p-ジクロロベンゼ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

（Ｂ1-1～Ｃ2）
13 週間試験：ラット/0132；マウス/0133

APPENDIXES (CONTINUED)

APPENDIX B 1-1 CLINICAL OBSERVATION (THIRTEEN-WEEK STUDY:SUMMARY)
RAT:MALE

APPENDIX B 1-2 CLINICAL OBSERVATION (THIRTEEN-WEEK STUDY:SUMMARY)
RAT:FEMALE

APPENDIX B 1-3 CLINICAL OBSERVATION (THIRTEEN-WEEK STUDY:SUMMARY)
MOUSE:MALE

APPENDIX B 1-4 CLINICAL OBSERVATION (THIRTEEN-WEEK STUDY:SUMMARY)
MOUSE:FEMALE

APPENDIX B 2-1 BODY WEIGHT CHANGES (THIRTEEN-WEEK STUDY:SUMMARY)
RAT:MALE

APPENDIX B 2-2 BODY WEIGHT CHANGES (THIRTEEN-WEEK STUDY:SUMMARY)
RAT:FEMALE

APPENDIX B 2-3 BODY WEIGHT CHANGES (THIRTEEN-WEEK STUDY:SUMMARY)
MOUSE:MALE

APPENDIX B 2-4 BODY WEIGHT CHANGES (THIRTEEN-WEEK STUDY:SUMMARY)
MOUSE:FEMALE

APPENDIX B 3-1 FOOD CONSUMPTION CHANGES (THIRTEEN-WEEK STUDY:SUMMARY)
RAT:MALE

APPENDIX B 3-2 FOOD CONSUMPTION CHANGES (THIRTEEN-WEEK STUDY:SUMMARY)
RAT:FEMALE

APPENDIX B 3-3 FOOD CONSUMPTION CHANGES (THIRTEEN-WEEK STUDY:SUMMARY)
MOUSE:MALE

APPENDIX B 3-4 FOOD CONSUMPTION CHANGES (THIRTEEN-WEEK STUDY:SUMMARY)
MOUSE:FEMALE

APPENDIX B 4-1 HEMATOLOGY (THIRTEEN-WEEK STUDY:SUMMARY)
RAT:MALE

APPENDIX B 4-2 HEMATOLOGY (THIRTEEN-WEEK STUDY:SUMMARY)
RAT:FEMALE

APPENDIX B 4-3 HEMATOLOGY (THIRTEEN-WEEK STUDY:SUMMARY)
MOUSE:MALE

APPENDIX B 4-4 HEMATOLOGY (THIRTEEN-WEEK STUDY:SUMMARY)
MOUSE:FEMALE

APPENDIXES (CONTINUED)

APPENDIX B 5-1 BIOCHEMISTRY (THIRTEEN-WEEK STUDY:SUMMARY)
RAT:MALE

APPENDIX B 5-2 BIOCHEMISTRY (THIRTEEN-WEEK STUDY:SUMMARY)
RAT:FEMALE

APPENDIX B 5-3 BIOCHEMISTRY (THIRTEEN-WEEK STUDY:SUMMARY)
MOUSE:MALE

APPENDIX B 5-4 BIOCHEMISTRY (THIRTEEN-WEEK STUDY:SUMMARY)
MOUSE:FEMALE

APPENDIX B 6-1 URINALYSIS (THIRTEEN-WEEK STUDY:SUMMARY)
RAT:MALE

APPENDIX B 6-2 URINALYSIS (THIRTEEN-WEEK STUDY:SUMMARY)
RAT:FEMALE

APPENDIX B 6-3 URINALYSIS (THIRTEEN-WEEK STUDY:SUMMARY)
MOUSE:MALE

APPENDIX B 6-4 URINALYSIS (THIRTEEN-WEEK STUDY:SUMMARY)
MOUSE:FEMALE

APPENDIX B 7-1 GROSS FINDINGS (THIRTEEN-WEEK STUDY:SUMMARY)
RAT:MALE:ALL ANIMALS

APPENDIX B 7-2 GROSS FINDINGS (THIRTEEN-WEEK STUDY:SUMMARY)
RAT:FEMALE:ALL ANIMALS

APPENDIX B 7-3 GROSS FINDINGS (THIRTEEN-WEEK STUDY:SUMMARY)
MOUSE:MALE:ALL ANIMALS

APPENDIX B 7-4 GROSS FINDINGS (THIRTEEN-WEEK STUDY:SUMMARY)
MOUSE:FEMALE:ALL ANIMALS

APPENDIX B 8-1 ORGAN WEIGHT (THIRTEEN-WEEK STUDY:SUMMARY),ABSOLUTE
RAT:MALE

APPENDIX B 8-2 ORGAN WEIGHT (THIRTEEN-WEEK STUDY:SUMMARY),ABSOLUTE
RAT:FEMALE

APPENDIX B 8-3 ORGAN WEIGHT (THIRTEEN-WEEK STUDY:SUMMARY),ABSOLUTE
MOUSE:MALE

APPENDIX B 8-4 ORGAN WEIGHT (THIRTEEN-WEEK STUDY:SUMMARY),ABSOLUTE
MOUSE:FEMALE

APPENDIXES (CONTINUED)

APPENDIX B 9-1 ORGAN WEIGHT (THIRTEEN-WEEK STUDY:SUMMARY),RELATIVE
RAT:MALE

APPENDIX B 9-2 ORGAN WEIGHT (THIRTEEN-WEEK STUDY:SUMMARY),RELATIVE
RAT:FEMALE

APPENDIX B 9-3 ORGAN WEIGHT (THIRTEEN-WEEK STUDY:SUMMARY),RELATIVE
MOUSE:MALE

APPENDIX B 9-4 ORGAN WEIGHT (THIRTEEN-WEEK STUDY:SUMMARY),RELATIVE
MOUSE:FEMALE

APPENDIX B 10-1 HISTOLOGICAL FINDINGS:NON-NEOPLASTIC LESIONS (THIRTEEN-WEEK STUDY:SUMMARY)
RAT:MALE:ALL ANIMALS

APPENDIX B 10-2 HISTOLOGICAL FINDINGS:NON-NEOPLASTIC LESIONS (THIRTEEN-WEEK STUDY:SUMMARY)
RAT:FEMALE:ALL ANIMALS

APPENDIX B 10-3 HISTOLOGICAL FINDINGS:NON-NEOPLASTIC LESIONS (THIRTEEN-WEEK STUDY:SUMMARY)
MOUSE:MALE:ALL ANIMALS

APPENDIX B 10-4 HISTOLOGICAL FINDINGS:NON-NEOPLASTIC LESIONS (THIRTEEN-WEEK STUDY:SUMMARY)
MOUSE:FEMALE:ALL ANIMALS

APPENDIX B 11-1 IDENTITY OF p-DICHLOROBENZENE (THIRTEEN-WEEK STUDIES)

APPENDIX B 11-2 STABILITY OF p-DICHLOROBENZENE (THIRTEEN-WEEK STUDIES)

APPENDIX B 12-1 CONCENTRATION OF p-DICHLOROBENZENE IN INHALATION CHAMBER
(THIRTEEN-WEEK STUDIES)

APPENDIX B 12-2 ENVIRONMENT OF INHALATION CHAMBER
(THIRTEEN-WEEK STUDIES)

APPENDIX C 1 METHODS FOR HEMATOLOGY,BIOCHEMISTRY AND URINALSYS

APPENDIX C 2 UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY

APPENDIX　B 1-1

CLINICAL OBSERVATION : SUMMARY, RAT : MALE

(13Week　STUDY)

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1 13

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 0-0	1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	55 ppm	0	0	0	0	0	0	0	0	7	0	0	0	0	0
	120 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	0
	270 ppm	0	0	0	0	0	0	0	0	0	2	0	0	0	0
	600 ppm	0	0	0	0	0	0	2	0	0	2	1	4	1	0
EXOPHTHALMOS	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	55 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120 ppm	0	0	0	0	0	1	0	1	1	1	1	1	1	1
	270 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EYE OPACITY	Control	0	0	0	1	1	1	1	1	1	1	1	1	1	1
	25 ppm	0	0	0	1	1	1	1	1	1	1	1	1	2	1
	55 ppm	0	0	0	0	0	0	0	1	1	1	1	1	1	1
	120 ppm	0	0	0	1	1	2	4	2	2	2	2	3	4	5
	270 ppm	0	0	0	1	1	1	1	1	1	1	0	1	2	3
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CORNEAL OPACITY	Control	0	0	0	1	1	1	1	1	1	1	1	1	1	1
	25 ppm	0	0	0	1	1	1	1	1	1	1	1	1	2	1
	55 ppm	0	0	0	0	0	0	0	1	1	1	1	1	1	1
	120 ppm	0	0	0	0	0	1	3	2	2	1	2	3	4	5
	270 ppm	0	0	0	1	1	1	1	1	1	1	0	1	2	3
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ANTERIOS CHAMBER OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	55 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120 ppm	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	270 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1 13

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 0-0	1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
SORE OF SOLE	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	2
	55 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	270 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1

APPENDIX　B 1-2

CLINICAL OBSERVATION：SUMMARY, RAT：FEMALE

(13Week　STUDY)

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1 13

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 0-0 1	1-7 1	2-7 1	3-7 1	4-7 1	5-7 1	6-7 1	7-7 1	8-7 1	9-7 1	10-7 1	11-7 1	12-7 1	13-7 1
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	55 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120 ppm	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	270 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	600 ppm	0	0	0	0	0	0	0	0	8	0	0	0	0	0
LOSS OF HAIR	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	55 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	270 ppm	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SOILED PERI GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	55 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	270 ppm	0	0	0	0	0	0	0	0	3	0	0	0	1	0
	600 ppm	0	1	0	1	1	0	2	1	9	3	4	4	8	9
LACRYMATION	Control	0	0	0	0	0	0	0	0	0	1	0	2	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	1	2	1
	55 ppm	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	120 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	270 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GUM	Control	0	0	0	0	0	0	0	0	1	0	0	1	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	55 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	270 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1 13

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 0-0	1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
EYE HEMORRHAGIC DISCHA	Control	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	55 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	270 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EYE OPACITY	Control	0	0	0	0	0	0	0	1	1	1	0	1	0	0
	25 ppm	0	0	0	1	1	1	1	1	1	1	1	1	1	1
	55 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120 ppm	0	1	1	1	1	1	1	1	1	1	1	2	2	2
	270 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	1
CORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	25 ppm	0	0	0	1	1	1	1	1	1	1	1	1	1	1
	55 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120 ppm	0	1	1	1	1	1	0	1	1	1	1	2	2	2
	270 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	1
ANTERIOS CHAMBER OPACITY	Control	0	0	0	0	0	0	0	1	1	1	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	55 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120 ppm	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	270 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

APPENDIX　B　1-3

CLINICAL OBSERVATION：SUMMARY, MOSUE：MALE

(13Week　STUDY)

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1 13

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 0-0	1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
HUNCHBACK POSITION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	55 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	270 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EPILEPSY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	55 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120 ppm	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	270 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	1	0	0	0	0
PILOERECTION	Control	0	0	0	0	0	0	0	0	1	0	0	0	1	1
	25 ppm	0	0	1	2	2	2	3	1	2	3	3	2	2	2
	55 ppm	0	1	1	1	4	1	2	0	2	4	2	4	6	6
	120 ppm	0	0	0	0	0	0	0	0	0	0	0	1	6	0
	270 ppm	0	0	0	0	0	1	1	0	0	0	3	7	9	1
	600 ppm	0	0	0	0	1	1	1	0	0	0	4	8	7	0
LOSS OF HAIR	Control	0	0	0	2	0	1	1	1	1	2	2	3	3	3
	25 ppm	0	0	2	4	2	3	5	3	4	3	3	4	4	4
	55 ppm	0	1	1	2	3	2	2	2	3	4	3	2	2	3
	120 ppm	1	2	2	2	2	3	2	2	2	2	2	2	4	5
	270 ppm	0	0	0	1	0	1	1	1	2	2	2	2	2	3
	600 ppm	0	0	0	0	0	0	0	0	0	2	2	3	4	4
SOILED PERI GENITALIA	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	1	0	1	0	0
	55 ppm	0	0	0	0	1	1	0	0	0	0	0	0	0	0
	120 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	270 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1 13

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : MALE

Clinical sign	Group Name	Administration Week-day 0-0	1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
EYE OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	55 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	270 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	1	1	1	1	1	1	1	1	1	1	1	1	1
CLOSED EYELID	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	55 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	270 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	1	1	1	1	1	1	1	1	1
CORNEAL OPACITY	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	55 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	270 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	1	1	1	1	1	1	1	1	1
LOOSE STOOL	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	55 ppm	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	120 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	270 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0

APPENDIX　B 1-4

CLINICAL OBSERVATION : SUMMARY, MOSUE: FEMALE

(13Week　STUDY)

