１－クロロ－２,４－ジニトロベンゼンのラット及びマウスを用いた
経口投与によるがん原性試験（混餌試験）報告書

APPENDIX

(F1～K4)

がん原性試験 NO.　0095；0096

APPENDIXES (CONTINUED)

APPENDIXES (CONTINUED)

APPENDIX F 1

CHEMICAL INTAKE CHANGES: SUMMARY, RAT : MALE

(13Week STUDY)

STUDY NO. : 0095
ANIMAL : RAT F344
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : MALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 1	2	3	4	5	6	7
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	26.362± 0.731	24.176± 0.692	21.953± 0.749	20.060± 0.717	18.839± 0.680	17.633± 0.785	17.038± 0.827
800 ppm	64.930± 1.776	60.725± 2.174	55.124± 1.915	50.715± 1.860	47.425± 1.643	43.857± 1.566	41.801± 1.619
2000 ppm	143.115± 11.549	150.913± 5.133	137.904± 4.280	126.094± 4.056	118.229± 4.309	110.936± 3.774	107.897± 4.099

STUDY NO. : 0095
ANIMAL : RAT F344
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : MALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 8	9	10	11	12	13	14
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	16.248± 0.809	15.458± 0.811	15.013± 0.789	14.435± 0.830	14.122± 0.671	13.573± 0.642	13.134± 0.637
800 ppm	39.960± 1.598	38.910± 1.529	36.779± 1.647	35.654± 2.057	34.805± 1.810	33.879± 1.876	32.830± 1.674
2000 ppm	99.338± 3.551	96.627± 3.673	93.685± 3.871	91.640± 4.279	87.627± 4.457	86.237± 4.091	84.283± 4.089

STUDY NO. : 0095
ANIMAL : RAT F344
UNIT : mg/kg/d a y
REPORT TYPE : A1 104
SEX : MALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 16	18	20	22	24	26	28
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	12.815± 0.567	12.736± 0.565	12.578± 0.567	12.284± 0.581	12.318± 0.555	12.455± 0.592	12.026± 0.575
800 ppm	32.650± 1.976	32.076± 1.479	31.420± 1.528	30.995± 1.713	31.297± 1.613	31.371± 1.594	30.449± 1.846
2000 ppm	82.026± 3.999	80.354± 4.083	79.824± 3.605	78.017± 4.210	79.154± 5.063	80.000± 4.690	76.815± 5.748

STUDY NO. : 0095
ANIMAL : RAT F344
UNIT : mg／kg／d a y
REPORT TYPE : A1 104
SEX : MALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 30	32	34	36	38	40	42
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	11.779± 0.524	11.561± 0.778	11.803± 0.604	11.684± 0.811	11.471± 0.656	11.438± 0.630	11.291± 0.559
800 ppm	29.610± 1.610	28.946± 1.333	29.833± 1.403	29.162± 1.476	29.094± 1.651	28.536± 1.578	28.216± 1.479
2000 ppm	76.547± 5.008	74.739± 4.454	76.860± 4.624	76.623± 3.947	74.957± 3.886	72.593± 6.648	73.497± 4.370

STUDY NO. : 0095
ANIMAL : RAT F344
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : MALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 44	46	48	52	54	56	58
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	11.219± 0.781	11.181± 0.638	11.128± 0.649	10.682± 0.621	10.772± 0.696	10.830± 0.639	10.804± 0.625
800 ppm	28.120± 1.413	27.814± 1.479	27.770± 1.390	26.615± 1.858	26.941± 1.695	26.652± 1.765	26.645± 1.659
2000 ppm	72.939± 4.320	72.252± 3.721	69.134± 4.730	68.318± 3.764	68.401± 3.303	68.876± 3.287	69.062± 3.873

STUDY NO. : 0095
ANIMAL : RAT F344
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : MALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 60	62	64	66	68	70	72
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	10.820± 0.602	10.642± 0.668	10.558± 0.631	10.477± 0.624	10.398± 0.687	10.082± 0.700	10.137± 0.542
800 ppm	26.804± 1.529	26.472± 1.598	25.970± 2.008	26.037± 1.758	26.090± 1.681	25.245± 1.753	24.819± 1.889
2000 ppm	68.754± 4.103	69.804± 3.225	66.594± 5.295	67.752± 3.709	66.631± 3.738	65.652± 3.584	65.615± 3.006

STUDY NO. : 0095
ANIMAL : RAT F344
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : MALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 74	76	78	80	82	84	86
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	10.223± 0.629	10.064± 1.242	10.068± 1.188	10.122± 0.738	10.091± 0.885	10.359± 1.239	10.289± 1.392
800 ppm	25.819± 2.057	24.837± 2.119	25.563± 2.163	25.677± 2.349	25.818± 2.353	26.165± 2.408	25.528± 3.492
2000 ppm	65.049± 3.461	64.062± 3.542	64.897± 4.172	65.203± 4.528	65.801± 6.106	67.436± 4.462	66.670± 5.670

STUDY NO. : 0095
ANIMAL : RAT F344
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : MALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 88	90	92	94	96	98	100
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	10.282± 1.021	10.644± 0.823	10.675± 1.051	10.501± 1.762	10.964± 1.006	10.805± 1.262	10.508± 2.279
800 ppm	25.416± 3.361	25.968± 3.894	26.746± 2.346	27.041± 3.274	26.340± 4.499	25.841± 4.885	26.478± 5.396
2000 ppm	64.450± 8.407	67.447± 5.943	66.788± 6.228	66.994± 5.821	66.689± 8.581	67.365± 6.006	68.964± 6.829

STUDY NO. : 0095
ANIMAL : RAT F344
UNIT : mg／kg／d a y
REPORT TYPE : A1 104
SEX : MALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 104
Control	0.000± 0.000
320 ppm	11.116± 1.679
800 ppm	25.967± 3.439
2000 ppm	68.769± 10.575

APPENDIX F 2

CHEMICAL INTAKE CHANGES: SUMMARY,RAT: FEMALE

(13Week STUDY)

STUDY NO. : 0095
ANIMAL : RAT F344
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : FEMALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 1	2	3	4	5	6	7
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	27.142± 1.039	25.216± 1.063	24.178± 1.093	22.429± 1.029	21.607± 1.112	20.215± 0.828	19.942± 2.755
800 ppm	66.505± 2.929	62.828± 2.595	59.136± 2.741	55.648± 3.345	53.306± 2.735	50.914± 3.813	50.457± 6.386
2000 ppm	162.768± 37.616	154.916± 6.807	146.094± 20.757	134.886± 5.901	131.161± 6.750	123.700± 6.156	124.643± 14.315

STUDY NO. : 0095
ANIMAL : RAT F344
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : FEMALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 8	9	10	11	12	13	14
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	18.403± 1.070	18.147± 1.258	17.711± 1.186	18.231± 3.017	17.251± 1.291	17.216± 1.808	16.603± 1.145
800 ppm	47.405± 5.245	48.034± 5.927	46.239± 6.728	46.644± 6.843	44.605± 4.860	46.490± 9.035	44.043± 7.731
2000 ppm	115.330± 16.461	116.432± 16.476	116.203± 19.339	114.749± 12.887	109.539± 6.904	108.781± 14.361	106.166± 13.682

STUDY NO. : 0095
ANIMAL : RAT F344
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : FEMALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 16	18	20	22	24	26	28
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	16.806± 1.923	16.358± 2.006	16.168± 1.663	15.639± 1.112	16.085± 1.290	16.691± 1.531	15.921± 1.495
800 ppm	43.868± 8.451	41.976± 4.644	42.333± 5.571	41.470± 5.519	43.484± 5.840	44.224± 7.178	42.885± 7.398
2000 ppm	107.387± 12.703	105.314± 9.589	107.635± 17.418	103.145± 9.835	106.472± 10.132	110.138± 17.871	106.233± 14.225

STUDY NO. : 0095
ANIMAL : RAT F344
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : FEMALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 30	32	34	36	38	40	42
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	15.503± 1.309	15.662± 1.722	16.375± 1.837	15.714± 1.409	15.842± 1.787	15.856± 1.321	15.467± 1.360
800 ppm	41.245± 6.730	40.970± 5.227	42.330± 4.969	41.381± 5.463	42.413± 5.447	41.319± 5.241	40.869± 5.514
2000 ppm	105.301± 9.356	104.910± 12.121	106.240± 10.853	103.594± 8.337	102.725± 6.890	103.631± 11.004	104.091± 9.077

STUDY NO. : 0095
ANIMAL : RAT F344
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : FEMALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 44	46	48	52	54	56	58
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	15.697± 1.821	15.065± 1.715	15.460± 1.870	15.271± 1.821	15.064± 1.972	14.912± 1.795	14.787± 1.548
800 ppm	42.102± 6.552	40.148± 5.728	41.197± 5.073	38.862± 6.291	38.706± 5.122	38.058± 4.077	38.743± 5.257
2000 ppm	106.719± 15.341	99.075± 9.242	101.905± 12.577	96.330± 11.270	97.277± 10.728	96.051± 10.145	99.518± 11.061

STUDY NO. : 0095
ANIMAL : RAT F344
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : FEMALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 60	62	64	66	68	70	72
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	14.728± 1.768	14.863± 1.652	14.606± 1.596	14.466± 2.018	14.209± 1.719	13.560± 1.618	13.491± 1.653
800 ppm	38.789± 5.317	38.303± 4.623	37.559± 4.384	36.979± 3.891	36.552± 4.351	35.034± 4.622	37.540± 7.143
2000 ppm	98.093± 9.480	99.834± 9.054	96.795± 9.691	96.382± 10.460	93.668± 9.803	90.220± 9.690	91.911± 10.551

STUDY NO. : 0095
ANIMAL : RAT F344
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : FEMALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 74	76	78	80	82	84	86
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	13.559± 1.684	12.705± 1.851	12.921± 1.623	12.701± 1.909	12.947± 1.935	12.953± 1.873	13.021± 1.916
800 ppm	34.689± 3.841	33.470± 3.985	33.902± 4.191	33.362± 4.478	34.227± 4.919	33.988± 5.635	33.403± 5.483
2000 ppm	90.533± 10.720	85.749± 10.246	87.302± 11.303	87.949± 11.822	87.212± 14.827	86.772± 13.913	87.471± 12.159

STUDY NO. : 0095
ANIMAL : RAT F344
UNIT : mg/kg/d a y
REPORT TYPE : A1 104
SEX : FEMALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 88	90	92	94	96	98	100
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	12.470± 1.871	12.627± 1.810	12.580± 1.927	12.704± 1.805	12.792± 1.951	12.874± 1.950	13.029± 1.800
800 ppm	31.569± 6.935	32.280± 8.805	34.752± 5.930	33.817± 5.118	33.999± 5.960	33.251± 4.952	32.623± 5.071
2000 ppm	83.297± 12.104	86.141± 13.209	82.998± 16.234	83.075± 19.401	82.218± 14.943	80.904± 16.669	80.276± 15.027

STUDY NO. : 0095
ANIMAL : RAT F344
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : FEMALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 104
Control	0.000± 0.000
320 ppm	12.686± 2.231
800 ppm	31.831± 6.585
2000 ppm	81.341± 14.481

APPENDIX F 3

CHEMICAL INTAKE CHANGES: SUMMARY, MOUSE: MALE

(13Week STUDY)

