |
| | 5 | 2.818 | 127865 |
| | 6 | 3.135 | 5033 |
| 1990.11.16 | 1 | 2.42 | 94 |
| (date analyzed) | 2 | 2.487 | 61 |
| | 3 | 2.575 | 919 |
| | 4 | 2.815 | 127138 |
| | 5 | 3.133 | 5005 |

4. Conclusions: The results indicated that the test substance did not change when stored in the dark at room temperature during this period(for about 2 weeks).

APPENDIX A 9-2

# ENVIRONMENT OF INHALATION CHAMBER

## (TOW−WEEK STUDY)

CONCENTRATION OF 1, 1, 1-TRICHLOROETANE
IN INHALTION CHAMBER
(RAT : TWO-WEEK STUDY)

| Group Name | Concentration (ppm) Mean ± S.D. |
|---|---|
| Control | 0.0 ± 0.0 |
| 2000ppm | 2001.2 ± 11.0 |
| 3000ppm | 2993.3 ± 28.2 |
| 4400ppm | 4383.4 ± 46.1 |
| 6700ppm | 6661.6 ± 46.3 |
| 10000ppm | 10019.9 ± 101.7 |

CONCENTRATION OF 1, 1, 1-TRICHLOROETANE
IN INHALTION CHAMBER
(MOUSE : TWO-WEEK STUDY)

| Group Name | Concentration (ppm) Mean ± S.D. |
|---|---|
| Control | 0.0 ± 0.0 |
| 1300ppm | 1299.6 ± 16.3 |
| 2000ppm | 1988.0 ± 20.6 |
| 3000ppm | 2982.2 ± 19.3 |
| 4500ppm | 4460.8 ± 27.2 |
| 6700ppm | 6687.6 ± 41.6 |

APPENDIX A 6-1

GROSS FINDINGS : SUMMARY, MOSUE : MALE : ALL ANIMALS

(TOW−WEEK STUDY)

## ENVIRONMENT OF INHALATION CHAMBER (RAT : TWO-WEEK STUDY)

| Group Name | Temperature(℃) Mean ± S.D. | Humidity(%) Mean ± S.D. | Ventilation Rate(L/min) Mean ± S.D. | Room Air Change(time/h) Mean |
|---|---|---|---|---|
| Control | 22.3 ± 0.3 | 57.4 ± 1.3 | 212.0 ± 0.9 | 12.0 |
| 2000ppm | 22.6 ± 0.2 | 55.4 ± 1.7 | 211.6 ± 1.0 | 12.0 |
| 3000ppm | 22.7 ± 0.3 | 58.3 ± 1.8 | 210.0 ± 3.0 | 11.9 |
| 4400ppm | 22.3 ± 0.3 | 55.6 ± 1.9 | 210.6 ± 1.0 | 11.9 |
| 6700ppm | 22.9 ± 0.3 | 52.7 ± 2.2 | 210.9 ± 1.1 | 11.9 |
| 10000ppm | 22.6 ± 0.3 | 52.9 ± 2.3 | 211.1 ± 1.5 | 11.9 |

## ENVIRONMENT OF INHALATION CHAMBER (MOUSE : TWO-WEEK STUDY)

| Group Name | Temperature(℃) Mean ± S.D. | Humidity(%) Mean ± S.D. | Ventilation Rate(L/min) Mean ± S.D. | Room Air Change(time/h) Mean |
|---|---|---|---|---|
| Control | 21.3 ± 0.3 | 59.0 ± 1.1 | 103.5 ± 0.3 | 11.9 |
| 1300ppm | 21.0 ± 0.3 | 58.5 ± 1.1 | 103.0 ± 0.7 | 11.9 |
| 2000ppm | 21.4 ± 0.3 | 57.0 ± 1.3 | 103.1 ± 1.1 | 11.9 |
| 3000ppm | 21.4 ± 0.3 | 56.5 ± 1.7 | 103.9 ± 0.7 | 12.0 |
| 4500ppm | 21.5 ± 0.3 | 60.1 ± 2.1 | 103.6 ± 0.6 | 12.0 |
| 6700ppm | 21.5 ± 0.3 | 58.9 ± 2.0 | 104.4 ± 1.0 | 12.0 |