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1 13

CLINICAL OBSERVATION (SUMMARY)
ALL ANIMALS

SEX : FEMALE

Clinical sign	Group Name	Administration Week-day 0-0	1-7	2-7	3-7	4-7	5-7	6-7	7-7	8-7	9-7	10-7	11-7	12-7	13-7
		1	1	1	1	1	1	1	1	1	1	1	1	1	1
PILOERECTION	Control	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	25 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	55 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	120 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	270 ppm	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	600 ppm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LOSS OF HAIR	Control	0	0	0	1	1	1	2	2	3	3	3	4	4	6
	25 ppm	0	0	0	1	2	3	2	4	4	5	5	5	5	5
	55 ppm	0	0	0	0	1	2	2	2	3	2	3	4	5	5
	120 ppm	0	0	0	1	2	2	3	3	4	4	4	4	5	7
	270 ppm	0	0	0	0	1	1	4	3	1	3	3	2	3	3
	600 ppm	0	1	1	0	0	0	2	0	0	2	2	2	2	3

APPENDIX B 2-1

BODY WEIGHT CHANGES :SUMMARY, RAT : MALE

(13Week STUDY)

STUDY NO. : 0132
ANIMAL : RAT F344
UNIT : g
REPORT TYPE : A1 13
SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 0-0	1-7	2-7	3-7	4-7	5-7	6-7
Control	129± 3	158± 8	186± 11	211± 13	235± 12	252± 13	268± 12
25 ppm	129± 3	160± 5	189± 8	214± 9	236± 9	256± 9	272± 11
55 ppm	129± 4	159± 8	189± 12	216± 13	240± 14	260± 16	278± 17
120 ppm	129± 3	160± 6	192± 9	217± 10	241± 9	258± 9	276± 11
270 ppm	129± 4	158± 5	189± 7	216± 9	241± 9	258± 10	275± 11
600 ppm	129± 4	150± 7*	179± 9	205± 9	230± 8	249± 8	266± 9

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

STUDY NO. : 0132
ANIMAL : RAT F344
UNIT : g
REPORT TYPE : A1 13
SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 7-7	8-7	9-7	10-7	11-7	12-7	13-7
Control	283± 14	295± 15	307± 18	314± 16	323± 14	330± 16	337± 15
25 ppm	287± 11	300± 11	312± 15	322± 14	331± 14	340± 14	346± 14
55 ppm	291± 19	306± 19	319± 22	329± 21	339± 21	346± 22	353± 21
120 ppm	290± 11	304± 10	314± 13	326± 13	334± 13	342± 13	348± 11
270 ppm	289± 13	304± 15	317± 16	328± 16	338± 18	348± 18	356± 21
600 ppm	282± 8	294± 9	306± 10	318± 11	328± 11	335± 13	343± 14

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

APPENDIX B 2-2

BODY WEIGHT CHANGES : SUMMARY, RAT : FEMALE

(13Week STUDY)

STUDY NO. : 0132
ANIMAL : RAT F344
UNIT : g
REPORT TYPE : A1 13
SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 0-0	1-7	2-7	3-7	4-7	5-7	6-7
Control	100± 4	116± 4	130± 6	139± 6	148± 5	156± 7	161± 7
25 ppm	100± 4	117± 5	130± 5	142± 6	148± 7	155± 8	161± 7
55 ppm	100± 4	116± 5	129± 7	141± 7	149± 8	158± 8	165± 8
120 ppm	100± 4	117± 5	130± 4	141± 5	147± 5	156± 5	161± 5
270 ppm	100± 3	117± 4	129± 4	142± 5	150± 5	158± 6	164± 5
600 ppm	100± 4	111± 4	128± 6	140± 4	149± 3	158± 3	165± 5

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

STUDY NO. : 0132
ANIMAL : RAT F344
UNIT : g
REPORT TYPE : A1 13
SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 7-7	8-7	9-7	10-7	11-7	12-7	13-7
Control	168± 8	171± 9	178± 7	181± 8	186± 9	187± 10	189± 12
25 ppm	167± 10	172± 11	176± 11	182± 13	187± 14	190± 15	192± 16
55 ppm	171± 8	175± 8	180± 8	185± 9	192± 10	194± 9	198± 11
120 ppm	167± 5	170± 6	175± 6	181± 8	183± 8	187± 9	188± 9
270 ppm	168± 6	174± 6	177± 6	183± 7	187± 7	189± 8	191± 7
600 ppm	171± 6	175± 7	179± 7	184± 6	189± 7	192± 7	194± 7

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

APPENDIX B 2-3

BODY WEIGHT CHANGES :SUMMARY, MOSUE : MALE

(13Week　STUDY)

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
UNIT : g
REPORT TYPE : A1 13
SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 0-0	1-7	2-7	3-7	4-7	5-7	6-7
Control	22.3± 1.3	24.2± 1.5	25.4± 1.7	26.6± 2.1	27.3± 2.1	28.0± 2.5	28.8± 2.7
25 ppm	21.9± 0.8	24.1± 1.3	24.8± 1.0	25.7± 1.4	26.3± 1.3	26.5± 1.3	27.5± 1.4
55 ppm	22.0± 0.7	23.9± 0.7	24.8± 1.0	24.9± 1.0	25.5± 1.2	26.1± 1.3	27.2± 1.3
120 ppm	22.1± 1.0	24.0± 0.7	25.4± 0.9	26.3± 0.9	27.0± 1.1	27.7± 1.4	28.6± 1.6
270 ppm	22.0± 1.0	24.8± 1.2	25.3± 1.2	26.5± 1.5	27.0± 1.8	26.6± 3.2	27.9± 1.9
600 ppm	22.1± 1.1	24.6± 1.2	25.7± 1.5	26.6± 1.5	27.3± 1.7	27.9± 1.7	28.4± 1.9

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

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
UNIT : g
REPORT TYPE : A1 13
SEX : MALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 7-7	8-7	9-7	10-7	11-7	12-7	13-7
Control	29.7± 2.9	30.7± 3.2	31.3± 3.1	31.9± 3.3	33.2± 3.4	33.8± 3.4	33.6± 3.5
25 ppm	28.1± 1.3	29.5± 1.3	29.4± 1.5	29.7± 1.4	30.6± 1.4	31.5± 1.3	30.7± 1.3
55 ppm	28.2± 1.6	29.0± 2.1	29.0± 2.1	29.6± 2.0	29.8± 2.1	30.7± 2.4	30.3± 2.3
120 ppm	29.2± 1.5	29.4± 1.5	30.0± 1.7	31.1± 1.9	31.7± 2.0	32.0± 2.0	31.7± 2.2
270 ppm	28.9± 1.9	29.7± 2.1	30.0± 2.1	30.2± 2.6	30.8± 3.0	31.4± 3.2	30.5± 3.2
600 ppm	29.1± 1.9	29.3± 2.0	30.0± 2.4	29.8± 2.8	30.5± 3.2	31.5± 3.3	30.8± 3.4

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

APPENDIX B 2-4

BODY WEIGHT CHANGES : SUMMARY, MOSUE: FEMALE

(13Week STUDY)

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
UNIT : g
REPORT TYPE : A1 13
SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 0-0	1-7	2-7	3-7	4-7	5-7	6-7
Control	18.4± 0.7	19.7± 0.7	20.8± 0.7	21.3± 0.9	21.8± 0.7	22.5± 0.9	23.2± 1.5
25 ppm	18.1± 0.9	19.8± 1.2	20.0± 1.0	20.6± 1.1	21.5± 0.8	21.8± 1.0	22.4± 1.5
55 ppm	18.1± 0.8	19.7± 0.8	20.1± 1.0	20.7± 1.3	21.3± 1.1	22.0± 1.3	21.9± 1.3*
120 ppm	18.3± 0.7	19.6± 0.9	20.3± 0.9	21.2± 1.0	21.7± 0.8	22.0± 0.8	22.5± 0.7
270 ppm	18.3± 0.7	19.8± 0.6	20.1± 0.7	21.3± 0.7	21.8± 0.6	21.9± 0.7	22.7± 0.9
600 ppm	18.5± 0.8	20.5± 1.1	21.7± 1.1	22.5± 1.3	22.7± 1.0	23.9± 1.1**	24.0± 0.8

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

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
UNIT : g
REPORT TYPE : A1 13
SEX : FEMALE

BODY WEIGHT CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day 7-7	8-7	9-7	10-7	11-7	12-7	13-7
Control	23.7± 0.8	23.8± 1.2	23.5± 0.9	23.7± 0.6	24.3± 1.0	24.4± 1.4	23.7± 0.6
25 ppm	22.9± 1.3	22.8± 0.8	23.3± 1.1	23.6± 1.4	23.6± 1.3	24.1± 1.2	23.3± 1.3
55 ppm	23.0± 1.4	23.1± 1.5	23.3± 1.3	23.5± 1.2	23.8± 1.5	24.3± 1.5	23.7± 1.3
120 ppm	23.0± 0.7	23.7± 1.1	23.5± 1.1	24.3± 1.2	24.5± 1.1	25.0± 1.4	24.0± 1.3
270 ppm	23.3± 0.6	23.7± 1.6	23.7± 1.1	24.2± 1.2	23.9± 0.9	24.8± 1.1	23.4± 1.1
600 ppm	25.0± 1.2*	25.6± 1.0**	25.6± 1.2**	25.7± 1.1**	25.6± 1.1	26.6± 1.0**	25.2± 0.9*

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

APPENDIX B 3-1

FOOD CONSUMPTION CHANGES : SUMMARY, RAT : MALE

(13Week STUDY)

STUDY NO. : 0132
ANIMAL : RAT F344
UNIT : g
REPORT TYPE : A1 13
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 1-7(7)	2-7(7)	3-7(7)	4-7(7)	5-7(7)	6-7(7)	7-7(7)
Control	14.7± 0.8	16.0± 1.1	16.2± 1.3	17.0± 1.2	17.3± 1.1	16.9± 1.0	17.3± 1.0
25 ppm	15.0± 0.8	15.9± 1.6	16.6± 1.0	17.0± 0.8	17.5± 1.2	17.2± 1.0	18.2± 1.0
55 ppm	15.2± 1.1	16.2± 1.8	17.2± 1.5	17.7± 1.4	17.9± 1.2	17.4± 1.3	17.6± 1.8
120 ppm	14.9± 1.1	16.2± 1.2	17.1± 1.4	17.5± 1.1	17.5± 0.9	17.3± 1.1	17.8± 0.9
270 ppm	14.2± 0.7	15.6± 0.9	17.0± 1.3	17.2± 1.0	17.3± 1.2	16.7± 1.0	17.1± 1.0
600 ppm	12.9± 1.3**	15.8± 1.1	17.0± 1.7	17.8± 1.9	18.3± 1.1	18.0± 1.2	18.5± 1.3

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

STUDY NO. : 0132
ANIMAL : RAT F344
UNIT : g
REPORT TYPE : A1 13
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 8-7(7)	9-7(7)	10-7(7)	11-7(7)	12-7(7)	13-7(7)
Control	17.1± 1.7	17.1± 1.7	-	17.1± 0.9	16.7± 0.8	16.4± 1.0
25 ppm	17.3± 1.2	17.6± 1.4	17.4± 1.1	17.5± 0.7	17.2± 1.0	16.6± 0.9
55 ppm	17.3± 1.5	18.3± 1.7	17.6± 1.3	18.1± 1.3	17.5± 1.1	17.1± 1.0
120 ppm	17.0± 0.9	17.8± 1.0	17.4± 0.9	17.3± 0.5	17.0± 0.8	16.7± 0.7
270 ppm	17.1± 1.1	17.6± 1.3	17.1± 1.0	17.4± 1.3	17.9± 1.4*	17.3± 1.3
600 ppm	18.7± 1.4	19.4± 1.7**	18.6± 1.2	18.7± 0.9**	18.4± 1.2**	18.4± 1.1**

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

APPENDIX B 3-2

FOOD CONSUMPTION CHANGES : SUMMARY, RAT : FEMALE

(13Week STUDY)

STUDY NO. : 0132
ANIMAL : RAT F344
UNIT : g
REPORT TYPE : A1 13
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 1-7(7)	2-7(7)	3-7(7)	4-7(7)	5-7(7)	6-7(7)	7-7(7)
Control	10.7± 0.3	11.1± 0.6	11.1± 0.5	10.9± 0.5	11.4± 0.7	10.5± 0.6	11.5± 0.9
25 ppm	10.8± 0.6	11.2± 0.5	11.5± 1.0	11.3± 1.0	11.5± 1.1	11.0± 0.8	11.4± 1.1
55 ppm	11.0± 0.6	11.0± 0.6	11.7± 0.9	11.3± 0.6	12.1± 0.7	11.5± 0.5**	12.4± 1.4
120 ppm	11.0± 0.8	11.2± 0.6	11.3± 0.5	10.7± 0.4	11.5± 0.7	11.0± 0.6	11.0± 0.5
270 ppm	10.6± 0.5	10.9± 0.6	11.0± 0.6	11.1± 0.7	11.6± 0.8	10.8± 0.6	11.0± 0.6
600 ppm	9.5± 0.5**	10.9± 0.4	11.7± 1.4	11.4± 0.3	12.2± 0.6	11.6± 0.6**	11.9± 0.8