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
UNIT : mg/kg/d a y
REPORT TYPE : A1 104
SEX : MALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 1	2	3	4	5	6	7
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	55.670± 3.597	49.384± 3.977	45.278± 4.156	48.606± 3.787	42.686± 2.995	44.983± 4.740	47.381± 4.052
800 ppm	136.760± 10.363	123.968± 10.761	111.492± 9.278	115.920± 10.810	110.654± 9.223	114.169± 10.434	113.530± 10.120
2000 ppm	356.868± 49.758	317.709± 34.661	299.415± 29.211	313.125± 34.327	270.193± 23.944	284.384± 28.999	276.572± 26.162

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
UNIT : mg/kg/d a y
REPORT TYPE : A1 104
SEX : MALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 8	9	10	11	12	13	14
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	45.604± 3.866	42.224± 2.903	43.370± 4.015	41.427± 4.488	41.334± 3.762	42.186± 3.089	37.296± 3.576
800 ppm	116.152± 9.703	105.367± 9.125	104.024± 8.493	109.147± 11.249	109.487± 10.083	109.638± 10.104	89.261± 8.825
2000 ppm	292.435± 24.972	284.628± 24.479	276.889± 29.050	288.708± 31.127	269.277± 20.333	278.997± 22.434	236.907± 23.070

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : MALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 16	18	20	22	24	26	28
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	39.954± 4.140	39.935± 3.849	38.494± 5.192	38.906± 7.044	41.117± 5.671	42.356± 4.883	37.671± 3.379
800 ppm	95.539± 9.012	100.720± 8.580	89.609± 7.589	92.647± 6.749	103.169± 10.644	101.326± 12.595	91.897± 8.890
2000 ppm	254.214± 18.700	259.725± 22.663	247.871± 22.038	256.240± 22.632	266.541± 23.953	270.767± 25.540	239.078± 24.660

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : MALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 30	32	34	36	38	40	42
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	37.097± 3.939	34.789± 3.690	38.746± 3.537	33.928± 3.330	35.120± 3.317	37.173± 4.373	34.698± 3.149
800 ppm	91.338± 8.868	86.769± 7.710	90.605± 9.508	82.481± 7.327	87.527± 9.017	88.543± 8.691	89.473± 10.367
2000 ppm	251.180± 24.473	228.897± 19.308	243.530± 25.040	219.623± 20.849	236.655± 23.499	233.058± 24.438	217.339± 25.105

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : MALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 44	46	48	50	52	54	56
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	37.316± 4.226	36.181± 4.308	35.082± 4.187	31.641± 4.735	37.400± 5.183	35.944± 4.477	33.863± 4.983
800 ppm	94.618± 14.451	91.249± 12.369	82.589± 9.151	80.211± 12.868	95.138± 12.647	82.869± 12.272	83.476± 14.363
2000 ppm	247.100± 26.074	233.980± 22.615	223.056± 25.007	196.573± 27.078	234.270± 25.233	213.909± 23.123	224.986± 25.689

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : MALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 58	60	62	64	66	68	70
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	34.698± 4.650	34.787± 4.625	35.350± 4.821	33.160± 4.438	31.340± 4.479	32.835± 4.993	35.667± 5.044
800 ppm	86.022± 24.355	91.056± 18.470	88.471± 20.181	78.979± 18.287	76.467± 27.547	83.790± 25.646	92.671± 28.170
2000 ppm	220.321± 24.456	234.167± 26.308	216.342± 24.084	200.049± 27.071	212.740± 27.641	212.968± 23.859	221.631± 30.106

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : MALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 72	74	76	78	80	82	84
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	36.493± 5.368	34.466± 5.084	35.735± 5.228	36.230± 4.813	37.896± 5.587	37.036± 5.713	36.785± 5.566
800 ppm	90.000± 23.657	84.632± 17.798	85.905± 22.264	88.446± 18.283	97.355± 18.524	98.504± 32.935	88.071± 17.324
2000 ppm	229.515± 27.255	227.371± 29.457	229.042± 39.781	249.170± 50.081	256.812± 56.461	252.292± 52.935	233.837± 52.067

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
UNIT : mg/kg/d a y
REPORT TYPE : A1 104
SEX : MALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 86	88	90	92	94	96	98
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	36.061± 5.583	36.683± 6.070	37.117± 6.926	36.511± 5.508	35.115± 5.654	38.681± 6.394	37.380± 6.248
800 ppm	87.288± 20.672	94.750± 20.591	87.450± 20.804	84.006± 16.739	91.375± 26.587	94.602± 31.132	82.937± 22.922
2000 ppm	235.661± 49.638	241.177± 66.396	237.716± 57.170	224.986± 55.277	249.744± 51.813	241.440± 49.852	233.435± 51.912

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
UNIT : mg／kg／d a y
REPORT TYPE : A1 104
SEX : MALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 100	102	104
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	38.876± 6.401	33.974± 5.921	44.022± 7.551
800 ppm	89.900± 19.028	105.580± 20.893	104.855± 21.733
2000 ppm	263.341± 63.340	265.370± 75.273	263.143± 62.136

APPENDIX F 4

CHEMICAL INTAKE CHANGES: SUMMARY, MOUSE: FEMALE

(13Week STUDY)

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : FEMALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 1	2	3	4	5	6	7
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	56.369± 4.173	53.330± 4.624	52.260± 5.610	54.165± 4.397	55.739± 4.424	56.658± 4.490	55.753± 5.827
800 ppm	141.390± 10.956	134.305± 11.532	128.638± 10.999	133.822± 10.775	144.275± 14.165	144.492± 14.514	143.993± 14.885
2000 ppm	393.408± 54.914	373.288± 58.044	333.176± 32.679	339.215± 30.470	353.897± 35.722	360.308± 27.463	352.165± 26.995

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : FEMALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 8	9	10	11	12	13	14
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	56.868± 4.929	56.224± 6.137	54.483± 4.991	57.217± 5.649	55.624± 5.793	57.672± 6.246	53.423± 5.946
800 ppm	144.803± 12.908	150.340± 14.763	142.835± 14.468	141.784± 13.925	140.593± 14.057	148.961± 14.246	138.240± 20.927
2000 ppm	371.600± 30.431	371.756± 30.973	349.378± 28.645	347.486± 27.806	367.138± 33.387	385.836± 39.035	361.644± 34.687

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : FEMALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 16	18	20	22	24	26	28
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	52.476± 6.477	56.589± 6.885	49.651± 6.074	53.054± 6.565	54.052± 7.711	53.487± 6.364	47.989± 6.118
800 ppm	128.965± 14.709	142.853± 15.914	128.500± 14.561	137.282± 18.248	146.826± 19.436	131.162± 15.014	123.786± 17.200
2000 ppm	337.175± 29.008	359.096± 32.306	336.392± 31.458	359.490± 30.781	365.481± 44.974	353.930± 40.590	324.754± 26.387

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : FEMALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 30	32	34	36	38	40	42
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	49.645± 6.602	46.337± 5.319	50.773± 6.868	50.991± 6.566	49.731± 7.483	45.031± 6.838	49.877± 6.706
800 ppm	125.051± 19.297	121.081± 13.930	131.021± 19.952	126.297± 17.721	131.739± 19.426	111.951± 14.612	121.020± 20.392
2000 ppm	323.961± 33.628	316.776± 30.095	327.736± 37.861	334.899± 36.430	353.938± 46.150	315.328± 33.056	348.117± 41.773

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : FEMALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 44	46	48	50	52	54	56
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	54.265± 7.573	47.574± 5.531	48.102± 6.558	45.030± 5.847	48.835± 6.297	45.522± 5.495	44.728± 5.553
800 ppm	137.870± 18.854	124.078± 17.495	120.414± 18.806	110.151± 16.422	129.766± 17.690	121.653± 16.422	119.864± 15.306
2000 ppm	368.034± 53.575	339.672± 41.576	341.594± 44.821	276.559± 34.573	345.434± 45.453	312.981± 38.308	282.059± 39.870

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : FEMALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 58	60	62	64	66	68	70
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	49.487± 7.855	46.943± 5.085	50.001± 6.661	42.284± 5.253	42.373± 5.911	47.818± 6.333	47.544± 6.927
800 ppm	119.317± 17.205	127.876± 15.966	121.766± 17.908	105.091± 14.468	103.012± 16.125	120.866± 27.480	121.001± 15.649
2000 ppm	312.895± 38.930	314.974± 39.764	321.095± 37.668	281.766± 33.876	297.225± 37.316	299.525± 39.049	312.485± 39.980

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : FEMALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 72	74	76	78	80	82	84
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	44.847± 6.384	42.244± 5.285	46.236± 6.245	48.133± 5.849	45.278± 5.993	49.994± 6.689	47.329± 6.517
800 ppm	113.063± 18.752	115.707± 27.002	115.854± 23.334	120.666± 22.049	127.641± 27.305	124.309± 31.407	117.803± 25.257
2000 ppm	306.206± 38.275	290.788± 39.367	312.696± 41.789	334.572± 64.452	331.828± 55.134	328.625± 56.507	319.260± 60.829

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
UNIT : mg/kg/day
REPORT TYPE : A1 104
SEX : FEMALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 86	88	90	92	94	96	98
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	47.233± 7.061	45.548± 7.394	45.888± 6.470	43.810± 7.986	46.207± 8.153	47.490± 8.189	48.986± 8.704
800 ppm	120.981± 27.761	126.434± 28.398	122.812± 30.187	116.071± 28.501	123.714± 34.452	132.026± 32.189	116.939± 34.281
2000 ppm	320.850± 74.304	331.765± 75.177	329.566± 84.545	305.011± 61.185	328.372± 73.862	342.165± 70.400	309.579± 76.994

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
UNIT : mg/kg/d a y
REPORT TYPE : A1 104
SEX : FEMALE

CHEMICAL INTAKE CHENGES (SUMMARY)
ALL ANIMALS

Group Name	Administration (weeks) 100	102	104
Control	0.000± 0.000	0.000± 0.000	0.000± 0.000
320 ppm	47.346± 7.689	46.167± 6.229	52.472± 9.479
800 ppm	121.303± 34.852	114.089± 26.685	126.209± 35.505
2000 ppm	310.075± 60.609	316.290± 56.700	345.039± 90.887

APPENDIX G 1

HEMATOLOGY : SUMMARY, RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

HEMATOLOGY(1) (SUMMARY)
SURVIVAL ANIMALS (105)

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	36	8.70± 1.28	15.2± 2.4	46.3± 6.6	53.3± 2.4	17.4± 1.0	32.7± 1.2	878± 171
320 ppm	35	8.58± 1.72	14.7± 3.0	45.0± 8.4	52.6± 3.4	17.1± 1.4	32.5± 1.7	916± 246
800 ppm	42	8.43± 1.28	14.4± 2.1	44.0± 5.9	52.4± 4.1**	17.1± 1.2	32.7± 0.9	901± 231
2000 ppm	39	8.32± 1.38	13.9± 2.5	42.7± 6.8	51.5± 2.0**	16.6± 1.1*	32.3± 1.9	937± 203

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

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

HEMATOLOGY(2) (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$		Differential WBC (%) N-BAND		N-SEG		EOSINO		BASO		MONO		LYMPHO		OTHER	
Control	36	4.75±	1.47	2±	2	48±	11	2±	2	0±	0	4±	2	43±	10	2±	3
320 ppm	35	5.23±	1.71	1±	1	47±	11	2±	2	0±	0	4±	3	42±	10	3±	4
800 ppm	42	5.09±	1.70	2±	2	48±	10	2±	1	0±	0	5±	3	40±	10	3±	5
2000 ppm	39	6.38±	4.14	1±	1	49±	12	1±	1	0±	0	4±	2	42±	11	2±	2

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

(JCL71A)

APPENDIX G 2

HEMATOLOGY : SUMMARY, RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

HEMATOLOGY(1) (SUMMARY)
SURVIVAL ANIMALS (105)

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	40	7.61± 0.94	14.2± 2.1	43.2± 5.4	56.9± 3.8	18.6± 1.6	32.6± 1.8	659± 157
320 ppm	43	7.90± 0.74	14.5± 1.4	43.7± 3.8	55.5± 1.9**	18.3± 0.7**	33.0± 1.1	700± 145
800 ppm	44	7.60± 1.20	13.8± 2.6	41.9± 6.9	55.1± 2.7**	18.0± 1.3**	32.6± 2.0	755± 178*
2000 ppm	34	7.66± 1.09	13.8± 2.1*	42.1± 5.6	55.1± 2.9**	17.9± 1.2**	32.6± 1.9	709± 136

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

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

HEMATOLOGY(2) (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$		Differential WBC (%) N-BAND		N-SEG		EOSINO		BASO		MONO		LYMPHO		OTHER	
Control	40	3.46±	4.33	2±	2	42±	13	2±	1	0±	0	5±	3	46±	12	4±	12
320 ppm	43	3.13±	2.07	1±	2	46±	13	2±	1	0±	0	4±	2	46±	14	2±	2
800 ppm	44	3.28±	2.47	2±	2	47±	11	2±	2	0±	0	4±	2	43±	11	2±	5
2000 ppm	34	3.59±	3.11	2±	1	44±	16	1±	1	0±	0	3±	2*	48±	16	1±	2

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

APPENDIX G 3

HEMATOLOGY : SUMMARY, MOSUE : MALE

(2-YEAR STUDY)

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

HEMATOLOGY(1) (SUMMARY)
SURVIVAL ANIMALS (105)

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	36	9.61± 0.68	14.1± 1.2	43.2± 3.7	45.0± 1.6	14.7± 0.6	32.7± 0.7	2022± 413
320 ppm	42	9.49± 0.95	13.9± 1.3	42.5± 3.9	44.9± 2.1	14.7± 0.7	32.7± 0.8	1989± 454
800 ppm	40	9.58± 0.86	13.9± 1.4	42.6± 4.5	44.5± 2.0	14.5± 0.7	32.6± 1.1	1885± 384
2000 ppm	40	9.17± 0.76	13.5± 1.2	41.4± 3.7	45.1± 1.8	14.7± 0.7	32.6± 0.8	2038± 454

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

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

HEMATOLOGY(2) (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$	Differential WBC (%) N-BAND	N-SEG	EOSINO	BASO	MONO	LYMPHO	OTHER
Control	36	2.00± 1.09	1± 1	34± 16	2± 2	0± 0	2± 2	62± 15	0± 1
320 ppm	42	5.32± 20.32	1± 1	29± 14	2± 1	0± 0	2± 2	65± 15	1± 2
800 ppm	40	2.09± 1.21	1± 1	35± 17	1± 2	0± 0	3± 2	59± 17	1± 3
2000 ppm	40	2.55± 3.66	1± 1	37± 15	2± 3	0± 0	3± 3	56± 15	1± 3

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

APPENDIX G 4

HEMATOLOGY : SUMMARY, MOSUE : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

HEMATOLOGY(1) (SUMMARY)
SURVIVAL ANIMALS (105)

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	31	9.05± 1.23	13.7± 1.6	41.9± 4.4	46.8± 5.0	15.2± 0.9	32.6± 1.7	1044± 438
320 ppm	29	9.45± 1.05	14.0± 1.4	42.3± 3.9	45.1± 4.3	14.9± 1.1	33.0± 1.2	1192± 323
800 ppm	35	8.90± 1.71	13.2± 2.3	40.3± 5.8	46.4± 7.3	15.0± 1.2	32.5± 2.0	1170± 357
2000 ppm	35	8.83± 1.43	12.7± 2.1**	39.4± 6.4*	44.5± 2.5	14.4± 0.7**	32.3± 1.1	1304± 350*

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

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

HEMATOLOGY(2) (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	WBC $10^3/\mu\ell$		Differential WBC (%) N-BAND		N-SEG		EOSINO		BASO		MONO		LYMPHO		OTHER	
Control	31	7.83±	33.19	2±	2	33±	15	2±	2	0±	0	3±	2	59±	15	2±	3
320 ppm	29	6.00±	24.78	1±	1	33±	16	1±	2	0±	0	3±	2	59±	16	2±	4
800 ppm	35	10.08±	39.70	1±	2	34±	20	2±	5	0±	0	3±	2	57±	21	3±	7
2000 ppm	35	4.57±	13.35	2±	3	33±	16	1±	3	0±	0	3±	4	58±	16	2±	4

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

APPENDIX H 1

BIOCHEMISTRY : SUMMARY, RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

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	36	6.9± 0.3	3.3± 0.2	0.9± 0.1	0.19± 0.06	153± 28	161± 33	158± 90
320 ppm	35	6.9± 0.3	3.3± 0.2	0.9± 0.1	0.20± 0.08	157± 24	153± 42	136± 67
800 ppm	42	6.8± 0.4	3.2± 0.2	0.9± 0.1	0.20± 0.03	151± 26	161± 48	163± 108
2000 ppm	39	6.8± 0.4	3.2± 0.2	0.9± 0.1	0.22± 0.16	160± 20	161± 36	172± 98

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

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

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	36	252± 59	56± 13	20± 15	194± 107	161± 40	4± 2	77± 35
320 ppm	35	240± 70	57± 14	15± 3	194± 94	177± 91	4± 2	69± 20
800 ppm	42	251± 77	59± 15	15± 5	165± 58	163± 36	5± 3	65± 19
2000 ppm	39	250± 57	59± 17	14± 3**	208± 180	187± 94	6± 3	73± 35

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

(HCL074)

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

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	36	22.3± 7.5	0.7± 0.3	139± 2	3.8± 0.3	105± 2	10.7± 0.5	4.3± 1.0
320 ppm	35	22.8± 5.9	0.7± 0.1	139± 1	3.9± 0.3	105± 1	10.6± 0.3	4.3± 0.7
800 ppm	42	23.2± 7.5	0.7± 0.3	139± 2	3.8± 0.3	105± 2	10.7± 0.5	4.3± 0.9
2000 ppm	39	25.7± 7.5	0.7± 0.2	139± 1	3.9± 0.4	105± 2	10.7± 0.3	4.4± 0.8

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

APPENDIX H 2

BIOCHEMISTRY : SUMMARY, RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

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	40	7.2± 0.4	3.9± 0.3	1.2± 0.1	0.21± 0.09	158± 22	122± 22	127± 85
320 ppm	43	7.3± 0.5	3.9± 0.4	1.2± 0.1	0.20± 0.06	156± 23	118± 23	115± 66
800 ppm	44	7.1± 0.6	3.8± 0.5	1.1± 0.2	0.27± 0.47	148± 28	113± 19	100± 62
2000 ppm	34	7.2± 0.6	3.9± 0.3	1.2± 0.2	0.23± 0.13	149± 25	124± 17	98± 52

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

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

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	40	229± 45	108± 50	30± 10	237± 113	130± 75	3± 2	68± 23
320 ppm	43	226± 52	105± 73	28± 14	225± 122	131± 58	2± 1	72± 46
800 ppm	44	208± 39	172± 323	32± 18	426± 1292	194± 366	3± 3	75± 48
2000 ppm	34	227± 36	144± 84*	35± 17	271± 123	130± 119	3± 1	76± 27

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

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

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	40	16.3± 5.1	0.5± 0.1	139± 2	3.8± 0.5	105± 2	10.7± 0.4	4.0± 0.8
320 ppm	43	17.2± 6.1	0.5± 0.1	138± 2	3.6± 0.4	105± 2	10.7± 0.5	3.7± 0.9
800 ppm	44	18.9± 11.4*	0.5± 0.1	139± 2	3.8± 0.5	105± 2	10.6± 0.5	3.8± 0.9
2000 ppm	34	18.7± 4.5**	0.5± 0.1	138± 2	3.8± 0.5	105± 2	10.7± 0.4	3.5± 1.0

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

APPENDIX H 3

BIOCHEMISTRY : SUMMARY, MOSUE : MALE

(2-YEAR STUDY)

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

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	35	5.5±	0.5	3.0±	0.3	1.2±	0.2	0.27±	0.12	202±	43	90±	24	50±	18
320 ppm	42	5.4±	0.8	2.9±	0.4	1.2±	0.2	0.35±	0.20	203±	38	92±	33	59±	34
800 ppm	40	5.6±	1.0	3.1±	0.5	1.2±	0.2	0.32±	0.14	185±	48	109±	63	57±	22
2000 ppm	40	5.3±	0.6**	2.8±	0.2	1.2±	0.3	0.32±	0.13	188±	46	90±	18	60±	19

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

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

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	35	58± 67	16± 20	234± 128	182± 78	24± 13	24.3± 19.3	152± 2
320 ppm	42	52± 36	15± 12	251± 175	169± 37	26± 14	20.8± 3.4	151± 2
800 ppm	40	104± 170	33± 64	379± 374	207± 208	36± 34	21.8± 3.9	152± 2
2000 ppm	40	68± 30**	16± 11	297± 228*	181± 45	36± 24**	22.8± 13.5	152± 2

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

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	POTASSIUM mEq／ℓ	CHLORIDE mEq／ℓ	CALCIUM mg／dℓ	INORGANIC PHOSPHORUS mg／dℓ
Control	35	4.3± 0.4	121± 2	8.8± 0.5	6.8± 0.8
320 ppm	42	4.3± 0.4	121± 3	8.7± 0.5	6.9± 0.8
800 ppm	40	4.3± 0.5	121± 4	8.9± 0.7	6.9± 1.2
2000 ppm	40	4.3± 0.4	123± 2	8.7± 0.3	6.8± 1.0

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

APPENDIX H 4

BIOCHEMISTRY : SUMMARY, MOSUE : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

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	30	5.0± 0.7	2.9± 0.3	1.4± 0.3	0.35± 0.13	163± 38	60± 19	54± 17
320 ppm	28	5.1± 0.6	2.9± 0.2	1.4± 0.3	0.33± 0.14	165± 42	63± 20	56± 16
800 ppm	35	5.2± 0.7	2.9± 0.3	1.3± 0.3	0.38± 0.15	159± 43	65± 15	64± 26
2000 ppm	35	5.0± 0.5	2.8± 0.3	1.3± 0.2	0.43± 0.21	152± 52	70± 14	59± 17