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

STUDY NO. : 0132
ANIMAL : RAT F344
UNIT : g
REPORT TYPE : A1 13
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 8-7(7)	9-7(7)	10-7(7)	11-7(7)	12-7(7)	13-7(7)
Control	10.8± 1.0	11.3± 0.6	11.0± 0.9	11.5± 0.9	11.0± 1.2	10.8± 0.9
25 ppm	11.1± 1.0	11.4± 1.0	11.1± 1.3	11.9± 1.5	11.4± 1.3	11.2± 1.1
55 ppm	11.2± 0.4	11.6± 1.2	11.1± 0.7	12.6± 1.3	11.1± 1.0	11.9± 1.1
120 ppm	10.7± 0.7	11.3± 1.0	11.0± 1.1	11.2± 1.0	10.7± 1.1	10.9± 1.1
270 ppm	10.8± 0.8	11.1± 0.7	10.8± 0.7	11.5± 1.0	11.1± 0.8	10.8± 0.6
600 ppm	11.3± 0.3	12.3± 0.6*	11.7± 0.7	12.2± 0.7	13.1± 1.3**	11.8± 0.8

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

APPENDIX B 3-3

FOOD CONSUMPTION CHANGES : SUMMARY, MOSUE : MALE

(13Week STUDY)

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
UNIT : g
REPORT TYPE : A1 13
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 1-7(7)	2-7(7)	3-7(7)	4-7(7)	5-7(7)	6-7(7)	7-7(7)
Control	3.9± 0.3	3.6± 0.2	3.8± 0.2	3.8± 0.2	3.8± 0.3	3.9± 0.2	3.8± 0.2
25 ppm	3.9± 0.3	3.7± 0.3	3.7± 0.3	3.7± 0.3	3.8± 0.3	3.9± 0.3	3.9± 0.2
55 ppm	3.9± 0.2	3.5± 0.2	3.6± 0.3*	3.6± 0.3	3.8± 0.3	3.9± 0.3	3.9± 0.3
120 ppm	3.8± 0.2	3.6± 0.2	3.8± 0.2	3.6± 0.1	3.8± 0.2	3.9± 0.3	3.8± 0.1
270 ppm	4.1± 0.2	3.7± 0.1	3.8± 0.2	3.7± 0.2	3.5± 0.8	4.0± 0.5	3.9± 0.3
600 ppm	3.9± 0.3	3.9± 0.3**	4.1± 0.2	4.0± 0.2	4.1± 0.2	4.1± 0.2	4.1± 0.2

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

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
UNIT : g
REPORT TYPE : A1 13
SEX : MALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 8-7(7)	9-7(7)	10-7(7)	11-7(7)	12-7(7)	13-7(7)
Control	4.1± 0.3	3.9± 0.3	4.0± 0.3	4.2± 0.3	4.2± 0.3	4.2± 0.3
25 ppm	4.1± 0.2	3.7± 0.4	4.0± 0.4	4.0± 0.4	4.2± 0.3	4.3± 0.4
55 ppm	3.9± 0.4	3.6± 0.3	4.0± 0.3	3.7± 0.3**	4.0± 0.4	4.2± 0.3
120 ppm	3.6± 0.2**	3.7± 0.2	4.2± 0.3	4.0± 0.2	4.0± 0.3	4.2± 0.2
270 ppm	3.9± 0.3	3.7± 0.3	4.0± 0.4	3.8± 0.3	3.9± 0.3	4.1± 0.3
600 ppm	4.1± 0.2	4.0± 0.2	4.2± 0.3	4.1± 0.4	4.2± 0.3	4.4± 0.3

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

APPENDIX B 3-4

FOOD CONSUMPTION CHANGES : SUMMARY, MOSUE : FEMALE

(13Week STUDY)

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
UNIT : g
REPORT TYPE : A1 13
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 1-7(7)	2-7(7)	3-7(7)	4-7(7)	5-7(7)	6-7(7)	7-7(7)
Control	3.4± 0.2	3.2± 0.3	3.5± 0.2	3.5± 0.2	3.7± 0.2	4.0± 0.4	3.9± 0.3
25 ppm	3.2± 0.2	3.1± 0.2	3.5± 0.2	3.5± 0.2	3.8± 0.3	3.9± 0.3	4.0± 0.2
55 ppm	3.2± 0.2	3.1± 0.3	3.4± 0.3	3.5± 0.4	3.6± 0.3	3.7± 0.4	3.8± 0.3
120 ppm	3.4± 0.2	3.2± 0.3	3.5± 0.3	3.6± 0.2	3.9± 0.2	4.0± 0.3	3.9± 0.2
270 ppm	3.4± 0.3	3.2± 0.2	3.6± 0.2	3.6± 0.1	3.7± 0.3	3.9± 0.1	3.8± 0.2
600 ppm	3.4± 0.2	3.6± 0.4**	3.8± 0.4*	3.6± 0.2	4.1± 0.2*	4.1± 0.2	4.0± 0.2

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

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
UNIT : g
REPORT TYPE : A1 13
SEX : FEMALE

FOOD CONSUMPTION CHANGES (SUMMARY)
ALL ANIMALS

Group Name	Administration week-day(effective) 8-7(7)	9-7(7)	10-7(7)	11-7(7)	12-7(7)	13-7(7)
Control	4.0± 0.4	4.0± 0.3	4.1± 0.3	4.1± 0.3	4.2± 0.5	4.2± 0.3
25 ppm	4.0± 0.2	3.8± 0.2	3.9± 0.3	4.0± 0.1	4.1± 0.2	4.2± 0.3
55 ppm	3.9± 0.3	3.8± 0.4	4.0± 0.3	4.0± 0.4	4.2± 0.3	4.3± 0.3
120 ppm	4.1± 0.4	4.0± 0.4	4.2± 0.4	4.0± 0.3	4.1± 0.3	4.3± 0.3
270 ppm	4.0± 0.3	3.7± 0.3	3.9± 0.2	3.8± 0.3	4.1± 0.4	4.0± 0.3
600 ppm	4.4± 0.4*	4.2± 0.3	4.5± 0.4*	4.2± 0.4	4.4± 0.4	4.6± 0.5*

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

APPENDIX B 4-1

HEMATOLOGY : SUMMARY, RAT : MALE

(13Week　STUDY)

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

HEMATOLOGY(1) (SUMMARY)
SURVIVAL ANIMALS (14)

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	9.35± 0.12	16.1± 0.2	47.3± 0.7	50.5± 0.5	17.3± 0.3	34.2± 0.6	774± 26
25 ppm	10	9.31± 0.19	16.0± 0.4	47.0± 1.4	50.5± 0.7	17.2± 0.2	34.2± 0.8	769± 45
55 ppm	10	9.37± 0.17	16.1± 0.2	47.3± 0.9	50.5± 0.6	17.2± 0.3	34.0± 0.8	804± 41
120 ppm	10	9.16± 0.15*	15.7± 0.3**	46.1± 0.9*	50.3± 0.4	17.1± 0.2	34.0± 0.6	809± 48
270 ppm	10	8.86± 0.16**	15.3± 0.2**	44.8± 0.7**	50.6± 0.3	17.3± 0.3	34.2± 0.5	817± 45
600 ppm	10	8.68± 0.18**	14.6± 0.3**	43.0± 1.0**	49.5± 0.6**	16.8± 0.1**	33.9± 0.5	914± 37**

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

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

HEMATOLOGY(2) (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$	Differential WBC (%) N-BAND	N-SEG	EOSINO	BASO	MONO	LYMPHO	OTHERS
Control	10	5.62± 1.76	1± 1	27± 7	1± 1	0± 0	4± 1	66± 6	1± 1
25 ppm	10	5.74± 1.61	0± 1	27± 5	1± 2	0± 0	4± 2	67± 5	1± 1
55 ppm	10	5.69± 1.58	0± 1	26± 8	2± 1	0± 0	4± 2	66± 9	0± 1
120 ppm	10	5.18± 1.38	0± 1	29± 5	1± 1	0± 0	4± 2	65± 6	0± 1
270 ppm	10	5.52± 1.64	1± 1	26± 6	2± 1	0± 0	4± 2	67± 7	0± 1
600 ppm	10	7.28± 1.35	1± 1	26± 7	2± 1	0± 0	4± 1	68± 7	1± 1

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

APPENDIX B 4-2

HEMATOLOGY : SUMMARY, RAT : FEMALE

(13Week　STUDY)

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

HEMATOLOGY(1) (SUMMARY)
SURVIVAL ANIMALS (14)

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	8.46±	0.34	15.9±	0.5	45.8±	1.7	54.2±	0.6	18.8±	0.3	34.7±	0.6	798±	91
25 ppm	10	8.57±	0.14	16.2±	0.3	46.7±	1.1	54.5±	0.7	18.9±	0.2	34.6±	0.5	780±	61
55 ppm	10	8.40±	0.19	15.7±	0.3	45.9±	1.5	54.7±	0.8	18.7±	0.4	34.3±	1.0	784±	81
120 ppm	10	8.49±	0.24	15.8±	0.4	46.1±	1.6	54.3±	1.0	18.6±	0.3	34.3±	0.7	764±	77
270 ppm	10	8.47±	0.15	16.0±	0.3	45.9±	1.0	54.3±	1.0	18.8±	0.2	34.7±	0.8	773±	108
600 ppm	10	8.31±	0.31	15.3±	0.6*	44.3±	2.3	53.3±	1.2	18.4±	0.4	34.6±	1.0	817±	56

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

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

HEMATOLOGY(2) (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$	Differential WBC (%) N-BAND	N-SEG	EOSINO	BASO	MONO	LYMPHO	OTHERS
Control	10	3.05± 0.86	1± 1	25± 8	2± 2	0± 0	4± 1	69± 9	1± 1
25 ppm	10	3.01± 0.85	1± 1	26± 5	2± 1	0± 0	4± 2	66± 6	1± 1
55 ppm	10	3.00± 0.63	1± 1	24± 5	2± 1	0± 0	4± 1	69± 6	1± 1
120 ppm	10	3.26± 0.91	1± 1	26± 3	2± 1	0± 0	5± 2	66± 5	1± 1
270 ppm	10	2.92± 0.86	1± 1	29± 7	2± 1	0± 0	3± 2	65± 7	0± 0
600 ppm	10	4.12± 1.61	1± 1	27± 4	2± 1	0± 0	4± 2	67± 6	0± 1

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

APPENDIX B 4-3

HEMATOLOGY : SUMMARY, MOSUE : MALE

(13Week　STUDY)

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

HEMATOLOGY(1) (SUMMARY)
SURVIVAL ANIMALS (14)

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	10.64±	0.30	15.7±	0.4	50.2±	1.2	47.2±	0.8	14.8±	0.3	31.3±	0.5	1526±	111
25 ppm	10	10.91±	0.54	16.1±	0.7	52.5±	3.5	48.1±	1.2	14.8±	0.3	30.7±	0.7	1536±	144
55 ppm	10	10.67±	0.32	15.7±	0.4	50.4±	1.6	47.3±	0.6	14.7±	0.2	31.1±	0.6	1502±	59
120 ppm	10	10.83±	0.40	15.8±	0.6	51.5±	2.4	47.5±	0.8	14.6±	0.3	30.7±	0.7	1559±	112
270 ppm	10	10.78±	0.58	15.7±	0.9	50.8±	3.6	47.1±	1.0	14.6±	0.3	31.0±	0.8	1567±	133
600 ppm	10	10.75±	0.34	15.6±	0.6	50.6±	2.4	47.0±	0.9	14.5±	0.3	30.9±	0.6	1700±	192

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

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

HEMATOLOGY(2) (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$		Differential WBC (%) N-BAND		N-SEG		EOSINO		BASO		MONO		LYMPHO		OTHERS	
Control	10	1.50±	0.95	1±	1	16±	4	2±	2	0±	0	4±	2	77±	5	0±	0
25 ppm	10	1.22±	0.63	1±	1	15±	5	1±	1	0±	0	4±	2	78±	6	1±	1
55 ppm	10	1.05±	0.45	2±	1	16±	6	2±	2	0±	0	5±	2	76±	7	0±	0
120 ppm	10	1.02±	0.53	2±	1	17±	6	1±	1	0±	0	5±	2	76±	6	1±	1
270 ppm	10	0.92±	0.60	2±	2	16±	5	1±	1	0±	0	3±	2	78±	5	1±	1
600 ppm	10	1.54±	1.35	2±	1	17±	5	2±	2	0±	0	3±	2	76±	6	0±	1

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

APPENDIX B 4-4

HEMATOLOGY : SUMMARY, MOSUE : FEMALE

(13Week STUDY)

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

HEMATOLOGY(1) (SUMMARY)
SURVIVAL ANIMALS (14)