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

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

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	30	134± 216	46± 132	544± 946	309± 177	46± 38	18.2± 8.3	150± 2
320 ppm	28	179± 473	47± 129	502± 681	290± 111	87± 258	18.4± 13.7	150± 2
800 ppm	35	95± 81	23± 25	903± 2907	292± 122	69± 150	19.1± 19.9	146± 25
2000 ppm	35	539± 2494*	122± 562	2089± 8330	344± 141	130± 204	20.4± 9.0	150± 4

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

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

BIOCHEMISTRY (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	POTASSIUM mEq/ℓ	CHLORIDE mEq/ℓ	CALCIUM mg/dℓ	INORGANIC PHOSPHORUS mg/dℓ
Control	30	4.3± 0.5	122± 3	8.9± 0.5	6.5± 1.0
320 ppm	28	4.4± 0.5	122± 3	8.9± 0.7	6.7± 0.9
800 ppm	35	4.2± 0.9	120± 21	8.9± 0.6	6.8± 2.5
2000 ppm	35	4.7± 1.2	125± 3**	8.7± 0.5	6.8± 1.2

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

APPENDIX I 1

URINALYSIS : SUMMARY, RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0095
ANIMAL : RAT F344
SAMPLING DATE : 104-6
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	Bilirubin −	+	2+	3+	CHI
Control	36	0	1	8	15	9	3	0		0	0	0	0	7	29		36	0	0	0	0	0		34	2	0	0	0	0		36	0	0	0	
320 ppm	35	0	0	7	9	13	6	0		0	0	0	0	9	26		35	0	0	0	0	0		35	0	0	0	0	0		35	0	0	0	
800 ppm	42	0	0	15	13	7	6	0		0	0	0	4	11	26		41	0	0	0	0	0		41	0	0	0	0	0		41	0	0	0	
2000 ppm	41	1	1	10	12	15	2	0		0	0	0	2	26	13	**	41	0	0	0	0	0		41	0	0	0	0	0		41	0	0	0	

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

STUDY NO. : 0095 URINALYSIS
ANIMAL : RAT F344
SAMPLING DATE : 104-6
SEX : MALE REPORT TYPE : A1

Group Name	NO. of Animals	Occult blood −	±	+	2+	3+	CHI	Urobilinogen ±	+	2+	3+	4+	CHI
Control	36	30	6	0	0	0		36	0	0	0	0	
320 ppm	35	24	11	0	0	0		35	0	0	0	0	
800 ppm	42	32	7	2	0	0		41	0	0	0	0	
2000 ppm	41	33	5	3	0	0		41	0	0	0	0	

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

APPENDIX I 2

URINALYSIS : SUMMARY, RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0095 URINALYSIS
ANIMAL : RAT F344
SAMPLING DATE : 104-6
SEX : FEMALE REPORT TYPE : A1

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	42	0	5	9	11	12	5	0		0	1	3	6	26	6		42	0	0	0	0	0		35	7	0	0	0	0		41	0	0	1	
320 ppm	43	0	4	16	8	11	4	0		0	1	9	17	13	3	**	43	0	0	0	0	0		40	3	0	0	0	0		43	0	0	0	
800 ppm	44	0	4	13	7	9	11	0		0	5	15	17	7	0	**	44	0	0	0	0	0		42	2	0	0	0	0		44	0	0	0	
2000 ppm	35	0	5	5	10	9	6	0		0	8	10	17	0	0	**	35	0	0	0	0	0		34	1	0	0	0	0	*	35	0	0	0	

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

STUDY NO. : 0095 URINALYSIS

△ ANIMAL : RAT F344

SAMPLING DATE : 104-6

SEX : FEMALE REPORT TYPE : A1

Group Name	NO. of Animals	Occult blood −	±	+	2+	3+	CHI	Urobilinogen ±	+	2+	3+	4+	CHI
Control	42	39	2	0	1	0		41	1	0	0	0	
320 ppm	43	40	3	0	0	0		43	0	0	0	0	
800 ppm	44	40	3	1	0	0		43	1	0	0	0	
2000 ppm	35	30	1	3	0	1		32	3	0	0	0	

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

APPENDIX I 3

URINALYSIS : SUMMARY, MOSUE : MALE

(2-YEAR STUDY)

STUDY NO. : 0096 URINALYSIS
ANIMAL : MOUSE BDF1
SAMPLING DATE : 104-6
SEX : MALE REPORT TYPE : A1

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	36	0	2	8	6	12	8	0		0	1	13	22	0	0		36	0	0	0	0	0		20	16	0	0	0	0		35	0	0	0	1	
320 ppm	43	0	3	10	3	20	7	0		0	1	24	17	1	0		43	0	0	0	0	0		28	15	0	0	0	0		40	1	1	1	0	
800 ppm	40	0	2	9	8	14	7	0		0	0	21	18	1	0		40	0	0	0	0	0		29	10	1	0	0	0		31	5	1	0	3	
2000 ppm	40	0	1	1	7	20	11	0		0	3	26	11	0	0	*	40	0	0	0	0	0		29	11	0	0	0	0		32	3	2	3	0	

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

STUDY NO. : 0096 URINALYSIS
ANIMAL : MOUSE BDF1
SAMPLING DATE : 104-6
SEX : MALE REPORT TYPE : A1

Group Name	NO. of Animals	Urobilinogen ±	+	2+	3+	4+	CHI
Control	36	36	0	0	0	0	
320 ppm	43	43	0	0	0	0	
800 ppm	40	40	0	0	0	0	
2000 ppm	40	40	0	0	0	0	

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

APPENDIX I 4

URINALYSIS : SUMMARY, MOSUE : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
SAMPLING DATE : 104-6
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	Occult blood −	±	+	2+	3+	CHI
Control	31	0	7	5	10	7	2	0		0	0	19	10	2	0		31	0	0	0	0	0		10	15	6	0	0	0		21	3	2	3	2	
320 ppm	30	0	4	7	7	10	2	0		0	2	20	8	0	0		30	0	0	0	0	0		21	9	0	0	0	0	**	19	4	3	3	1	
800 ppm	35	0	8	5	10	6	6	0		0	6	22	7	0	0	*	35	0	0	0	0	0		26	8	1	0	0	0	**	21	8	0	5	1	
2000 ppm	36	0	5	4	3	11	13	0	*	0	13	21	2	0	0	**	36	0	0	0	0	0		35	1	0	0	0	0	**	20	4	5	3	4	

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

STUDY NO. : 0096 URINALYSIS

ANIMAL : MOUSE BDF1

SAMPLING DATE : 104-6

SEX : FEMALE REPORT TYPE : A1

Group Name	NO. of Animals	Urobilinogen ±	+	2+	3+	4+	CHI
Control	31	31	0	0	0	0	
320 ppm	30	30	0	0	0	0	
800 ppm	35	35	0	0	0	0	
2000 ppm	36	32	4	0	0	0	

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

APPENDIX J 1

GROSS FINDINGS : SUMMARY, RAT : MALE : DEAD AND MORIBUND ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name / NO. of Animals	Control 14 (%)	320 ppm 15 (%)	800 ppm 8 (%)	2000 ppm 11 (%)
subcutis	mass		5 (36)	6 (40)	4 (50)	5 (45)
lung	red		2 (14)	4 (27)	1 (13)	2 (18)
	red patch/zone		0 (0)	0 (0)	0 (0)	1 (9)
	edema		0 (0)	0 (0)	1 (13)	0 (0)
	nodule		0 (0)	1 (7)	0 (0)	1 (9)
	mass		1 (7)	0 (0)	0 (0)	0 (0)
lymph node	enlarged		1 (7)	1 (7)	0 (0)	1 (9)
spleen	enlarged		1 (7)	2 (13)	2 (25)	2 (18)
	brown patch/zone		0 (0)	1 (7)	0 (0)	0 (0)
	nodule		2 (14)	1 (7)	0 (0)	0 (0)
heart	mass		1 (7)	0 (0)	0 (0)	0 (0)
	dilated		0 (0)	0 (0)	1 (13)	0 (0)
	fluid:brown		1 (7)	0 (0)	0 (0)	0 (0)
oral cavity	nodule		1 (7)	0 (0)	0 (0)	0 (0)
tongue	nodule		1 (7)	0 (0)	0 (0)	0 (0)
	absence		1 (7)	0 (0)	0 (0)	0 (0)
forestomach	ulcer		3 (21)	2 (13)	2 (25)	1 (9)
gl stomach	black patch/zone		0 (0)	0 (0)	0 (0)	1 (9)
	nodule		0 (0)	0 (0)	1 (13)	0 (0)
	ulcer		0 (0)	2 (13)	0 (0)	1 (9)
stomach	fluid:red		0 (0)	1 (7)	0 (0)	0 (0)
small intes	adhesion		1 (7)	0 (0)	0 (0)	0 (0)

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name / NO. of Animals	Control 14 (%)	320 ppm 15 (%)	800 ppm 8 (%)	2000 ppm 11 (%)
small intes	gas		0 (0)	0 (0)	0 (0)	1 (9)
large intes	nodule		1 (7)	0 (0)	0 (0)	0 (0)
liver	enlarged		1 (7)	0 (0)	0 (0)	0 (0)
	pale		0 (0)	0 (0)	0 (0)	2 (18)
	nodule		2 (14)	1 (7)	0 (0)	0 (0)
	herniation		1 (7)	0 (0)	0 (0)	0 (0)
pancreas	nodule		1 (7)	1 (7)	0 (0)	1 (9)
kidney	granular		1 (7)	0 (0)	4 (50)	3 (27)
	absence		1 (7)	0 (0)	0 (0)	0 (0)
urin bladd	urine:marked retention		0 (0)	1 (7)	0 (0)	0 (0)
pituitary	enlarged		2 (14)	7 (47)	1 (13)	2 (18)
	red patch/zone		0 (0)	1 (7)	0 (0)	0 (0)
	black patch/zone		1 (7)	0 (0)	0 (0)	0 (0)
	hemorrhage		1 (7)	0 (0)	0 (0)	0 (0)
	nodule		2 (14)	1 (7)	1 (13)	1 (9)
adrenal	enlarged		1 (7)	0 (0)	0 (0)	0 (0)
testis	enlarged		0 (0)	0 (0)	1 (13)	0 (0)
	atrophic		2 (14)	4 (27)	4 (50)	2 (18)
	red		0 (0)	1 (7)	0 (0)	0 (0)
	nodule		8 (57)	9 (60)	5 (63)	8 (73)
	absence		1 (7)	0 (0)	1 (13)	0 (0)
epididymis	white patch/zone		0 (0)	1 (7)	0 (0)	0 (0)

Organ	Findings	Group Name / NO. of Animals	Control 14 (%)	320 ppm 15 (%)	800 ppm 8 (%)	2000 ppm 11 (%)
epididymis	absence		1 (7)	0 (0)	0 (0)	0 (0)
semin ves	absence		1 (7)	0 (0)	0 (0)	0 (0)
brain	enlarged		0 (0)	0 (0)	0 (0)	1 (9)
	red patch/zone		0 (0)	1 (7)	0 (0)	0 (0)
	hemorrhage		1 (7)	0 (0)	0 (0)	0 (0)
periph nerv	nodule		1 (7)	0 (0)	0 (0)	0 (0)
eye	turbid		0 (0)	2 (13)	0 (0)	0 (0)
	white		0 (0)	1 (7)	0 (0)	0 (0)
auditory	nodule		0 (0)	0 (0)	0 (0)	1 (9)
	mass		0 (0)	0 (0)	0 (0)	1 (9)
muscle	mass		1 (7)	0 (0)	0 (0)	0 (0)
peritoneum	nodule		2 (14)	0 (0)	1 (13)	0 (0)
	mass		1 (7)	0 (0)	0 (0)	0 (0)
retroperit	nodule		0 (0)	0 (0)	0 (0)	1 (9)
abdominal c	hemorrhage		3 (21)	0 (0)	0 (0)	0 (0)
	nodule		0 (0)	1 (7)	0 (0)	0 (0)
	mass		0 (0)	0 (0)	0 (0)	1 (9)
	ascites		1 (7)	0 (0)	2 (25)	1 (9)
mesenterium	nodule		0 (0)	0 (0)	0 (0)	1 (9)
adipose	nodule		2 (14)	0 (0)	1 (13)	0 (0)
	thick		0 (0)	0 (0)	0 (0)	1 (9)
thoracic ca	hemorrhage		1 (7)	1 (7)	0 (0)	0 (0)

Organ	Findings	Group Name NO. of Animals	Control 14 (%)	320 ppm 15 (%)	800 ppm 8 (%)	2000 ppm 11 (%)
thoracic ca	pleural fluid		2 (14)	0 (0)	2 (25)	1 (9)
other	nodule		0 (0)	2 (13)	1 (13)	0 (0)
whole body	anemic		2 (14)	0 (0)	1 (13)	0 (0)

APPENDIX J 2

GROSS FINDINGS : SUMMARY, RAT : FEMALE : DEAD AND MORIBUND ANIMALS

(2-YEAR STUDY)

Organ	Findings	Group Name NO. of Animals	Control 8 (%)	320 ppm 7 (%)	800 ppm 6 (%)	2000 ppm 15 (%)
skin/app	nodule		0 (0)	1 (14)	0 (0)	0 (0)
	hair		0 (0)	0 (0)	0 (0)	1 (7)
subcutis	jaundice		0 (0)	0 (0)	1 (17)	0 (0)
	mass		3 (38)	5 (71)	4 (67)	6 (40)
lung	red		1 (13)	1 (14)	1 (17)	3 (20)
	red patch/zone		1 (13)	0 (0)	0 (0)	1 (7)
	nodule		0 (0)	0 (0)	1 (17)	2 (13)
lymph node	enlarged		0 (0)	0 (0)	0 (0)	1 (7)
spleen	enlarged		2 (25)	3 (43)	1 (17)	3 (20)
	black patch/zone		0 (0)	0 (0)	0 (0)	1 (7)
	nodule		0 (0)	0 (0)	0 (0)	2 (13)
heart	dilated		0 (0)	0 (0)	0 (0)	1 (7)
tongue	nodule		1 (13)	0 (0)	0 (0)	0 (0)
forestomach	ulcer		1 (13)	0 (0)	1 (17)	0 (0)
gl stomach	black patch/zone		0 (0)	1 (14)	0 (0)	0 (0)
	ulcer		0 (0)	1 (14)	3 (50)	2 (13)
stomach	ulcer		0 (0)	0 (0)	0 (0)	1 (7)
cecum	gas		1 (13)	0 (0)	0 (0)	0 (0)
liver	pale		1 (13)	0 (0)	0 (0)	1 (7)
	nodule		0 (0)	0 (0)	0 (0)	2 (13)
	rough		0 (0)	1 (14)	0 (0)	0 (0)
	herniation		1 (13)	0 (0)	1 (17)	2 (13)

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name NO. of Animals	Control 8 (%)	320 ppm 7 (%)	800 ppm 6 (%)	2000 ppm 15 (%)
pancreas	enlarged		0 (0)	0 (0)	0 (0)	1 (7)
	nodule		0 (0)	0 (0)	0 (0)	2 (13)
kidney	white patch/zone		0 (0)	1 (14)	0 (0)	0 (0)
	granular		1 (13)	0 (0)	0 (0)	0 (0)
	hydronephrosis		0 (0)	2 (29)	0 (0)	1 (7)
urin bladd	urine:marked retention		0 (0)	2 (29)	0 (0)	1 (7)
pituitary	enlarged		2 (25)	0 (0)	1 (17)	3 (20)
	red patch/zone		1 (13)	1 (14)	0 (0)	0 (0)
	brown patch/zone		1 (13)	0 (0)	0 (0)	0 (0)
	black patch/zone		0 (0)	0 (0)	0 (0)	1 (7)
	nodule		1 (13)	0 (0)	2 (33)	1 (7)
adrenal	white patch/zone		0 (0)	0 (0)	0 (0)	1 (7)
ovary	nodule		0 (0)	0 (0)	0 (0)	1 (7)
uterus	enlarged		0 (0)	1 (14)	0 (0)	0 (0)
	nodule		1 (13)	1 (14)	1 (17)	4 (27)
brain	cyst		0 (0)	0 (0)	0 (0)	1 (7)
eye	turbid		0 (0)	1 (14)	0 (0)	1 (7)
peritoneum	nodule		0 (0)	0 (0)	0 (0)	1 (7)
	adhesion		0 (0)	0 (0)	0 (0)	1 (7)
retroperit	mass		0 (0)	0 (0)	0 (0)	2 (13)
abdominal c	hemorrhage		0 (0)	0 (0)	0 (0)	2 (13)
	ascites		0 (0)	3 (43)	1 (17)	1 (7)

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name NO. of Animals	Control 8 (%)	320 ppm 7 (%)	800 ppm 6 (%)	2000 ppm 15 (%)
mesenterium	nodule		0 (0)	0 (0)	0 (0)	1 (7)
thoracic ca	pleural fluid		0 (0)	1 (14)	0 (0)	2 (13)
whole body	anemic		0 (0)	1 (14)	0 (0)	0 (0)

APPENDIX J 3

GROSS FINDINGS : SUMMARY, RAT : MALE : SACRIFICED ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (105W)

Organ	Findings	Group Name NO. of Animals	Control 36 (%)	320 ppm 35 (%)	800 ppm 42 (%)	2000 ppm 39 (%)
skin/app	nodule		5 (14)	1 (3)	0 (0)	2 (5)
	scab		0 (0)	1 (3)	0 (0)	0 (0)
subcutis	mass		4 (11)	7 (20)	15 (36)	9 (23)
lung	red patch/zone		1 (3)	0 (0)	0 (0)	0 (0)
	yellow patch/zone		1 (3)	0 (0)	1 (2)	0 (0)
	nodule		4 (11)	3 (9)	1 (2)	3 (8)
spleen	enlarged		4 (11)	1 (3)	2 (5)	4 (10)
	nodule		1 (3)	1 (3)	1 (2)	1 (3)
	deformed		1 (3)	0 (0)	0 (0)	0 (0)
	scarred		0 (0)	2 (6)	2 (5)	0 (0)
oral cavity	nodule		0 (0)	1 (3)	0 (0)	2 (5)
forestomach	ulcer		0 (0)	0 (0)	0 (0)	1 (3)
stomach	red patch/zone		1 (3)	0 (0)	0 (0)	0 (0)
liver	yellow patch/zone		1 (3)	0 (0)	0 (0)	1 (3)
	nodule		1 (3)	0 (0)	2 (5)	4 (10)
	cyst		0 (0)	0 (0)	2 (5)	0 (0)
	nodular		1 (3)	0 (0)	0 (0)	0 (0)
	adhesion		0 (0)	1 (3)	0 (0)	0 (0)
	herniation		0 (0)	2 (6)	2 (5)	3 (8)
pancreas	nodule		0 (0)	1 (3)	1 (2)	0 (0)
kidney	enlarged		0 (0)	0 (0)	1 (2)	0 (0)
	cyst		0 (0)	0 (0)	1 (2)	0 (0)

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (105W)

Organ	Findings	Group Name NO. of Animals	Control 36 (%)	320 ppm 35 (%)	800 ppm 42 (%)	2000 ppm 39 (%)
kidney	granular		25 (69)	25 (71)	32 (76)	34 (87)
pituitary	enlarged		5 (14)	2 (6)	1 (2)	2 (5)
	red patch/zone		1 (3)	3 (9)	0 (0)	1 (3)
	nodule		4 (11)	6 (17)	3 (7)	3 (8)
thyroid	enlarged		4 (11)	2 (6)	6 (14)	3 (8)
	nodule		1 (3)	0 (0)	1 (2)	1 (3)
adrenal	enlarged		2 (6)	1 (3)	1 (2)	2 (5)
testis	enlarged		7 (19)	7 (20)	12 (29)	12 (31)
	atrophic		8 (22)	2 (6)	8 (19)	4 (10)
	red		0 (0)	0 (0)	1 (2)	0 (0)
	nodule		32 (89)	34 (97)	37 (88)	36 (92)
semin ves	enlarged		0 (0)	0 (0)	1 (2)	1 (3)
eye	turbid		0 (0)	1 (3)	1 (2)	0 (0)
	white		0 (0)	1 (3)	4 (10)	0 (0)
	red		0 (0)	0 (0)	0 (0)	1 (3)
muscle	nodule		0 (0)	0 (0)	1 (2)	0 (0)
peritoneum	nodule		0 (0)	0 (0)	2 (5)	0 (0)
retroperit	mass		0 (0)	0 (0)	1 (2)	0 (0)
	cyst		0 (0)	1 (3)	0 (0)	0 (0)
abdominal c	nodule		1 (3)	0 (0)	0 (0)	0 (0)
	ascites		1 (3)	0 (0)	1 (2)	0 (0)
adipose	nodule		4 (11)	6 (17)	2 (5)	4 (10)

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (105W)

Organ	Findings	Group Name NO. of Animals	Control 36 (%)	320 ppm 35 (%)	800 ppm 42 (%)	2000 ppm 39 (%)
other	nodule		0 (0)	0 (0)	0 (0)	1 (3)
whole body	anemic		0 (0)	1 (3)	0 (0)	0 (0)

APPENDIX J 4

GROSS FINDINGS : SUMMARY, RAT : FEMALE : SACRIFICED ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (105W)

Organ	Findings	Group Name / NO. of Animals	Control 42 (%)	320 ppm 43 (%)	800 ppm 44 (%)	2000 ppm 35 (%)
skin/app	nodule		1 (2)	0 (0)	0 (0)	0 (0)
	scab		0 (0)	0 (0)	1 (2)	0 (0)
subcutis	jaundice		0 (0)	0 (0)	1 (2)	0 (0)
	mass		15 (36)	11 (26)	12 (27)	13 (37)
lung	red patch/zone		0 (0)	0 (0)	1 (2)	0 (0)
	nodule		2 (5)	0 (0)	1 (2)	0 (0)
lymph node	enlarged		0 (0)	0 (0)	1 (2)	0 (0)
spleen	enlarged		6 (14)	1 (2)	1 (2)	1 (3)
	nodule		1 (2)	0 (0)	0 (0)	1 (3)
	deformed		0 (0)	0 (0)	0 (0)	1 (3)
	scarred		1 (2)	0 (0)	0 (0)	0 (0)
oral cavity	nodule		1 (2)	0 (0)	0 (0)	0 (0)
tongue	nodule		0 (0)	0 (0)	1 (2)	0 (0)
forestomach	ulcer		0 (0)	0 (0)	0 (0)	2 (6)
gl stomach	ulcer		0 (0)	1 (2)	1 (2)	1 (3)
liver	white patch/zone		0 (0)	0 (0)	1 (2)	0 (0)
	nodular		2 (5)	0 (0)	0 (0)	0 (0)
	herniation		2 (5)	2 (5)	4 (9)	4 (11)
kidney	cyst		0 (0)	0 (0)	1 (2)	0 (0)
	deformed		0 (0)	0 (0)	0 (0)	1 (3)
	granular		3 (7)	3 (7)	1 (2)	2 (6)
	nodular		1 (2)	0 (0)	0 (0)	0 (0)