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	10.54±	0.27	15.7±	0.3	50.6±	1.3	48.0±	1.1	14.9±	0.3	31.1±	0.9	1344±	157
25 ppm	10	10.59±	0.34	15.9±	0.4	50.6±	1.8	47.7±	0.7	15.0±	0.2	31.4±	0.4	1329±	183
55 ppm	10	10.52±	0.33	15.7±	0.4	49.6±	1.4	47.1±	0.7	14.9±	0.2	31.5±	0.4	1323±	111
120 ppm	10	10.34±	0.37	15.6±	0.5	49.4±	2.1	47.7±	1.0	15.1±	0.2	31.7±	0.9	1296±	107
270 ppm	10	10.59±	0.28	15.9±	0.4	50.7±	1.5	47.9±	0.9	15.0±	0.3	31.3±	0.6	1424±	101
600 ppm	10	10.40±	0.30	15.8±	0.3	50.1±	1.6	48.1±	0.7	15.2±	0.3*	31.7±	0.7	1459±	95

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

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

HEMATOLOGY(2) (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$		Differential WBC (%) N-BAND		N-SEG		EOSINO		BASO		MONO		LYMPHO		OTHERS	
Control	10	1.12±	0.63	2±	1	18±	7	1±	1	0±	0	2±	1	77±	8	0±	0
25 ppm	10	1.11±	1.04	2±	2	19±	7	0±	0	0±	0	1±	1	77±	8	0±	0
55 ppm	10	0.74±	0.48	1±	1	19±	10	0±	1	0±	0	2±	1	77±	11	0±	1
120 ppm	10	0.96±	0.65	1±	1	18±	5	1±	2	0±	0	3±	1	76±	5	0±	0
270 ppm	10	0.89±	0.47	2±	1	18±	10	1±	1	0±	0	3±	3	75±	11	0±	0
600 ppm	10	1.07±	0.80	2±	1	21±	12	1±	1	0±	0	3±	2	74±	12	0±	0

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

APPENDIX B 5-1

BIOCHEMISTRY : SUMMARY, RAT : MALE

(13Week　STUDY)

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (14)

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		TRIGLYCERIDE mg/dℓ	
Control	10	6.9±	0.2	4.0±	0.1	1.4±	0.1	0.21±	0.03	197±	13	54±	4	97±	21
25 ppm	10	7.0±	0.2	4.0±	0.1	1.4±	0.1	0.21±	0.04	189±	11	54±	3	98±	22
55 ppm	10	7.0±	0.2	4.0±	0.1	1.3±	0.1	0.21±	0.03	198±	8	57±	7	87±	25
120 ppm	10	7.0±	0.1	4.1±	0.1	1.4±	0.1	0.20±	0.01	197±	13	59±	5	86±	19
270 ppm	10	7.1±	0.2	4.1±	0.1	1.4±	0.1	0.20±	0.03	203±	11	66±	5**	101±	25
600 ppm	10	7.6±	0.2**	4.4±	0.1**	1.4±	0.1	0.18±	0.03	192±	19	85±	14**	65±	25*

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

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	PHOSPHOLIPID mg/dℓ		GOT IU/ℓ		GPT IU/ℓ		LDH IU/ℓ		ALP IU/ℓ		G-GTP IU/ℓ		CPK IU/ℓ	
Control	10	109±	6	74±	7	25±	2	160±	22	302±	18	1±	1	94±	21
25 ppm	10	109±	7	73±	15	25±	4	166±	50	293±	19	1±	0	87±	11
55 ppm	10	111±	11	74±	8	25±	3	177±	55	288±	18	1±	1	91±	14
120 ppm	10	113±	8	75±	15	24±	3	180±	44	288±	17	1±	0	89±	14
270 ppm	10	126±	8**	69±	11	21±	3**	170±	39	276±	18**	1±	1	85±	6
600 ppm	10	147±	19**	54±	3**	16±	2**	152±	20	234±	8**	1±	0	82±	10

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

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	UREA NITROGEN mg/dℓ		CREATININE mg/dℓ		SODIUM mEq/ℓ		POTASSIUM mEq/ℓ		CHLORIDE mEq/ℓ		CALCIUM mg/dℓ		INORGANIC PHOSPHORUS mg/dℓ	
Control	10	17.6±	1.4	0.5±	0.0	139±	1	3.5±	0.3	105±	2	10.4±	0.2	5.3±	0.9
25 ppm	10	17.1±	2.1	0.5±	0.0	139±	1	3.4±	0.1	105±	1	10.4±	0.1	5.4±	0.7
55 ppm	10	18.3±	1.9	0.5±	0.1	139±	1	3.5±	0.2	105±	1	10.5±	0.2	5.5±	0.7
120 ppm	10	17.7±	1.3	0.5±	0.0	139±	1	3.5±	0.2	105±	1	10.5±	0.2	5.3±	0.9
270 ppm	10	18.7±	1.5	0.6±	0.1	139±	1	3.4±	0.3	104±	1	10.7±	0.1**	5.2±	0.9
600 ppm	10	23.8±	1.3**	0.7±	0.1**	138±	1	3.6±	0.1	103±	1**	11.1±	0.2**	5.9±	0.7

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

APPENDIX B 5-2

BIOCHEMISTRY : SUMMARY, RAT : FEMALE

(13Week　STUDY)

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (14)

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	TRIGLYCERIDE mg/dℓ
Control	10	5.5± 0.2	3.2± 0.1	1.4± 0.1	0.36± 0.07	245± 47	84± 10	70± 15
25 ppm	10	5.7± 0.3	3.3± 0.2	1.4± 0.1	0.40± 0.18	227± 29	78± 4	60± 10
55 ppm	10	5.7± 0.2	3.3± 0.1	1.4± 0.1	0.45± 0.18	221± 33	76± 5	57± 7
120 ppm	10	5.7± 0.3	3.3± 0.1	1.4± 0.1	0.42± 0.19	271± 29	86± 4	62± 9
270 ppm	10	5.7± 0.3	3.3± 0.2	1.4± 0.1	0.41± 0.13	234± 42	88± 9	62± 15
600 ppm	10	6.1± 0.4**	3.5± 0.3	1.3± 0.0	0.44± 0.20	267± 51	127± 18**	83± 22

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

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	GOT IU/ℓ		GPT IU/ℓ		LDH IU/ℓ		ALP IU/ℓ		CPK IU/ℓ		UREA NITROGEN mg/dℓ		SODIUM mEq/ℓ	
Control	10	42±	5	11±	2	235±	59	190±	14	53±	41	27.7±	4.9	150±	1
25 ppm	10	48±	11	13±	8	279±	138	206±	16	65±	33	29.2±	4.0	150±	3
55 ppm	10	48±	13	12±	4	291±	86	206±	22	67±	37	31.9±	2.8	149±	3
120 ppm	10	46±	13	13±	4	300±	134	190±	9	86±	81	33.1±	5.2	150±	2
270 ppm	10	50±	10	17±	3*	294±	73	191±	33	65±	35	36.2±	10.5	150±	4
600 ppm	10	65±	19**	29±	6**	274±	99	192±	22	58±	34	35.6±	8.3*	151±	2

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

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	POTASSIUM mEq／ℓ		CHLORIDE mEq／ℓ		CALCIUM mg／dℓ		INORGANIC PHOSPHORUS mg／dℓ	
Control	10	4.9±	0.3	122±	2	9.2±	0.5	7.2±	0.7
25 ppm	10	5.4±	1.5	121±	2	9.2±	0.4	8.6±	1.6*
55 ppm	10	4.9±	0.6	122±	2	9.1±	0.4	7.5±	0.8
120 ppm	10	4.9±	0.4	122±	2	9.2±	0.3	8.4±	0.9
270 ppm	10	5.0±	1.0	121±	3	9.3±	0.5	8.5±	1.5
600 ppm	10	4.7±	0.5	122±	2	9.5±	0.2	8.1±	1.1

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

APPENDIX B 5-3

BIOCHEMISTRY : SUMMARY, MOSUE : MALE

(13Week　STUDY)

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (14)

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		TRIGLYCERIDE mg/dℓ	
Control	10	6.6±	0.2	3.8±	0.1	1.3±	0.1	0.38±	0.10	143±	10	75±	5	40±	2
25 ppm	10	6.7±	0.2	3.9±	0.1	1.4±	0.1	0.35±	0.05	139±	14	73±	6	42±	6
55 ppm	10	6.7±	0.3	3.9±	0.2	1.4±	0.1	0.39±	0.19	142±	18	77±	10	44±	5
120 ppm	10	6.7±	0.2	3.8±	0.1	1.3±	0.0	0.38±	0.05	148±	10	78±	6	43±	7
270 ppm	10	6.9±	0.2	3.9±	0.1*	1.3±	0.1	0.39±	0.11	154±	23	78±	7	39±	3
600 ppm	10	7.1±	0.3**	4.0±	0.1**	1.3±	0.1	0.32±	0.13	162±	16*	91±	5**	41±	8

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

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	PHOSPHOLIPID mg/dℓ		GOT IU/ℓ		GPT IU/ℓ		LDH IU/ℓ		ALP IU/ℓ		G-GTP IU/ℓ		CPK IU/ℓ	
Control	10	142±	10	78±	26	26±	15	217±	84	204±	18	2±	1	94±	22
25 ppm	10	137±	9	68±	4	23±	4	212±	47	202±	26	2±	1	91±	12
55 ppm	10	147±	18	72±	23	23±	11	278±	234	221±	26	2±	0	107±	41
120 ppm	10	148±	9	77±	20	28±	15	244±	65	203±	24	2±	1	101±	15
270 ppm	10	148±	9	72±	14	23±	6	273±	145	189±	19	2±	0	106±	29
600 ppm	10	172±	6**	56±	4**	17±	3	207±	79	184±	22	1±	0	93±	25

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

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	UREA NITROGEN mg/dℓ	CREATININE mg/dℓ	SODIUM mEq/ℓ	POTASSIUM mEq/ℓ	CHLORIDE mEq/ℓ	CALCIUM mg/dℓ	INORGANIC PHOSPHORUS mg/dℓ
Control	10	19.1± 1.9	0.5± 0.1	139± 1	3.4± 0.2	108± 1	10.1± 0.1	4.6± 1.5
25 ppm	10	19.1± 2.4	0.6± 0.1	139± 1	3.3± 0.2	108± 1	10.2± 0.2	4.5± 1.2
55 ppm	10	16.9± 2.1	0.5± 0.1	139± 1	3.6± 1.0	108± 1	10.3± 0.5	4.8± 1.1
120 ppm	10	17.8± 1.7	0.5± 0.0	139± 1	3.7± 0.8	108± 3	10.2± 0.2	5.1± 1.4
270 ppm	10	19.7± 1.7	0.5± 0.1	139± 2	3.8± 1.0	107± 2	10.3± 0.2	4.7± 1.3
600 ppm	10	19.2± 2.5	0.5± 0.1	138± 1	3.7± 0.7	105± 2**	10.4± 0.3	5.2± 1.2

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

APPENDIX B 5-4

BIOCHEMISTRY : SUMMARY, MOSUE : FEMALE

(13Week　STUDY)

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (14)

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		TRIGLYCERIDE mg／dℓ	
Control	10	5.7±	0.1	3.5±	0.1	1.6±	0.1	0.45±	0.13	171±	20	76±	7	43±	10
25 ppm	10	5.6±	0.2	3.5±	0.1	1.7±	0.1	0.44±	0.14	184±	24	72±	9	45±	10
55 ppm	10	5.6±	0.2	3.5±	0.1	1.6±	0.1	0.48±	0.15	179±	31	75±	8	43±	4
120 ppm	10	5.6±	0.3	3.4±	0.2	1.6±	0.1	0.43±	0.15	185±	33	78±	7	46±	12
270 ppm	10	5.8±	0.2	3.5±	0.1	1.5±	0.1	0.51±	0.17	199±	24	87±	9	49±	9
600 ppm	10	6.0±	0.2*	3.6±	0.2	1.6±	0.1	0.32±	0.10	192±	16	112±	15**	56±	14

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

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	GOT IU/ℓ		GPT IU/ℓ		LDH IU/ℓ		ALP IU/ℓ		CPK IU/ℓ		UREA NITROGEN mg/dℓ		SODIUM mEq/ℓ	
Control	10	58±	13	14±	3	307±	90	313±	36	78±	59	25.7±	2.6	150±	3
25 ppm	10	63±	15	14±	4	289±	72	336±	32	76±	41	25.5±	1.9	150±	2
55 ppm	10	64±	21	15±	4	302±	99	323±	39	81±	63	25.0±	2.8	150±	3
120 ppm	10	60±	24	14±	6	295±	87	293±	31	103±	89	26.8±	4.4	149±	2
270 ppm	10	65±	20	15±	2	336±	118	312±	51	90±	50	27.1±	3.9	148±	3
600 ppm	10	75±	13	28±	5**	294±	87	296±	20	87±	113	25.6±	2.0	149±	3

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

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	POTASSIUM mEq/ℓ		CHLORIDE mEq/ℓ		CALCIUM mg/dℓ		INORGANIC PHOSPHORUS mg/dℓ	
Control	10	5.0±	0.3	124±	3	9.2±	0.5	7.9±	1.6
25 ppm	10	4.7±	0.5	122±	4	9.2±	0.6	7.8±	1.7
55 ppm	10	4.7±	0.3	124±	2	8.9±	0.4	6.8±	0.9
120 ppm	10	4.9±	1.0	122±	2	9.0±	0.4	7.7±	1.7
270 ppm	10	4.9±	0.5	124±	3	9.2±	0.3	7.2±	1.0
600 ppm	10	4.5±	0.6	124±	2	9.4±	0.6	6.8±	1.4