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (105W)

Organ	Findings	Group Name / NO. of Animals	Control 42 (%)	320 ppm 43 (%)	800 ppm 44 (%)	2000 ppm 35 (%)
urin bladd	urine:marked retention		1 (2)	0 (0)	0 (0)	0 (0)
pituitary	enlarged		10 (24)	9 (21)	7 (16)	6 (17)
	white patch/zone		0 (0)	0 (0)	1 (2)	0 (0)
	red patch/zone		2 (5)	4 (9)	3 (7)	4 (11)
	nodule		6 (14)	7 (16)	10 (23)	4 (11)
thyroid	enlarged		0 (0)	3 (7)	3 (7)	2 (6)
	nodule		1 (2)	1 (2)	2 (5)	2 (6)
adrenal	enlarged		2 (5)	2 (5)	0 (0)	2 (6)
ovary	nodule		0 (0)	1 (2)	0 (0)	0 (0)
	cyst		0 (0)	2 (5)	2 (5)	1 (3)
	fluid:transparent		1 (2)	2 (5)	0 (0)	2 (6)
uterus	enlarged		1 (2)	0 (0)	0 (0)	0 (0)
	atrophic		1 (2)	0 (0)	0 (0)	0 (0)
	nodule		8 (19)	6 (14)	7 (16)	5 (14)
	dilated lumen		0 (0)	1 (2)	1 (2)	3 (9)
vagina	nodule		0 (0)	0 (0)	0 (0)	1 (3)
eye	turbid		1 (2)	2 (5)	0 (0)	1 (3)
	white		0 (0)	2 (5)	2 (5)	0 (0)
auditory	nodule		1 (2)	0 (0)	0 (0)	0 (0)
adipose	nodule		2 (5)	2 (5)	1 (2)	2 (6)
whole body	anemic		0 (0)	0 (0)	1 (2)	0 (0)

APPENDIX J 5

GROSS FINDINGS : SUMMARY, MOSUE : MALE : DEAD AND MORIBUND ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name NO. of Animals	Control 14 (%)	320 ppm 7 (%)	800 ppm 10 (%)	2000 ppm 10 (%)
skin/app	nodule		1 (7)	0 (0)	0 (0)	0 (0)
	thick		0 (0)	0 (0)	0 (0)	1 (10)
subcutis	edema		2 (14)	0 (0)	2 (20)	0 (0)
	mass		0 (0)	1 (14)	0 (0)	1 (10)
lung	red		1 (7)	0 (0)	2 (20)	0 (0)
	red patch/zone		1 (7)	0 (0)	1 (10)	0 (0)
	nodule		2 (14)	1 (14)	2 (20)	0 (0)
lymph node	enlarged		2 (14)	2 (29)	3 (30)	2 (20)
thymus	enlarged		0 (0)	1 (14)	0 (0)	0 (0)
spleen	enlarged		3 (21)	1 (14)	3 (30)	2 (20)
	accentuation of white pulp		1 (7)	0 (0)	1 (10)	0 (0)
heart	dilated		2 (14)	0 (0)	2 (20)	0 (0)
tooth	absence		1 (7)	0 (0)	1 (10)	0 (0)
salivary gl	enlarged		1 (7)	0 (0)	0 (0)	0 (0)
	nodule		0 (0)	1 (14)	0 (0)	0 (0)
forestomach	nodule		0 (0)	0 (0)	1 (10)	0 (0)
gl stomach	ulcer		0 (0)	0 (0)	1 (10)	0 (0)
stomach	fluid:brown		0 (0)	0 (0)	1 (10)	0 (0)
duodenum	nodule		0 (0)	1 (14)	0 (0)	0 (0)
	fluid:brown		0 (0)	0 (0)	1 (10)	0 (0)
jejunum	red		1 (7)	0 (0)	0 (0)	0 (0)
ileum	red		1 (7)	0 (0)	0 (0)	0 (0)

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name NO. of Animals	Control 14 (%)	320 ppm 7 (%)	800 ppm 10 (%)	2000 ppm 10 (%)
ileum	nodule		1 (7)	0 (0)	0 (0)	0 (0)
liver	enlarged		1 (7)	0 (0)	1 (10)	1 (10)
	pale		1 (7)	0 (0)	0 (0)	1 (10)
	white		0 (0)	0 (0)	0 (0)	1 (10)
	white patch/zone		2 (14)	1 (14)	1 (10)	0 (0)
	red patch/zone		1 (7)	0 (0)	1 (10)	0 (0)
	nodule		8 (57)	0 (0)	3 (30)	3 (30)
	rough		1 (7)	0 (0)	0 (0)	0 (0)
	nodular		1 (7)	1 (14)	0 (0)	0 (0)
gall bladd	fluid:red		1 (7)	0 (0)	0 (0)	0 (0)
	fluid:black		0 (0)	0 (0)	0 (0)	1 (10)
pancreas	nodule		1 (7)	0 (0)	0 (0)	0 (0)
kidney	pale		1 (7)	0 (0)	0 (0)	0 (0)
	nodule		1 (7)	1 (14)	0 (0)	0 (0)
	cyst		0 (0)	1 (14)	0 (0)	0 (0)
	hydronephrosis		1 (7)	0 (0)	1 (10)	0 (0)
urin bladd	nodule		1 (7)	0 (0)	0 (0)	0 (0)
	urine:marked retention		0 (0)	0 (0)	0 (0)	1 (10)
pituitary	enlarged		0 (0)	1 (14)	0 (0)	0 (0)
epididymis	nodule		1 (7)	0 (0)	0 (0)	0 (0)
semin ves	nodule		0 (0)	0 (0)	0 (0)	2 (20)
prostate	enlarged		0 (0)	0 (0)	0 (0)	1 (10)

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name NO. of Animals	Control 14 (%)	320 ppm 7 (%)	800 ppm 10 (%)	2000 ppm 10 (%)
prostate	red patch/zone		0 (0)	0 (0)	0 (0)	1 (10)
	nodule		0 (0)	1 (14)	0 (0)	0 (0)
brain	cyst		0 (0)	0 (0)	1 (10)	0 (0)
periph nerv	nodule		0 (0)	0 (0)	0 (0)	1 (10)
Harder gl	enlarged		0 (0)	0 (0)	0 (0)	1 (10)
	nodule		1 (7)	0 (0)	0 (0)	0 (0)
muscle	mass		1 (7)	0 (0)	0 (0)	0 (0)
mediastinum	nodule		1 (7)	0 (0)	0 (0)	0 (0)
retroperit	nodule		1 (7)	0 (0)	0 (0)	0 (0)
abdominal c	hemorrhage		1 (7)	0 (0)	1 (10)	3 (30)
	mass		0 (0)	0 (0)	1 (10)	0 (0)
	ascites		1 (7)	0 (0)	2 (20)	3 (30)
mesenterium	nodule		3 (21)	0 (0)	0 (0)	0 (0)
adipose	brown		1 (7)	0 (0)	0 (0)	0 (0)
	red patch/zone		1 (7)	0 (0)	0 (0)	0 (0)
	nodule		1 (7)	2 (29)	0 (0)	0 (0)
thoracic ca	pleural fluid		3 (21)	0 (0)	3 (30)	1 (10)
whole body	anemic		1 (7)	0 (0)	1 (10)	0 (0)
	wasting		0 (0)	1 (14)	0 (0)	0 (0)

APPENDIX J 6

GROSS FINDINGS : SUMMARY, MOSUE : FEMALE : DEAD AND MORIBUND ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name NO. of Animals	Control 19 (%)	320 ppm 20 (%)	800 ppm 15 (%)	2000 ppm 15 (%)
subcutis	edema		6 (32)	4 (20)	2 (13)	2 (13)
	mass		1 (5)	3 (15)	2 (13)	2 (13)
lung	red		1 (5)	2 (10)	2 (13)	1 (7)
	red patch/zone		0 (0)	0 (0)	0 (0)	1 (7)
	congestion		1 (5)	1 (5)	0 (0)	0 (0)
	edema		0 (0)	1 (5)	0 (0)	0 (0)
	nodule		2 (11)	1 (5)	2 (13)	0 (0)
	atelectasis		0 (0)	0 (0)	1 (7)	0 (0)
lymph node	enlarged		5 (26)	6 (30)	3 (20)	3 (20)
thymus	enlarged		1 (5)	0 (0)	0 (0)	0 (0)
spleen	enlarged		4 (21)	5 (25)	5 (33)	3 (20)
	nodule		2 (11)	1 (5)	0 (0)	0 (0)
heart	dilated		1 (5)	0 (0)	2 (13)	1 (7)
gl stomach	black patch/zone		1 (5)	1 (5)	1 (7)	0 (0)
	ulcer		0 (0)	0 (0)	0 (0)	1 (7)
stomach	nodule		0 (0)	1 (5)	0 (0)	0 (0)
	gas		0 (0)	0 (0)	0 (0)	1 (7)
	fluid:red		0 (0)	0 (0)	0 (0)	1 (7)
jejunum	nodule		0 (0)	1 (5)	0 (0)	0 (0)
ileum	nodule		0 (0)	1 (5)	0 (0)	0 (0)
	erosion		0 (0)	0 (0)	1 (7)	0 (0)
large intes	gas		0 (0)	0 (0)	0 (0)	1 (7)

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name NO. of Animals	Control 19 (%)	320 ppm 20 (%)	800 ppm 15 (%)	2000 ppm 15 (%)
liver	enlarged		2 (11)	2 (10)	0 (0)	1 (7)
	pale		0 (0)	0 (0)	2 (13)	0 (0)
	white		1 (5)	0 (0)	0 (0)	0 (0)
	white patch/zone		3 (16)	4 (20)	2 (13)	1 (7)
	red patch/zone		1 (5)	0 (0)	1 (7)	0 (0)
	congestion		1 (5)	0 (0)	0 (0)	0 (0)
	nodule		4 (21)	2 (10)	3 (20)	3 (20)
	granular		0 (0)	0 (0)	0 (0)	1 (7)
	nodular		2 (11)	1 (5)	1 (7)	1 (7)
	adhesion		0 (0)	1 (5)	0 (0)	0 (0)
pancreas	nodule		0 (0)	2 (10)	0 (0)	1 (7)
kidney	enlarged		0 (0)	1 (5)	3 (20)	0 (0)
	pale		2 (11)	1 (5)	0 (0)	0 (0)
	brown		0 (0)	0 (0)	0 (0)	1 (7)
	white patch/zone		0 (0)	1 (5)	0 (0)	0 (0)
	granular		0 (0)	0 (0)	0 (0)	2 (13)
	hydronephrosis		0 (0)	0 (0)	0 (0)	1 (7)
	fluid:brown		0 (0)	1 (5)	0 (0)	0 (0)
urin bladd	urine:marked retention		1 (5)	0 (0)	0 (0)	1 (7)
pituitary	enlarged		0 (0)	1 (5)	0 (0)	0 (0)
	nodule		0 (0)	2 (10)	0 (0)	0 (0)
ovary	enlarged		2 (11)	5 (25)	1 (7)	0 (0)