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

APPENDIX B 6-1

URINALYSIS : SUMMARY, RAT : MALE

(13Week　STUDY)

STUDY NO. : 0132
ANIMAL : RAT F344
SAMPLING DATE : 013-6
SEX : MALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	pH							CHI	Protein						CHI	Glucose						CHI	Ketone body						CHI	Bilirubin				CHI
		5.0	6.0	6.5	7.0	7.5	8.0	8.5		−	±	+	2+	3+	4+		−	±	+	2+	3+	4+		−	±	+	2+	3+	4+		−	+	2+	3+	
Control	10	0	0	0	0	4	6	0		0	2	6	2	0	0		10	0	0	0	0	0		4	6	0	0	0	0		10	0	0	0	
25 ppm	10	0	0	0	0	4	6	0		0	3	7	0	0	0		10	0	0	0	0	0		4	6	0	0	0	0		10	0	0	0	
55 ppm	10	0	0	0	0	8	2	0		0	3	6	1	0	0		10	0	0	0	0	0		4	6	0	0	0	0		10	0	0	0	
120 ppm	10	0	0	0	0	3	7	0		0	4	5	1	0	0		10	0	0	0	0	0		3	6	1	0	0	0		10	0	0	0	
270 ppm	10	0	0	0	0	3	7	0		0	2	7	1	0	0		10	0	0	0	0	0		4	6	0	0	0	0		10	0	0	0	
600 ppm	10	0	0	0	0	2	8	0		0	0	5	5	0	0		10	0	0	0	0	0		2	8	0	0	0	0		10	0	0	0	

Significent difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of CHI SQUARE

STUDY NO. : 0132
ANIMAL : RAT F344
SAMPLING DATE : 013-6
SEX : MALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	Occult blood −	±	+	2+	3+	CHI	Urobilinogen ±	+	2+	3+	4+	CHI
Control	10	9	1	0	0	0		10	0	0	0	0	
25 ppm	10	9	1	0	0	0		10	0	0	0	0	
55 ppm	10	10	0	0	0	0		10	0	0	0	0	
120 ppm	10	9	1	0	0	0		10	0	0	0	0	
270 ppm	10	10	0	0	0	0		10	0	0	0	0	
600 ppm	10	10	0	0	0	0		10	0	0	0	0	

Significent difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of CHI SQUARE

APPENDIX B 6-2

URINALYSIS : SUMMARY, RAT : FEMALE

(13Week STUDY)

STUDY NO. : 0132
ANIMAL : RAT F344
SAMPLING DATE : 013-6
SEX : FEMALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	pH 5.0	6.0	6.5	7.0	7.5	8.0	8.5	CHI	Protein −	±	+	2+	3+	4+	CHI	Glucose −	±	+	2+	3+	4+	CHI	Ketone body −	±	+	2+	3+	4+	CHI	Bilirubin −	+	2+	3+	CHI
Control	10	0	0	1	2	6	1	0		0	7	3	0	0	0		10	0	0	0	0	0		10	0	0	0	0	0		10	0	0	0	
25 ppm	10	0	0	0	1	4	5	0		0	10	0	0	0	0		10	0	0	0	0	0		10	0	0	0	0	0		10	0	0	0	
55 ppm	10	0	0	0	1	1	8	0	*	0	9	1	0	0	0		10	0	0	0	0	0		10	0	0	0	0	0		10	0	0	0	
120 ppm	10	0	0	0	1	0	8	1	**	0	8	1	1	0	0		10	0	0	0	0	0		10	0	0	0	0	0		10	0	0	0	
270 ppm	10	0	0	0	0	2	7	1	*	0	10	0	0	0	0		10	0	0	0	0	0		10	0	0	0	0	0		10	0	0	0	
600 ppm	10	0	0	0	0	0	6	4	**	0	7	3	0	0	0		10	0	0	0	0	0		10	0	0	0	0	0		10	0	0	0	

Significent difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of CHI SQUARE

STUDY NO. : 0132
ANIMAL : RAT F344
SAMPLING DATE : 013-6
SEX : FEMALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	Occult blood −	±	+	2+	3+	CHI	Urobilinogen ±	+	2+	3+	4+	CHI
Control	10	10	0	0	0	0		10	0	0	0	0	
25 ppm	10	10	0	0	0	0		10	0	0	0	0	
55 ppm	10	10	0	0	0	0		10	0	0	0	0	
120 ppm	10	10	0	0	0	0		10	0	0	0	0	
270 ppm	10	10	0	0	0	0		10	0	0	0	0	
600 ppm	10	10	0	0	0	0		10	0	0	0	0	

Significent difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of CHI SQUARE

APPENDIX B 6-3

URINALYSIS : SUMMARY, MOSUE : MALE

(13Week　STUDY)

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
SAMPLING DATE : 013-7
SEX : MALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	pH 5.0	6.0	6.5	7.0	7.5	8.0	8.5	CHI	Protein −	±	+	2+	3+	4+	CHI	Glucose −	±	+	2+	3+	4+	CHI	Ketone body −	±	+	2+	3+	4+	CHI	Occult blood −	±	+	2+	3+	CHI
Control	10	0	0	1	0	4	3	2		1	2	3	4	0	0		10	0	0	0	0	0		2	2	3	3	0	0		10	0	0	0	0	
25 ppm	10	0	0	1	2	2	3	2		0	2	6	2	0	0		10	0	0	0	0	0		3	4	3	0	0	0		9	0	0	0	1	
55 ppm	10	0	0	0	0	1	5	4		0	1	5	4	0	0		10	0	0	0	0	0		3	6	1	0	0	0		10	0	0	0	0	
120 ppm	10	0	0	0	0	3	2	5		0	1	3	6	0	0		10	0	0	0	0	0		0	6	4	0	0	0		10	0	0	0	0	
270 ppm	10	0	0	2	1	3	3	1		0	0	5	5	0	0		10	0	0	0	0	0		2	6	2	0	0	0		10	0	0	0	0	
600 ppm	10	0	0	0	0	2	2	6		0	2	4	4	0	0		10	0	0	0	0	0		8	2	0	0	0	0	*	10	0	0	0	0	

Significent difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of CHI SQUARE

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
SAMPLING DATE : 013-7
SEX : MALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	Urobilinogen ±	+	2+	3+	4+	CHI
Control	10	10	0	0	0	0	
25 ppm	10	10	0	0	0	0	
55 ppm	10	10	0	0	0	0	
120 ppm	10	10	0	0	0	0	
270 ppm	10	10	0	0	0	0	
600 ppm	10	10	0	0	0	0	

Significent difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of CHI SQUARE

APPENDIX B 6-4

URINALYSIS : SUMMARY, MOSUE : FEMALE

(13Week　STUDY)

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
SAMPLING DATE : 013-7
SEX : FEMALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	pH							CHI	Protein						CHI	Glucose						CHI	Ketone body						CHI	Occult blood					CHI
		5.0	6.0	6.5	7.0	7.5	8.0	8.5		−	±	+	2+	3+	4+		−	±	+	2+	3+	4+		−	±	+	2+	3+	4+		−	±	+	2+	3+	
Control	10	0	0	0	1	4	5	0		0	0	6	4	0	0		10	0	0	0	0	0		5	5	0	0	0	0		10	0	0	0	0	
25 ppm	10	0	0	1	2	4	3	0		0	2	7	1	0	0		10	0	0	0	0	0		7	3	0	0	0	0		10	0	0	0	0	
55 ppm	10	0	0	0	0	4	6	0		0	0	8	2	0	0		10	0	0	0	0	0		5	5	0	0	0	0		10	0	0	0	0	
120 ppm	10	0	1	0	2	4	3	0		0	1	5	4	0	0		10	0	0	0	0	0		4	6	0	0	0	0		10	0	0	0	0	
270 ppm	10	0	0	1	1	2	5	1		0	1	7	2	0	0		10	0	0	0	0	0		6	4	0	0	0	0		9	1	0	0	0	
600 ppm	10	0	0	0	1	0	7	2		0	0	6	4	0	0		10	0	0	0	0	0		8	2	0	0	0	0		10	0	0	0	0	

Significent difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of CHI SQUARE

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
SAMPLING DATE : 013-7
SEX : FEMALE REPORT TYPE : A1

URINALYSIS

Group Name	NO. of Animals	Urobilinogen ±	+	2+	3+	4+	CHI
Control	10	10	0	0	0	0	
25 ppm	10	10	0	0	0	0	
55 ppm	10	10	0	0	0	0	
120 ppm	10	10	0	0	0	0	
270 ppm	10	10	0	0	0	0	
600 ppm	10	10	0	0	0	0	

Significent difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of CHI SQUARE

APPENDIX B 7-1

GROSS FINDINGS : SUMMARY, RAT : MALE : ALL ANIMALS

(13Week STUDY)

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0- 14W)

Organ	Findings	Group Name NO. of Animals	Control 10 (%)	25 ppm 10 (%)	55 ppm 10 (%)	120 ppm 10 (%)
lung	red patch/zone		0 (0)	0 (0)	1 (10)	0 (0)
	nodule		0 (0)	0 (0)	0 (0)	0 (0)
liver	herniation		1 (10)	0 (0)	0 (0)	1 (10)

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0- 14W)

Organ	Findings	Group Name NO. of Animals	270 ppm 10 (%)	600 ppm 10 (%)
lung	red patch/zone		0 (0)	0 (0)
	nodule		1 (10)	0 (0)
liver	herniation		0 (0)	0 (0)

APPENDIX B 7-2

GROSS FINDINGS : SUMMARY, RAT : FEMALE :ALL ANIMALS

(13Week STUDY)

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0- 14W)

Organ	Findings	Group Name NO. of Animals	Control 10 (%)	25 ppm 10 (%)	55 ppm 10 (%)	120 ppm 10 (%)
thymus	red patch/zone		0 (0)	0 (0)	0 (0)	0 (0)
liver	herniation		0 (0)	3 (30)	1 (10)	1 (10)
ovary	fluid:transparent		0 (0)	0 (0)	2 (20)	0 (0)
uterus	dilated lumen		2 (20)	1 (10)	1 (10)	1 (10)

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0- 14W)

Organ	Findings	Group Name NO. of Animals	270 ppm 10 (%)	600 ppm 10 (%)
thymus	red patch/zone		0 (0)	1 (10)
liver	herniation		0 (0)	1 (10)
ovary	fluid:transparent		0 (0)	0 (0)
uterus	dilated lumen		1 (10)	1 (10)

APPENDIX B 7-3

GROSS FINDINGS : SUMMARY, MOSUE : MALE : ALL ANIMALS

(13Week STUDY)

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0- 14W)

Organ	Findings	Group Name NO. of Animals	Control 10 (%)	25 ppm 10 (%)	55 ppm 10 (%)	120 ppm 10 (%)
spleen	red patch/zone		0 (0)	1 (10)	0 (0)	0 (0)
	black patch/zone		0 (0)	1 (10)	0 (0)	0 (0)
liver	white patch/zone		0 (0)	0 (0)	0 (0)	0 (0)

Organ	Findings	Group Name NO. of Animals	270 ppm 10 (%)	600 ppm 10 (%)
spleen	red patch/zone		0 (0)	0 (0)
	black patch/zone		1 (10)	0 (0)
liver	white patch/zone		0 (0)	2 (20)

APPENDIX B 7-4

GROSS FINDINGS : SUMMARY, MOSUE : FEMALE :ALL ANIMALS

(13Week STUDY)

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0- 14W)

Organ	Findings	Group Name NO. of Animals	Control 10 (%)	25 ppm 10 (%)	55 ppm 10 (%)	120 ppm 10 (%)
lung	red patch/zone		0 (0)	1 (10)	0 (0)	0 (0)
spleen	black patch/zone		1 (10)	0 (0)	2 (20)	1 (10)
ovary	fluid:transparent		0 (0)	0 (0)	0 (0)	0 (0)

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
ALL ANIMALS (0- 14W)

Organ	Findings	Group Name NO. of Animals	270 ppm 10 (%)	600 ppm 10 (%)
lung	red patch/zone		0 (0)	0 (0)
spleen	black patch/zone		2 (20)	0 (0)
ovary	fluid:transparent		0 (0)	1 (10)

APPENDIX B 8-1

ORGAN WEIGHT, ABSOLUTE : SUMMARY, RAT : MALE

(13Week STUDY)

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	Body Weight	THYMUS	ADRENALS	TESTES	HEART	LUNGS
Control	10	318± 14	0.250± 0.024	0.051± 0.007	2.817± 0.109	0.945± 0.043	0.980± 0.062
25 ppm	10	325± 14	0.265± 0.028	0.050± 0.005	2.687± 0.487	0.960± 0.052	1.004± 0.051
55 ppm	10	331± 21	0.270± 0.024	0.052± 0.005	2.926± 0.146	0.967± 0.061	1.038± 0.073
120 ppm	10	327± 13	0.250± 0.026	0.052± 0.005	2.819± 0.103	0.972± 0.046	1.012± 0.061
270 ppm	10	334± 19	0.265± 0.037	0.053± 0.005	2.860± 0.149	0.969± 0.086	1.041± 0.041
600 ppm	10	321± 12	0.224± 0.034	0.054± 0.005	2.906± 0.102	0.980± 0.060	1.017± 0.044

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

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	10	1.781± 0.068	0.494± 0.031	7.751± 0.477	1.857± 0.046
25 ppm	10	1.874± 0.106	0.501± 0.023	8.049± 0.503	1.847± 0.037
55 ppm	10	1.919± 0.088	0.526± 0.036	8.360± 0.604	1.891± 0.054
120 ppm	10	1.920± 0.085	0.525± 0.025	8.522± 0.376*	1.884± 0.051
270 ppm	10	2.056± 0.144**	0.521± 0.054	9.402± 0.764**	1.913± 0.049*
600 ppm	10	2.805± 0.237**	0.551± 0.029**	11.230± 1.005**	1.881± 0.028

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

APPENDIX B 8-2

ORGAN WEIGHT, ABSOLUTE : SUMMARY, RAT : FEMALE

(13Week STUDY)

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	Body Weight	THYMUS	ADRENALS	OVARIES	HEART	LUNGS
Control	10	175± 10	0.189± 0.022	0.053± 0.005	0.092± 0.010	0.596± 0.031	0.726± 0.053
25 ppm	10	179± 15	0.189± 0.026	0.053± 0.003	0.091± 0.015	0.598± 0.066	0.722± 0.032
55 ppm	10	185± 9	0.202± 0.024	0.057± 0.005	0.096± 0.013	0.617± 0.043	0.767± 0.074
120 ppm	10	176± 8	0.190± 0.018	0.054± 0.005	0.091± 0.015	0.590± 0.047	0.715± 0.047
270 ppm	10	178± 7	0.198± 0.018	0.058± 0.005	0.096± 0.011	0.597± 0.050	0.749± 0.051
600 ppm	10	182± 8	0.189± 0.025	0.058± 0.007	0.098± 0.012	0.624± 0.048	0.760± 0.038

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

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	10	1.078± 0.049	0.338± 0.018	4.031± 0.227	1.927± 0.654
25 ppm	10	1.086± 0.081	0.344± 0.025	4.051± 0.286	1.715± 0.038
55 ppm	10	1.139± 0.068	0.348± 0.021	4.454± 0.359**	1.726± 0.037
120 ppm	10	1.088± 0.061	0.324± 0.022	4.128± 0.203	1.716± 0.064
270 ppm	10	1.144± 0.032	0.329± 0.038	4.392± 0.185*	1.743± 0.045
600 ppm	10	1.284± 0.178**	0.345± 0.021	5.349± 0.274**	1.770± 0.042

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

APPENDIX B 8-3

ORGAN WEIGHT, ABSOLUTE : SUMMARY, MOSUE : MALE

(13Week STUDY)

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	Body Weight	THYMUS	ADRENALS	TESTES	HEART	LUNGS
Control	10	31.2± 3.7	0.042± 0.007	0.009± 0.001	0.197± 0.015	0.139± 0.011	0.151± 0.008
25 ppm	10	28.4± 1.3	0.039± 0.006	0.009± 0.001	0.196± 0.019	0.145± 0.013	0.157± 0.012
55 ppm	10	28.1± 2.1	0.039± 0.006	0.009± 0.002	0.199± 0.012	0.140± 0.012	0.149± 0.006
120 ppm	10	29.6± 2.3	0.037± 0.007	0.010± 0.002	0.198± 0.021	0.146± 0.010	0.157± 0.009
270 ppm	10	28.1± 3.1	0.035± 0.007	0.008± 0.001	0.207± 0.013	0.142± 0.013	0.154± 0.010
600 ppm	10	28.2± 3.4	0.033± 0.007	0.009± 0.002	0.184± 0.018	0.136± 0.011	0.150± 0.012

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

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	10	0.427± 0.030	0.042± 0.007	1.099± 0.088	0.425± 0.008
25 ppm	10	0.425± 0.032	0.039± 0.005	1.105± 0.100	0.430± 0.019
55 ppm	10	0.419± 0.029	0.041± 0.005	1.092± 0.059	0.431± 0.015
120 ppm	10	0.434± 0.039	0.040± 0.010	1.155± 0.078	0.427± 0.016
270 ppm	10	0.434± 0.030	0.039± 0.004	1.233± 0.115	0.430± 0.013
600 ppm	10	0.435± 0.039	0.039± 0.004	1.633± 0.262**	0.430± 0.013

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

APPENDIX B 8-4

ORGAN WEIGHT, ABSOLUTE : SUMMARY, MOSUE : FEMALE

(13Week STUDY)

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	Body Weight	THYMUS	ADRENALS	OVARIES	HEART	LUNGS
Control	10	20.9± 0.6	0.038± 0.003	0.012± 0.002	0.022± 0.004	0.115± 0.007	0.148± 0.010
25 ppm	10	20.6± 1.3	0.037± 0.008	0.012± 0.002	0.021± 0.004	0.122± 0.013	0.146± 0.011
55 ppm	10	20.8± 1.1	0.036± 0.004	0.012± 0.002	0.020± 0.003	0.115± 0.006	0.147± 0.012
120 ppm	10	21.7± 1.8	0.043± 0.005	0.012± 0.002	0.023± 0.002	0.119± 0.008	0.150± 0.010
270 ppm	10	21.4± 1.2	0.038± 0.007	0.011± 0.002	0.020± 0.004	0.112± 0.008	0.146± 0.005
600 ppm	10	22.2± 1.1	0.041± 0.004	0.013± 0.001	0.025± 0.006	0.119± 0.009	0.152± 0.013

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

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	10	0.278± 0.015	0.045± 0.005	0.890± 0.044	0.437± 0.012
25 ppm	10	0.286± 0.019	0.044± 0.007	0.867± 0.082	0.441± 0.014
55 ppm	10	0.283± 0.020	0.045± 0.006	0.880± 0.050	0.444± 0.008
120 ppm	10	0.290± 0.010	0.048± 0.008	0.945± 0.076	0.441± 0.012
270 ppm	10	0.276± 0.016	0.047± 0.009	0.984± 0.088*	0.447± 0.017
600 ppm	10	0.308± 0.015**	0.045± 0.005	1.272± 0.075**	0.445± 0.020

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

APPENDIX B 9-1

ORGAN WEIGHT, RELATIVE : SUMMARY, RAT : MALE

(13Week STUDY)

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	TESTES	HEART	LUNGS
Control	10	318± 14	0.079± 0.006	0.016± 0.002	0.888± 0.043	0.298± 0.011	0.308± 0.014
25 ppm	10	325± 14	0.081± 0.006	0.015± 0.001	0.826± 0.149	0.295± 0.010	0.309± 0.009
55 ppm	10	331± 21	0.081± 0.004	0.016± 0.002	0.886± 0.042	0.293± 0.012	0.314± 0.012
120 ppm	10	327± 13	0.077± 0.008	0.016± 0.002	0.863± 0.029	0.298± 0.015	0.309± 0.013
270 ppm	10	334± 19	0.079± 0.009	0.016± 0.001	0.856± 0.039	0.290± 0.018	0.312± 0.012
600 ppm	10	321± 12	0.070± 0.010*	0.017± 0.002	0.906± 0.027	0.305± 0.017	0.317± 0.010

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

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	10	0.561± 0.020	0.156± 0.007	2.438± 0.074	0.585± 0.025
25 ppm	10	0.576± 0.021	0.154± 0.005	2.473± 0.070	0.569± 0.028
55 ppm	10	0.581± 0.023	0.159± 0.007	2.527± 0.055	0.574± 0.039
120 ppm	10	0.587± 0.018	0.161± 0.008	2.607± 0.088*	0.577± 0.022
270 ppm	10	0.615± 0.019**	0.156± 0.011	2.810± 0.110**	0.574± 0.035
600 ppm	10	0.874± 0.072**	0.172± 0.011**	3.495± 0.242**	0.587± 0.027

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

APPENDIX B 9-2

ORGAN WEIGHT, RELATIVE : SUMMARY, RAT : FEMALE

(13Week STUDY)

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	OVARIES	HEART	LUNGS
Control	10	175± 10	0.108± 0.008	0.030± 0.003	0.053± 0.004	0.340± 0.019	0.414± 0.025
25 ppm	10	179± 15	0.106± 0.010	0.030± 0.002	0.051± 0.006	0.334± 0.026	0.406± 0.034
55 ppm	10	185± 9	0.109± 0.008	0.031± 0.003	0.052± 0.006	0.333± 0.019	0.414± 0.038
120 ppm	10	176± 8	0.108± 0.011	0.031± 0.003	0.052± 0.008	0.334± 0.020	0.406± 0.021
270 ppm	10	178± 7	0.111± 0.009	0.033± 0.003	0.054± 0.006	0.336± 0.029	0.422± 0.027
600 ppm	10	182± 8	0.104± 0.010	0.032± 0.004	0.054± 0.007	0.343± 0.023	0.418± 0.023

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

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	10	0.616± 0.029	0.193± 0.012	2.300± 0.088	1.096± 0.342
25 ppm	10	0.608± 0.024	0.193± 0.015	2.267± 0.077	0.965± 0.085
55 ppm	10	0.615± 0.029	0.188± 0.012	2.403± 0.165	0.933± 0.047
120 ppm	10	0.617± 0.023	0.183± 0.007	2.343± 0.097	0.974± 0.041
270 ppm	10	0.645± 0.035	0.185± 0.021	2.473± 0.126**	0.982± 0.046
600 ppm	10	0.709± 0.122**	0.190± 0.011	2.942± 0.126**	0.975± 0.047

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

APPENDIX B 9-3

ORGAN WEIGHT, RELATIVE : SUMMARY, MOSUE : MALE

(13Week STUDY)

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	TESTES	HEART	LUNGS
Control	10	31.2± 3.7	0.133± 0.010	0.030± 0.004	0.639± 0.070	0.449± 0.046	0.491± 0.055
25 ppm	10	28.4± 1.3	0.138± 0.020	0.033± 0.006	0.693± 0.069	0.512± 0.033**	0.555± 0.031
55 ppm	10	28.1± 2.1	0.139± 0.020	0.032± 0.007	0.714± 0.084	0.501± 0.050*	0.531± 0.032
120 ppm	10	29.6± 2.3	0.126± 0.015	0.032± 0.006	0.673± 0.080	0.493± 0.033	0.532± 0.036
270 ppm	10	28.1± 3.1	0.123± 0.017	0.030± 0.004	0.741± 0.063*	0.508± 0.044*	0.551± 0.045
600 ppm	10	28.2± 3.4	0.118± 0.019	0.032± 0.008	0.658± 0.086	0.486± 0.040	0.539± 0.070

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

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	10	1.380± 0.107	0.137± 0.025	3.551± 0.290	1.380± 0.136
25 ppm	10	1.499± 0.095	0.137± 0.016	3.896± 0.271*	1.518± 0.077
55 ppm	10	1.494± 0.088	0.145± 0.015	3.895± 0.197*	1.541± 0.133*
120 ppm	10	1.468± 0.141	0.134± 0.031	3.910± 0.245*	1.446± 0.091
270 ppm	10	1.552± 0.139**	0.139± 0.015	4.399± 0.273**	1.547± 0.183*
600 ppm	10	1.548± 0.074**	0.138± 0.015	5.773± 0.264**	1.543± 0.170*

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

APPENDIX B 9-4

ORGAN WEIGHT, RELATIVE : SUMMARY, MOSUE : FEMALE

(13Week STUDY)

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	Body Weight (g)	THYMUS	ADRENALS	OVARIES	HEART	LUNGS
Control	10	20.9± 0.6	0.183± 0.014	0.055± 0.009	0.105± 0.015	0.548± 0.027	0.709± 0.050
25 ppm	10	20.6± 1.3	0.178± 0.031	0.059± 0.008	0.103± 0.019	0.591± 0.048*	0.711± 0.040
55 ppm	10	20.8± 1.1	0.175± 0.019	0.059± 0.007	0.096± 0.015	0.552± 0.035	0.708± 0.058
120 ppm	10	21.7± 1.8	0.197± 0.020	0.057± 0.011	0.104± 0.008	0.550± 0.033	0.696± 0.038
270 ppm	10	21.4± 1.2	0.176± 0.028	0.054± 0.008	0.093± 0.016	0.522± 0.034	0.682± 0.030
600 ppm	10	22.2± 1.1	0.186± 0.018	0.057± 0.006	0.111± 0.021	0.533± 0.030	0.685± 0.064

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

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (14)