Organ	Findings	Group Name NO. of Animals	Control 19 (%)	320 ppm 20 (%)	800 ppm 15 (%)	2000 ppm 15 (%)
ovary	cyst		0 (0)	0 (0)	0 (0)	1 (7)
	fluid		0 (0)	2 (10)	1 (7)	0 (0)
	fluid:red		1 (5)	0 (0)	0 (0)	1 (7)
	fluid:transparent		1 (5)	2 (10)	2 (13)	2 (13)
uterus	enlarged		1 (5)	4 (20)	2 (13)	0 (0)
	nodule		5 (26)	4 (20)	4 (27)	4 (27)
	mass		1 (5)	0 (0)	0 (0)	0 (0)
	nodular		0 (0)	0 (0)	0 (0)	1 (7)
	dilated		0 (0)	0 (0)	1 (7)	0 (0)
	dilated lumen		2 (11)	0 (0)	0 (0)	2 (13)
periph nerv	swollen		0 (0)	0 (0)	1 (7)	0 (0)
eye	red		0 (0)	0 (0)	1 (7)	0 (0)
Harder gl	enlarged		1 (5)	0 (0)	0 (0)	0 (0)
	nodule		0 (0)	1 (5)	0 (0)	0 (0)
mediastinum	mass		1 (5)	0 (0)	0 (0)	2 (13)
peritoneum	nodule		0 (0)	0 (0)	1 (7)	1 (7)
	mass		0 (0)	0 (0)	0 (0)	1 (7)
	nodular		0 (0)	0 (0)	1 (7)	0 (0)
retroperit	mass		0 (0)	0 (0)	0 (0)	1 (7)
abdominal c	hemorrhage		1 (5)	3 (15)	2 (13)	3 (20)
	ascites		5 (26)	6 (30)	3 (20)	4 (27)
adipose	thick		1 (5)	0 (0)	0 (0)	0 (0)

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
DEAD AND MORIBUND ANIMALS (0-105W)

Organ	Findings	Group Name / NO. of Animals	Control 19 (%)	320 ppm 20 (%)	800 ppm 15 (%)	2000 ppm 15 (%)
thoracic ca	hemorrhage		0 (0)	1 (5)	1 (7)	0 (0)
	pleural fluid		5 (26)	8 (40)	5 (33)	7 (47)
whole body	anemic		2 (11)	1 (5)	1 (7)	2 (13)
	wasting		1 (5)	1 (5)	0 (0)	0 (0)

APPENDIX J 7

GROSS FINDINGS : SUMMARY, MOSUE : MALE : SACRIFICED ANIMALS

(2-YEAR STUDY)

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (105W)

Organ	Findings	Group Name / NO. of Animals	Control 36	(%)	320 ppm 43	(%)	800 ppm 40	(%)	2000 ppm 40	(%)
skin/app	scab		0	(0)	0	(0)	0	(0)	1	(3)
subcutis	mass		1	(3)	0	(0)	1	(3)	0	(0)
lung	white		0	(0)	1	(2)	0	(0)	0	(0)
	white patch/zone		0	(0)	0	(0)	1	(3)	0	(0)
	nodule		11	(31)	4	(9)	9	(23)	6	(15)
lymph node	enlarged		2	(6)	5	(12)	6	(15)	4	(10)
	nodule		0	(0)	0	(0)	0	(0)	1	(3)
thymus	enlarged		2	(6)	0	(0)	0	(0)	0	(0)
	nodule		1	(3)	0	(0)	0	(0)	0	(0)
spleen	enlarged		0	(0)	1	(2)	1	(3)	5	(13)
	white patch/zone		1	(3)	0	(0)	0	(0)	0	(0)
	black patch/zone		0	(0)	2	(5)	2	(5)	0	(0)
	nodule		3	(8)	2	(5)	2	(5)	2	(5)
	adhesion		0	(0)	0	(0)	1	(3)	0	(0)
	accentuation of white pulp		0	(0)	0	(0)	0	(0)	1	(3)
salivary gl	nodule		0	(0)	1	(2)	0	(0)	0	(0)
forestomach	nodule		0	(0)	1	(2)	0	(0)	1	(3)
stomach	nodule		0	(0)	0	(0)	0	(0)	1	(3)
jejunum	nodule		1	(3)	0	(0)	1	(3)	0	(0)
liver	white patch/zone		1	(3)	2	(5)	3	(8)	0	(0)
	red patch/zone		1	(3)	0	(0)	0	(0)	0	(0)
	nodule		9	(25)	9	(21)	12	(30)	11	(28)

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (105W)

Organ	Findings	Group Name / NO. of Animals	Control 36	(%)	320 ppm 43	(%)	800 ppm 40	(%)	2000 ppm 40	(%)
liver	deformed		0	(0)	0	(0)	1	(3)	0	(0)
pancreas	nodule		0	(0)	1	(2)	1	(3)	1	(3)
	cyst		1	(3)	0	(0)	0	(0)	0	(0)
kidney	adhesion		1	(3)	0	(0)	0	(0)	0	(0)
	hydronephrosis		1	(3)	0	(0)	2	(5)	0	(0)
urin bladd	thick		0	(0)	0	(0)	1	(3)	0	(0)
thyroid	dark		0	(0)	0	(0)	0	(0)	40	(100)
testis	atrophic		0	(0)	0	(0)	1	(3)	0	(0)
	white patch/zone		0	(0)	1	(2)	0	(0)	0	(0)
	absence		0	(0)	1	(2)	0	(0)	0	(0)
epididymis	red patch/zone		0	(0)	1	(2)	0	(0)	0	(0)
	nodule		1	(3)	1	(2)	1	(3)	0	(0)
semin ves	enlarged		3	(8)	1	(2)	1	(3)	1	(3)
	brown		6	(17)	0	(0)	2	(5)	0	(0)
	red patch/zone		1	(3)	0	(0)	1	(3)	0	(0)
	nodule		0	(0)	0	(0)	1	(3)	0	(0)
prep/cli gl	nodule		7	(19)	13	(30)	9	(23)	6	(15)
peritoneum	adhesion		0	(0)	1	(2)	0	(0)	0	(0)
retroperit	mass		0	(0)	0	(0)	0	(0)	1	(3)
abdominal c	ascites		0	(0)	1	(2)	0	(0)	0	(0)
mesenterium	hemorrhage		0	(0)	2	(5)	0	(0)	0	(0)
adipose	nodule		5	(14)	6	(14)	7	(18)	9	(23)

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (105W)

Organ	Findings	Group Name NO. of Animals	Control 36 (%)	320 ppm 43 (%)	800 ppm 40 (%)	2000 ppm 40 (%)
thoracic ca	nodule		0 (0)	2 (5)	0 (0)	0 (0)
whole body	anemic		1 (3)	0 (0)	0 (0)	0 (0)

APPENDIX J 8

GROSS FINDINGS : SUMMARY, MOSUE : FEMALE : SACRIFICED ANIMALS

(2-YEAR STUDY)

Organ	Findings	Group Name NO. of Animals	Control 31 (%)	320 ppm 30 (%)	800 ppm 35 (%)	2000 ppm 35 (%)
skin/app	nodule		1 (3)	0 (0)	0 (0)	0 (0)
subcutis	mass		2 (6)	0 (0)	0 (0)	1 (3)
lung	white patch/zone		0 (0)	1 (3)	0 (0)	0 (0)
	nodule		3 (10)	3 (10)	4 (11)	1 (3)
lymph node	enlarged		4 (13)	3 (10)	3 (9)	5 (14)
	nodule		0 (0)	0 (0)	0 (0)	1 (3)
thymus	enlarged		0 (0)	1 (3)	0 (0)	0 (0)
	dark		0 (0)	0 (0)	0 (0)	1 (3)
spleen	enlarged		4 (13)	1 (3)	5 (14)	3 (9)
	white patch/zone		0 (0)	0 (0)	1 (3)	0 (0)
	black patch/zone		1 (3)	0 (0)	0 (0)	0 (0)
	nodule		1 (3)	0 (0)	1 (3)	2 (6)
	deformed		1 (3)	0 (0)	0 (0)	0 (0)
	accentuation of white pulp		0 (0)	0 (0)	1 (3)	0 (0)
forestomach	nodule		0 (0)	1 (3)	1 (3)	1 (3)
gl stomach	black patch/zone		0 (0)	1 (3)	0 (0)	1 (3)
	ulcer		1 (3)	0 (0)	0 (0)	0 (0)
large intes	thick		0 (0)	0 (0)	1 (3)	0 (0)
liver	enlarged		3 (10)	0 (0)	1 (3)	1 (3)
	atrophic		1 (3)	0 (0)	1 (3)	1 (3)
	white patch/zone		2 (6)	0 (0)	3 (9)	0 (0)
	red patch/zone		0 (0)	0 (0)	1 (3)	2 (6)

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE

GROSS FINDINGS (SUMMARY)
SACRIFICED ANIMALS (105W)

Organ	Findings	Group Name NO. of Animals	Control 31 (%)	320 ppm 30 (%)	800 ppm 35 (%)	2000 ppm 35 (%)
liver	yellow patch/zone		1 (3)	0 (0)	0 (0)	0 (0)
	black patch/zone		0 (0)	1 (3)	0 (0)	0 (0)
	nodule		4 (13)	7 (23)	10 (29)	4 (11)
	deformed		0 (0)	0 (0)	2 (6)	0 (0)
	adhesion		0 (0)	0 (0)	0 (0)	1 (3)
gall bladd	dilated		0 (0)	1 (3)	0 (0)	0 (0)
pancreas	nodule		0 (0)	0 (0)	2 (6)	3 (9)
kidney	enlarged		0 (0)	1 (3)	0 (0)	1 (3)
	pale		1 (3)	0 (0)	1 (3)	0 (0)
	white patch/zone		0 (0)	0 (0)	1 (3)	0 (0)
	nodule		0 (0)	1 (3)	1 (3)	1 (3)
	hydronephrosis		1 (3)	1 (3)	3 (9)	2 (6)
pituitary	enlarged		0 (0)	2 (7)	0 (0)	0 (0)
	red patch/zone		0 (0)	0 (0)	1 (3)	0 (0)
	nodule		1 (3)	3 (10)	0 (0)	1 (3)
	cyst		0 (0)	0 (0)	1 (3)	0 (0)
thyroid	dark		0 (0)	0 (0)	2 (6)	33 (94)
adrenal	enlarged		0 (0)	0 (0)	0 (0)	1 (3)
ovary	enlarged		0 (0)	1 (3)	0 (0)	1 (3)
	cyst		0 (0)	0 (0)	1 (3)	1 (3)
	fluid:red		1 (3)	0 (0)	0 (0)	0 (0)
	fluid:transparent		10 (32)	14 (47)	11 (31)	13 (37)