Group Name	NO. of Animals	KIDNEYS	SPLEEN	LIVER	BRAIN
Control	10	1.326± 0.052	0.216± 0.024	4.249± 0.151	2.091± 0.098
25 ppm	10	1.389± 0.053	0.214± 0.023	4.208± 0.211	2.148± 0.117
55 ppm	10	1.361± 0.061	0.216± 0.025	4.230± 0.147	2.137± 0.118
120 ppm	10	1.346± 0.095	0.220± 0.030	4.371± 0.232	2.047± 0.172
270 ppm	10	1.290± 0.075	0.217± 0.029	4.595± 0.216**	2.095± 0.096
600 ppm	10	1.384± 0.032	0.204± 0.020	5.721± 0.169**	2.003± 0.064

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

APPENDIX B 10-1

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : MALE : ALL ANIMALS

(13Week STUDY)

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)
ALL ANIMALS (0- 14W)

Organ	Findings	Control <1> (%)	Control <2> (%)	Control <3> (%)	Control <4> (%)	25 ppm <1> (%)	25 ppm <2> (%)	25 ppm <3> (%)	25 ppm <4> (%)	55 ppm <1> (%)	55 ppm <2> (%)	55 ppm <3> (%)	55 ppm <4> (%)	120 ppm <1> (%)	120 ppm <2> (%)	120 ppm <3> (%)	120 ppm <4> (%)
	Group Name	Control				25 ppm				55 ppm				120 ppm			
	No. of Animals	10				10				10				10			
[Respiratory system]																	
nasal cavit	goblet cell hyperplasia	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)
[Digestive system]																	
liver	herniation	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)
	necrosis:focal	1 (10)	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)
	hepatocellular hypertrophy:central	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)
[Urinary system]																	
kidney	mineralization	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)
	eosinophilic body	8 (80)	2 (20)	0 (0)	0 (0)	9 (90)	1 (10)	0 (0)	0 (0)	10 (100)	0 (0)	0 (0)	0 (0)	10 (100)	0 (0)	0 (0)	0 (0)
	tubular necrosis:proximale tubule	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)
	granular cast fromation	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)
[Endocrine system]																	
pituitary	Rathke pouch	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square <1>:Slight <2>:Moderate <3>:Marked <4>:Severe

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)
ALL ANIMALS (0- 14W)

Organ	Findings	Group Name: 270 ppm <1> (%)	<2> (%)	<3> (%)	<4> (%)	600 ppm <1> (%)	<2> (%)	<3> (%)	<4> (%)
		No. of Animals: 10				10			
[Respiratory system]									
nasal cavit	goblet cell hyperplasia	0 (0)	0 (0)	0 (0)	0 (0)	2 (20)	0 (0)	0 (0)	0 (0)
[Digestive system]									
liver	herniation	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	necrosis:focal	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	hepatocellular hypertrophy:central	3 (30)	0 (0)	0 (0)	0 (0)	9 (90)	0 (0)	0 (0)	0 ** (0)
[Urinary system]									
kidney	mineralization	1 (10)	0 (0)	0 (0)	0 (0)	7 (70)	0 (0)	0 (0)	0 ** (0)
	eosinophilic body	0 (0)	5 (50)	5 (50)	0 ** (0)	1 (10)	4 (40)	5 (50)	0 ** (0)
	tubular necrosis:proximale tubule	9 (90)	1 (10)	0 (0)	0 ** (0)	0 (0)	0 (0)	10 (100)	0 ** (0)
	granular cast fromation	9 (90)	1 (10)	0 (0)	0 ** (0)	1 (10)	1 (10)	8 (80)	0 ** (0)
[Endocrine system]									
pituitary	Rathke pouch	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Significant difference : * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square <1>:Slight <2>:Moderate <3>:Marked <4>:Severe

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)
ALL ANIMALS (0- 14W)

Organ	Findings	Group Name	Control				25 ppm				55 ppm				120 ppm			
		No. of Animals	10				10				10				10			
			<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Endocrine system]																		
thyroid	follicular hyperplasia		1 (10)	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)
[Special sense organs/appandage]																		
eye	degeneration:cornea		1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)
Harder gl	lymphocytic infiltration		0 (0)	0 (0)	0 (0)	0 (0)	3 (30)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square <1>:Slight <2>:Moderate <3>:Marked <4>:Severe

Organ	Findings	Group Name	270 ppm				600 ppm			
		No. of Animals	10				10			
			<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Endocrine system]										
thyroid	follicular hyperplasia		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Special sense organs/appandage]										
eye	degeneration:cornea		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Harder gl	lymphocytic infiltration		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square <1>:Slight <2>:Moderate <3>:Marked <4>:Severe

APPENDIX B 10-2

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

RAT : FEMALE : ALL ANIMALS

(13Week STUDY)

STUDY NO. : 0132
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)
ALL ANIMALS (0- 14W)

Organ	Findings	Control 10 <1> (%)	<2> (%)	<3> (%)	<4> (%)	25 ppm 10 <1> (%)	<2> (%)	<3> (%)	<4> (%)	55 ppm 10 <1> (%)	<2> (%)	<3> (%)	<4> (%)	120 ppm 10 <1> (%)	<2> (%)	<3> (%)	<4> (%)
[Digestive system]																	
liver	herniation	0 (0)	0 (0)	0 (0)	0 (0)	3 (30)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)
	granulation	3 (30)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	3 (30)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	hepatocellular hypertrophy:central	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)
[Endocrine system]																	
pituitary	Rathke pouch	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)
[Reproductive system]																	
ovary	cyst	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (20)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Special sense organs/appandage]																	
eye	degeneration:cornea	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)
Harder gl	lymphocytic infiltration	2 (20)	0 (0)	0 (0)	0 (0)	4 (40)	0 (0)	0 (0)	0 (0)	3 (30)	1 (10)	0 (0)	0 (0)	2 (20)	2 (20)	1 (10)	0 (0)

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square <1>:Slight <2>:Moderate <3>:Marked <4>:Severe

Organ	Findings	Group Name	270 ppm				600 ppm			
		No. of Animals	10				10			
			<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Digestive system]										
liver	herniation		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	granulation		1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	hepatocellular hypertrophy:central		0 (0)	0 (0)	0 (0)	0 (0)	3 (30)	0 (0)	0 (0)	0 (0)
[Endocrine system]										
pituitary	Rathke pouch		0 (0)	0 (0)	0 (0)	0 (0)	2 (20)	0 (0)	0 (0)	0 (0)
[Reproductive system]										
ovary	cyst		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Special sense organs/appandage]										
eye	degeneration:cornea		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Harder gl	lymphocytic infiltration		2 (20)	5 (50)	1 (10)	0 * (0)	3 (30)	3 (30)	0 (0)	0 (0)

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square <1>:Slight <2>:Moderate <3>:Marked <4>:Severe

APPENDIX B 10-3

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

MOSUE : MALE : ALL ANIMALS

(13Week STUDY)

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)
ALL ANIMALS (0- 14W)

Organ	Findings	Control <1> (%)	Control <2> (%)	Control <3> (%)	Control <4> (%)	25 ppm <1> (%)	25 ppm <2> (%)	25 ppm <3> (%)	25 ppm <4> (%)	55 ppm <1> (%)	55 ppm <2> (%)	55 ppm <3> (%)	55 ppm <4> (%)	120 ppm <1> (%)	120 ppm <2> (%)	120 ppm <3> (%)	120 ppm <4> (%)
	Group Name	Control				25 ppm				55 ppm				120 ppm			
	No. of Animals	10				10				10				10			
[Hematopoietic system]																	
spleen	deposit of melanin	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Digestive system]																	
liver	necrosis:focal	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)
	hepatocellular hypertrophy with atypia:central	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)
[Urinary system]																	
kidney	basophilic change	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)
	vacuolization of proximal tubule	6 (60)	2 (20)	0 (0)	0 (0)	6 (60)	0 (0)	0 (0)	0 (0)	7 (70)	0 (0)	0 (0)	0 (0)	8 (80)	1 (10)	0 (0)	0 (0)

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square <1>:Slight <2>:Moderate <3>:Marked <4>:Severe

Organ	Findings	Group Name	270 ppm				600 ppm			
		No. of Animals	10				10			
			<1> (%)	<2> (%)	<3> (%)	<4> (%)	<1> (%)	<2> (%)	<3> (%)	<4> (%)
[Hematopoietic system]										
spleen	deposit of melanin		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Digestive system]										
liver	necrosis:focal		0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	1 (10)	0 (0)	0 (0)
	hepatocellular hypertrophy with atypia:central		10 (100)	0 (0)	0 (0)	0 ** (0)	0 (0)	10 (100)	0 (0)	0 ** (0)
[Urinary system]										
kidney	basophilic change		0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	vacuolization of proximal tubule		6 (60)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 ** (0)

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square <1>:Slight <2>:Moderate <3>:Marked <4>:Severe

APPENDIX B 10-4

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS : SUMMARY

MOSUE : FEMALE : ALL ANIMALS

(13Week STUDY))

STUDY NO. : 0133
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

HISTOLOGICAL FINDINGS : NON-NEOPLASTIC LESIONS (SUMMARY)
ALL ANIMALS (0- 14W)

Organ	Findings	Control <1> (%)	Control <2> (%)	Control <3> (%)	Control <4> (%)	25 ppm <1> (%)	25 ppm <2> (%)	25 ppm <3> (%)	25 ppm <4> (%)	55 ppm <1> (%)	55 ppm <2> (%)	55 ppm <3> (%)	55 ppm <4> (%)	120 ppm <1> (%)	120 ppm <2> (%)	120 ppm <3> (%)	120 ppm <4> (%)
Group Name		Control				25 ppm				55 ppm				120 ppm			
No. of Animals		10				10				10				10			
[Respiratory system]																	
nasal cavit	inflammation	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	eosinophilic change:respiratory epithelium	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
lung	hemorrhage	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Hematopoietic system]																	
spleen	deposit of melanin	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)	1 (10)	0 (0)	0 (0)	0 (0)
[Digestive system]																	
liver	hepatocellular hypertrophy with atypia:central	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)
[Urinary system]																	
kidney	basophilic change	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)

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square <1>:Slight <2>:Moderate <3>:Marked <4>:Severe

Organ	Findings	270 ppm <1> (%)	270 ppm <2> (%)	270 ppm <3> (%)	270 ppm <4> (%)	600 ppm <1> (%)	600 ppm <2> (%)	600 ppm <3> (%)	600 ppm <4> (%)
	Group Name	270 ppm				600 ppm			
	No. of Animals	10				10			
[Respiratory system]									
nasal cavit	inflammation	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	eosinophilic change:respiratory epithelium	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
lung	hemorrhage	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Hematopoietic system]									
spleen	deposit of melanin	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
[Digestive system]									
liver	hepatocellular hypertrophy with atypia:central	0 (0)	0 (0)	0 (0)	0 (0)	1 (10)	9 (90)	0 (0)	0 (0) **
[Urinary system]									
kidney	basophilic change	1 (10)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)

Significant difference ; * : P ≦ 0.05 ** : P ≦ 0.01 Test of Chi Square <1>:Slight <2>:Moderate <3>:Marked <4>:Severe

APPENDIX B 11-1

IDENTITY OF p - DICHLOROBENZENE

(13Week STUDY)

IDENTITY OF p-DICHLOROBENZENE(THIRTEEN-WEEK STUDIES)

Lot No.CTJ0580

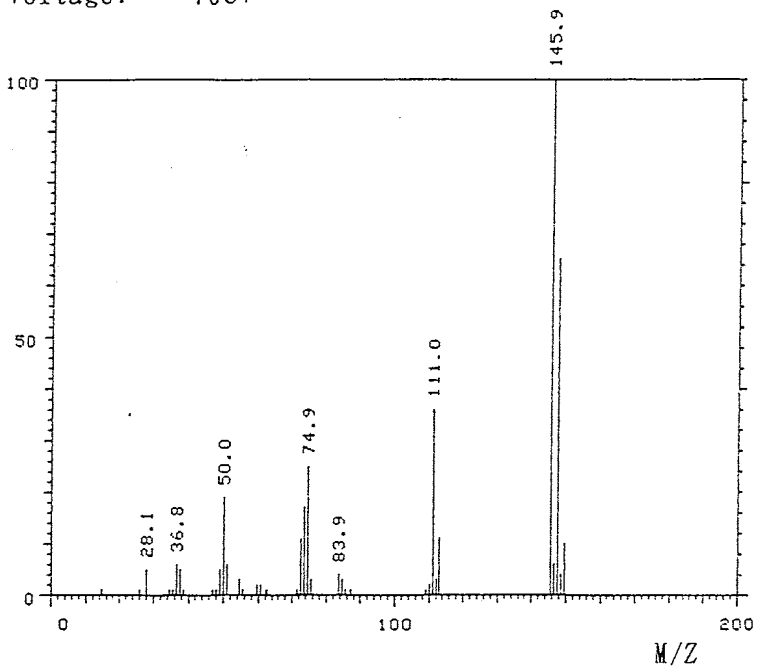
1. Spectral data

(1) Mass Spectrometry

Instrument: Hitachi M-80B Mass Spectrometer

Ionization: EI(Electron Ionization)