Organ	Findings	Group Name / NO. of Animals	Control 31 (%)	320 ppm 30 (%)	800 ppm 35 (%)	2000 ppm 35 (%)
uterus	nodule		7 (23)	3 (10)	4 (11)	4 (11)
	nodular		7 (23)	10 (33)	7 (20)	11 (31)
	dilated lumen		0 (0)	1 (3)	2 (6)	0 (0)
brain	red patch/zone		1 (3)	0 (0)	0 (0)	0 (0)
Harder gl	white		0 (0)	0 (0)	0 (0)	1 (3)
	nodule		1 (3)	0 (0)	0 (0)	0 (0)
muscle	nodule		1 (3)	0 (0)	0 (0)	1 (3)
mediastinum	mass		0 (0)	1 (3)	1 (3)	1 (3)
peritoneum	nodule		0 (0)	1 (3)	0 (0)	0 (0)
retroperit	nodule		0 (0)	0 (0)	1 (3)	0 (0)
	mass		0 (0)	0 (0)	1 (3)	0 (0)
abdominal c	ascites		3 (10)	1 (3)	3 (9)	0 (0)
adipose	nodule		2 (6)	1 (3)	2 (6)	2 (6)
	thick		1 (3)	0 (0)	0 (0)	0 (0)
thoracic ca	pleural fluid		1 (3)	2 (7)	2 (6)	1 (3)

APPENDIX K 1

ORGAN WEIGHT, ABSOLUTE : SUMMARY, RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	Body Weight	ADRENALS	TESTES	HEART	LUNGS	KIDNEYS
Control	36	422± 25	0.079± 0.025	4.481± 1.805	1.259± 0.102	1.396± 0.075	3.046± 0.440
320 ppm	35	416± 32	0.118± 0.255	4.892± 1.332	1.235± 0.128	1.416± 0.103	3.003± 0.211
800 ppm	42	415± 52	0.079± 0.042	4.734± 1.913	1.226± 0.083	1.403± 0.059	3.289± 1.028
2000 ppm	39	388± 33**	0.166± 0.603*	4.624± 1.862	1.240± 0.160	1.440± 0.280	3.022± 0.267

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

(HCL040)

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	SPLEEN	LIVER	BRAIN
Control	36	1.223± 0.484	12.219± 1.405	2.038± 0.054
320 ppm	35	1.199± 0.286	12.130± 1.108	2.040± 0.054
800 ppm	42	1.225± 0.344	12.861± 1.782	2.042± 0.052
2000 ppm	39	1.204± 0.465	12.812± 1.535	2.041± 0.053

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

APPENDIX K 2

ORGAN WEIGHT, ABSOLUTE : SUMMARY, RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	Body Weight	ADRENALS	TESTES	HEART	LUNGS	KIDNEYS
Control	36	39.7± 5.9	0.009± 0.002	0.220± 0.026	0.181± 0.013	0.208± 0.077	0.623± 0.332
320 ppm	43	40.5± 6.3	0.009± 0.002	0.208± 0.032	0.177± 0.016	0.194± 0.029	0.578± 0.163
800 ppm	40	39.4± 6.5	0.009± 0.002	0.204± 0.031	0.183± 0.019	0.208± 0.096	0.622± 0.347
2000 ppm	40	38.1± 5.9	0.009± 0.002	0.211± 0.023	0.185± 0.013	0.200± 0.044	0.544± 0.053

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

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	SPLEEN	LIVER	BRAIN
Control	36	0.086± 0.107	1.265± 0.234	0.457± 0.012
320 ppm	43	0.104± 0.174	1.320± 0.329	0.453± 0.015
800 ppm	40	0.095± 0.109	1.447± 0.595	0.457± 0.022
2000 ppm	40	0.156± 0.238	1.283± 0.228	0.448± 0.016

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

APPENDIX K 3

ORGAN WEIGHT, ABSOLUTE : SUMMARY, MOSUE : MALE

(2-YEAR STUDY)

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	Body Weight	ADRENALS	OVARIES	HEART	LUNGS	KIDNEYS
Control	42	312± 46	0.097± 0.126	0.124± 0.032	0.957± 0.129	1.106± 0.365	2.014± 0.151
320 ppm	43	311± 35	0.078± 0.039	0.172± 0.198	0.931± 0.093	1.006± 0.078	2.009± 0.213
800 ppm	44	291± 42	0.068± 0.011	0.113± 0.022	0.908± 0.118	1.013± 0.108	1.996± 0.274
2000 ppm	35	274± 34**	0.094± 0.165*	0.154± 0.240	0.885± 0.089*	1.005± 0.102	1.920± 0.193

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

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	SPLEEN		LIVER		BRAIN	
Control	42	1.152±	1.309	7.973±	1.227	1.862±	0.052
320 ppm	43	0.642±	0.190	7.602±	1.022	1.855±	0.044
800 ppm	44	0.709±	0.534	7.468±	1.341	1.861±	0.077
2000 ppm	35	0.732±	0.544	7.360±	0.935	1.867±	0.051

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

APPENDIX K 4

ORGAN WEIGHT, ABSOLUTE : SUMMARY, MOSUE : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	Body Weight	ADRENALS	OVARIES	HEART	LUNGS	KIDNEYS
Control	31	30.8± 4.4	0.012± 0.002	0.084± 0.200	0.138± 0.013	0.186± 0.034	0.423± 0.178
320 ppm	30	31.0± 4.0	0.012± 0.002	0.081± 0.126	0.141± 0.013	0.191± 0.057	0.527± 0.542
800 ppm	35	30.4± 5.0	0.012± 0.003	0.094± 0.126	0.141± 0.016	0.184± 0.027	0.461± 0.253
2000 ppm	35	27.7± 3.5*	0.014± 0.018	0.083± 0.096	0.149± 0.025	0.175± 0.017	0.475± 0.497

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

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE
UNIT: g

ORGAN WEIGHT:ABSOLUTE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	SPLEEN	LIVER	BRAIN
Control	31	0.177± 0.179	1.591± 1.020	0.465± 0.015
320 ppm	30	0.107± 0.073	1.191± 0.254	0.465± 0.015
800 ppm	35	0.194± 0.205	1.440± 1.176	0.462± 0.014
2000 ppm	35	0.201± 0.341	1.261± 0.381	0.453± 0.017**

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

APPENDIX L 1

ORGAN WEIGHT, RELATIVE : SUMMARY, RAT : MALE

(2-YEAR STUDY)

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	Body Weight (g)	ADRENALS	TESTES	HEART	LUNGS	KIDNEYS
Control	36	422± 25	0.019± 0.007	1.057± 0.410	0.299± 0.031	0.332± 0.028	0.727± 0.136
320 ppm	35	416± 32	0.028± 0.059	1.182± 0.330	0.299± 0.038	0.342± 0.035	0.727± 0.075
800 ppm	42	415± 52	0.019± 0.010	1.142± 0.454	0.299± 0.038	0.342± 0.040	0.808± 0.306
2000 ppm	39	388± 33**	0.045± 0.173	1.198± 0.501	0.321± 0.045*	0.373± 0.081**	0.782± 0.084**

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

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : MALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	SPLEEN	LIVER	BRAIN
Control	36	0.289± 0.112	2.905± 0.387	0.485± 0.033
320 ppm	35	0.291± 0.079	2.929± 0.281	0.493± 0.036
800 ppm	42	0.297± 0.082	3.111± 0.395*	0.499± 0.062
2000 ppm	39	0.310± 0.117	3.306± 0.369**	0.529± 0.041**

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

APPENDIX L 2

ORGAN WEIGHT, RELATIVE : SUMMARY, RAT : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	Body Weight (g)	ADRENALS	OVARIES	HEART	LUNGS	KIDNEYS
Control	42	312± 46	0.032± 0.041	0.041± 0.014	0.319± 0.107	0.383± 0.280	0.671± 0.191
320 ppm	43	311± 35	0.025± 0.013	0.057± 0.071	0.302± 0.041	0.327± 0.048	0.652± 0.088
800 ppm	44	291± 42	0.024± 0.005	0.039± 0.007	0.317± 0.055	0.356± 0.072	0.701± 0.174*
2000 ppm	35	274± 34**	0.035± 0.062	0.055± 0.082	0.328± 0.058	0.374± 0.077**	0.709± 0.113**

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

STUDY NO. : 0095
ANIMAL : RAT F344
REPORT TYPE : A1
SEX : FEMALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	SPLEEN	LIVER	BRAIN
Control	42	0.424± 0.675	2.638± 0.778	0.616± 0.134
320 ppm	43	0.207± 0.057	2.452± 0.280	0.604± 0.077
800 ppm	44	0.251± 0.218	2.597± 0.564	0.652± 0.103*
2000 ppm	35	0.285± 0.301	2.707± 0.385*	0.690± 0.087**

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

APPENDIX L 3

ORGAN WEIGHT, RELATIVE : SUMMARY, MOSUE : MALE

(2-YEAR STUDY)

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	Body Weight (g)	ADRENALS	TESTES	HEART	LUNGS	KIDNEYS
Control	36	39.7± 5.9	0.023± 0.006	0.568± 0.122	0.466± 0.081	0.534± 0.191	1.703± 1.622
320 ppm	43	40.5± 6.3	0.022± 0.006	0.519± 0.098	0.444± 0.060	0.489± 0.101	1.445± 0.385
800 ppm	40	39.4± 6.5	0.024± 0.007	0.532± 0.123	0.478± 0.097	0.540± 0.229	1.622± 0.943
2000 ppm	40	38.1± 5.9	0.025± 0.007	0.563± 0.088	0.496± 0.086	0.542± 0.180	1.454± 0.220

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

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : MALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	SPLEEN	LIVER	BRAIN
Control	36	0.221± 0.292	3.221± 0.573	1.182± 0.207
320 ppm	43	0.267± 0.442	3.320± 1.018	1.144± 0.176
800 ppm	40	0.256± 0.318	3.795± 1.822	1.198± 0.253
2000 ppm	40	0.429± 0.720*	3.415± 0.620	1.209± 0.219

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

APPENDIX L 4

ORGAN WEIGHT, RELATIVE : SUMMARY, MOSUE : FEMALE

(2-YEAR STUDY)

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	Body Weight (g)	ADRENALS	OVARIES	HEART	LUNGS	KIDNEYS
Control	31	30.8± 4.4	0.040± 0.009	0.272± 0.652	0.457± 0.072	0.616± 0.140	1.446± 0.962
320 ppm	30	31.0± 4.0	0.039± 0.008	0.264± 0.432	0.462± 0.068	0.626± 0.194	1.786± 2.130
800 ppm	35	30.4± 5.0	0.040± 0.010	0.319± 0.467	0.472± 0.073	0.621± 0.135	1.564± 0.937
2000 ppm	35	27.7± 3.5*	0.050± 0.055	0.293± 0.335	0.547± 0.120**	0.645± 0.119	1.709± 1.668

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

STUDY NO. : 0096
ANIMAL : MOUSE BDF1
REPORT TYPE : A1
SEX : FEMALE
UNIT: %

ORGAN WEIGHT:RELATIVE (SUMMARY)
SURVIVAL ANIMALS (105)

Group Name	NO. of Animals	SPLEEN	LIVER	BRAIN
Control	31	0.606± 0.670	5.329± 3.825	1.546± 0.253
320 ppm	30	0.349± 0.231	3.869± 0.786	1.527± 0.216
800 ppm	35	0.650± 0.703	4.813± 4.065	1.564± 0.283
2000 ppm	35	0.771± 1.462	4.629± 1.660	1.663± 0.218

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