Ionization Voltage: 70eV



Mass Spectrum of Test Substance

Result:

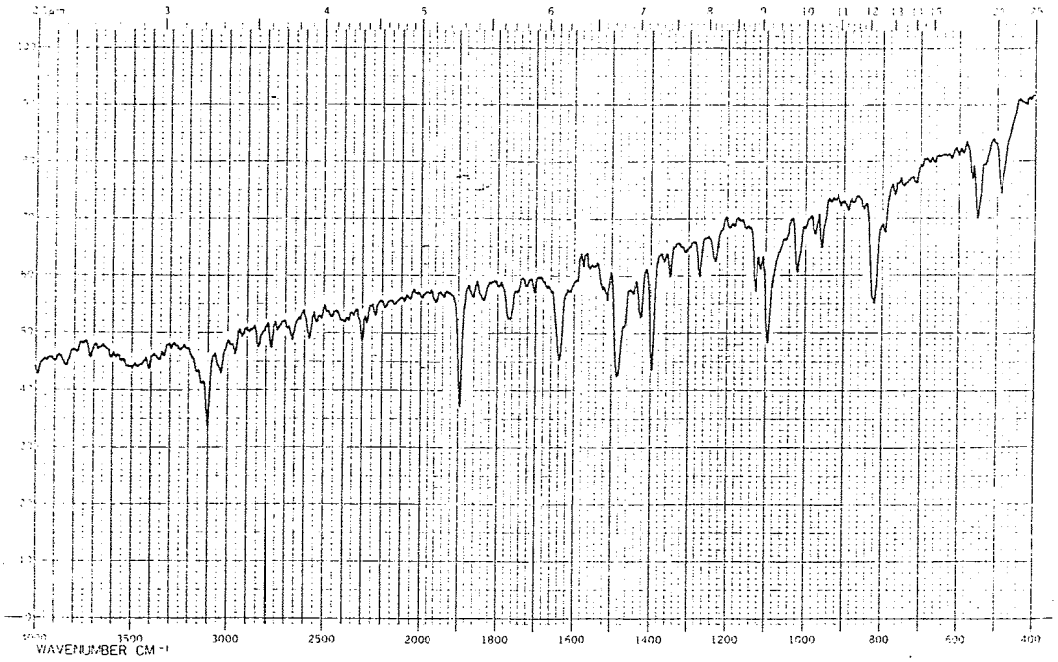
	Molecule Weight
Calculated Value (calculated as Cl=35.0)	146.0
Determined	145.9

(2) Infrared Spectrometry

Instrument : Hitachi 270-30 Infrared Spectrometer

Cell : KBr

Slit : Medium



Infrared Spectrum of Test Substance

Results

Determines Wave Number(cm^{-1})	Literature Values* Wave Number(cm^{-1})
460～ 520	470～ 510
540～ 580	530～ 570
800～ 860	800～ 840
1010～1050	1000～1050
1080～1130	1070～1130
1390～1430	1380～1420
1460～1510	1450～1500
1630～1670	1620～1660
1760～1800	1750～1780
1890～1930	1870～1920
3100～3150	3080～3150

(*Sadtler Handbook by Sadtler Research Laboratories, Inc.)

2. Gas Chromatography

Instrument: Hewlett Packard 5890A Gass Chromatograph

Column: Methyl Silicone(0.2mmϕ × 38m)

Column Temperature: 200°C

Flow Rate: 1 ml/min

Detector: FID(Flame Ionization Detector)

Injection Volume: 1 μl

Results: Only major peak

Peak No.	Retention Time(min)	Retention Time Relative to Major Peak	AREA (percent of major peak)
1	2.517(Solvent peak)		
2	2.957	1.00	100

3. Conclusions: The result of the mass spectrum agreed with the calculated value and the infrared spectrum agreed with the literature values. Chromtogram indicated only the major peak without solvent peak. Consequently, the test substance was identified as p-dichlorobenzene.

APPENDIX B 11-2

STABILITY OF p - DICHLOROBENZENE

(13Week STUDY)

STABILITY OF p-DICHLOROBENZENE(THIRTEEN-WEEK STUDIES)

Lot No. CTJ0580

1. Sample storage: This lot was used from 1989. 9. 7 to 1989. 12. 14. Test substance was stored at 5°C.

2. Infrared Spectrometry

Instrument : Hitachi 270-30 Infrared Spectrometer

Cell : KBr

Slit : Medium

Results

1989. 08. 20(date analyzed) Wave Number(cm^{-1})	1989. 12. 22(date analyzed) Wave Number(cm^{-1})
460～ 520	460～ 520
540～ 580	540～ 580
800～ 860	800～ 860
1010～1050	1010～1050
1080～1130	1080～1130
1390～1430	1390～1430
1460～1510	1460～1510
1630～1670	1630～1670
1760～1800	1760～1800
1890～1930	1890～1930
3100～3150	3100～3150

3. Gas Chromatography

Instrument: Hewlett Packard 5890A Gass Chromatograph

Column: Methyl Silicone(0. 2mmϕ × 38m)

Column Temperature: 200°C

Flow Rate: 1 ml/min

Detector: FID(Flame Ionization Detector)

Injection Volume: 1 μl

Results: Chromatogram indicated one major peak(peak No. 2) and solvent peak(peak No. 1) analyzed at 1989. 8. 20 and one major peak(peak No. 2) and solvent peak(peak No. 1) analyzed at 1989. 12. 22. The new treace impurity peak in the test substance analyzed at 1989. 12. 22 was not detected.

Date	Peak No.	Retention Time(min)	Retention Time Relative to Major Peak	Area (percent of Major peak)
1989. 8. 20	1	2. 517(Solvent peak)		
(date analyzed)	2	2. 957	1. 00	100
1989. 12. 22	1	2. 517(Solvent peak)		
(date analyzed)	2	2. 958	1. 00	100

3. Conclusions: The results indicated that the test sabstance did not change when stored in the dark at 5°C during this period(for about 16 weeks).

APPENDIX B 12-1

CONCENTRATION OF p - DICHLOROBENZENE IN INHALATION CHAMBER

(13Week STUDY)

CONCENTRATION OF P-DICHLOROBENZENE IN INHALATION CHAMBER
(RAT : THIRTEEN-WEEK STUDY)

Group Name	Concentration(ppm) Mean	±	S.D.
Control	0.0	±	0.0
25ppm	27.4	±	0.6
55ppm	54.4	±	1.1
120ppm	120.0	±	1.9
270ppm	267.4	±	3.5
600ppm	601.5	±	5.5

CONCENTRATION OF P-DICHLOROBENZENE IN INHALATION CHAMBER
(MOUSE : THIRTEEN-WEEK STUDY)

Group Name	Concentration(ppm) Mean	±	S.D.
Control	0.0	±	0.0
25ppm	24.6	±	0.5
55ppm	54.6	±	0.8
120ppm	119.4	±	2.3
270ppm	268.0	±	4.0
600ppm	597.3	±	10.7

APPENDIX B 12-2

ENVIRONMENT OF INHALATION CHAMBER

(13Week STUDY)

ENVIRONMENT OF INHALATION CHAMBER

(RAT : THIRTEEN-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	24.4	±	0.3	60.7	±	2.4	213.7	±	2.7	12.1
25ppm	24.5	±	0.4	56.6	±	1.0	214.4	±	1.7	12.1
55ppm	24.2	±	0.3	57.8	±	3.1	214.4	±	1.4	12.1
120ppm	24.4	±	0.3	59.1	±	2.7	213.5	±	1.0	12.1
270ppm	24.3	±	0.2	56.3	±	2.8	213.7	±	1.0	12.1
600ppm	24.2	±	0.2	61.9	±	2.3	213.8	±	0.9	12.1

ENVIRONMENT OF INHALATION CHAMBER

(MOUSE : THIRTEEN-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	23.7	±	0.3	58.3	±	2.6	104.8	±	0.5	12.1
25ppm	23.5	±	0.3	59.4	±	2.3	105.3	±	0.5	12.2
55ppm	23.6	±	0.2	57.3	±	2.2	105.2	±	0.4	12.1
120ppm	23.7	±	0.3	59.1	±	2.2	105.0	±	0.4	12.1
270ppm	23.7	±	0.2	55.2	±	2.2	104.9	±	0.3	12.1
600ppm	23.7	±	0.2	57.6	±	2.1	103.9	±	0.1	12.0

APPENDIX C 1

METHODS FOR HEMATOLOGY, BIOCHEMISTRY AND URINALSYS

METHODS FOR HEMATOLOGY, BIOCHEMISTRY AND URINALYSIS

Item	Method	Unit
Hematology		
Red blood cell (RBC)	Light scattering method [1]	$\times 10^6/\mu l$
Hemoglobin (Hgb)	Cyanmethemoglobin method [1]	g/dl
Hematocrit (Hct)	Calculated as RBC×MCV/10 [1]	%
Mean corpuscular volume (MCV)	Light scattering method [1]	fl
Mean corpuscular hemoglobin (MCH)	Calculated as Hgb/RBC×10 [1]	Pg
Mean corpuscular hemoglobin concentration (MCHC)	Calculated as Hgb/Hct×100 [1]	g/dl
Platelet	Light scattering method [1]	$\times 10^3/\mu l$
White blood cell (WBC)	Light scattering method [1]	$\times 10^3/\mu l$
Differential WBC	Pattern recognition method [2] (May-Grunwald-Giemsa staining)	%
Biochemistry		
Total protein (TP)	Biuret method [3]	g/dl
Albumin (Alb)	BCG method [3]	g/dl
A/G ratio	Calculated as Alb/ (TP−Alb) [3]	
T-bilirubin	Michaelson method [3]	mg/dl
Glucose	Enzymatic method (HK·G-6-PDH) [3]	mg/dl
T-cholesterol	Enzymatic method (CEH·COD·POD) [3]	mg/dl
Triglyceride	Enzymatic method (GK·GPO·POD) [3]	mg/dl
Phospholipid	Enzymatic method (PLD·COD·POD) [3]	mg/dl
Glutamic oxaloacetic transaminase (GOT)	Karmen method [3]	IU/l
Glutamic pyruvic transaminase (GPT)	Karmen method [3]	IU/l
Lactate dehydrogenase (LDH)	Wroblewski-LaDue method [3]	IU/l
Alkaline phosphatase (ALP)	GSCC method [3]	IU/l
γ-Glutamyl transpeptidase (G-GTP)	L-γ-Glutamyl-p-nitroanilide substrate method [3]	IU/l
Creatine phosphokinase (CPK)	GSCC method [3]	IU/l
Urea nitrogen	Enzymatic method (Urease·GLDH) [3]	mg/dl
Creatinine	Jaffe method [3]	mg/dl
Sodium	Flame photometry [4]	mEq/l
Potassium	Flame photometry [4]	mEq/l
Chloride	Coulometric titration [4]	mEq/l
Calcium	OCPC method [3]	mg/dl
Inorganic phosphorus	Enzymatic method (SPL·PGM·G-6-PDH) [3]	mg/dl
Urinalysis		
pH, Protein, Glucose, Ketone body, Bilirubin, Occult blood, Urobilinogen	Urinalysis reagent paper method [5]	

1) Automatic blood cell analyzer (Technicon H·1 : Technicon Instruments Corporation,USA)
2) Automatic blood cell differential analyzer (Hitachi 8200 : Hitachi,Ltd.,Japan)
3) Automatic analyzer (Hitachi 705 : Hitachi,Ltd.,Japan)
4) Flame photometer (Hitachi 750 : Hitachi,Ltd.,Japan)
5) Ames reagent strips for urinalysis (Multistix, Uro-Labstix : Miles Sankyo Co.,Ltd.,Japan)

APPENDIX C 2

UNITS AND DECIMAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY

UNITS AND DECIMNAL PLACE FOR HEMATOLOGY AND BIOCHEMISTRY

	TEST ITEM	DECIMAL PLACE	UNIT
HEMATOLOGY	Red blood cell	2	$\times 10^6/\mu L$
	Hemoglobin	1	g/dL
	Hematocrit	1	%
	MCV	1	fL
	MCH	1	pg
	MCHC	1	g/dL
	Platelet	0	$\times 10^3/\mu L$
	White blood cell	2	$\times 10^3/\mu L$
	Differntial WBC	0	%
BIOCHEMISTRY	Total protein	1	g/dL
	Albumin	1	g/dL
	A/G ratio	1	
	T-bilirubin	2	mg/dL
	Glucose	0	mg/dL
	T-cholesterol	0	mg/dL
	Triglyceride	0	mg/dL
	Phospholipid	0	mg/dL
	GOT	0	IU/L
	GPT	0	IU/L
	LDH	0	IU/L
	ALP	0	IU/L
	γ-GTP	0	IU/L
	CPK	0	IU/L
	Urea nitrogen	1	mg/dL
	Creatinine	1	mg/dL
	Sodium	0	mEq/L
	Potassium	1	mEq/L
	Chloride	0	mEq/L
	Calcium	1	mg/dL
	Inorganic phosphorus	1	mg/dl