1,4 - ジクロロ - 2 - ニトロベンゼンのラットを用いた
経口投与による 13 週間毒性試験(混餌試験)報告書

試験番号：０３０１

TABLES

TABLES

TABLES (Continued)

TABLE 1 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES OF MALE RATS IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Week on Study	Control Av.Wt. <10>	Control No. of Surviv.	1481ppm Av.Wt.	1481ppm % of cont. <10>	1481ppm No. of Surviv.	2222ppm Av.Wt.	2222ppm % of cont. <10>	2222ppm No. of Surviv.	3333ppm Av.Wt.	3333ppm % of cont. <10>	3333ppm No. of Surviv.	5000ppm Av.Wt.	5000ppm % of cont. <10>	5000ppm No. of Surviv.	7500ppm Av.Wt.	7500ppm % of cont. <10>	7500ppm No. of Surviv.
0	120 (10)	10/10	120 (10)	100	10/10	120 (10)	100	10/10	120 (10)	100	10/10	120 (10)	100	10/10	120 (10)	100	10/10
1	148 (10)	10/10	148 (10)	100	10/10	145 (10)	98	10/10	144 (10)	97	10/10	133 (10)	90	10/10	115 (10)	78	10/10
2	181 (10)	10/10	179 (10)	99	10/10	175 (10)	97	10/10	172 (10)	95	10/10	153 (10)	85	10/10	113 (10)	62	10/10
3	201 (10)	10/10	198 (10)	99	10/10	193 (10)	96	10/10	185 (10)	92	10/10	164 (10)	82	10/10	120 (10)	60	10/10
4	221 (10)	10/10	218 (10)	99	10/10	210 (10)	95	10/10	198 (10)	90	10/10	175 (10)	79	10/10	126 (10)	57	10/10
5	238 (10)	10/10	234 (10)	98	10/10	224 (10)	94	10/10	210 (10)	88	10/10	183 (10)	77	10/10	128 (10)	54	10/10
6	250 (10)	10/10	244 (10)	98	10/10	235 (10)	94	10/10	219 (10)	88	10/10	189 (10)	76	10/10	133 (10)	53	10/10
7	262 (10)	10/10	256 (10)	98	10/10	242 (10)	92	10/10	226 (10)	86	10/10	194 (10)	74	10/10	140 (10)	53	10/10
8	269 (10)	10/10	265 (10)	99	10/10	250 (10)	93	10/10	234 (10)	87	10/10	200 (10)	74	10/10	141 (10)	52	10/10
9	283 (10)	10/10	276 (10)	98	10/10	261 (10)	92	10/10	244 (10)	86	10/10	207 (10)	73	10/10	142 (10)	50	10/10
10	290 (10)	10/10	282 (10)	97	10/10	269 (10)	93	10/10	250 (10)	86	10/10	211 (10)	73	10/10	144 (10)	50	10/10
11	297 (10)	10/10	292 (10)	98	10/10	277 (10)	93	10/10	257 (10)	87	10/10	217 (10)	73	10/10	147 (10)	49	10/10
12	304 (10)	10/10	298 (10)	98	10/10	283 (10)	93	10/10	265 (10)	87	10/10	225 (10)	74	10/10	153 (10)	50	10/10
13	308 (10)	10/10	304 (10)	99	10/10	289 (10)	94	10/10	272 (10)	88	10/10	232 (10)	75	10/10	156 (10)	51	10/10

< > : No.of effective animals, ( ) : No.of measured animals Av.Wt.:g

TABLE 2 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES OF FEMALE RATS IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Week on Study	Control			1481ppm				2222ppm				3333ppm				5000ppm				7500ppm			
	Av.Wt.		No. of Surviv.	Av.Wt.		% of cont.	No. of Surviv.	Av.Wt.		% of cont.	No. of Surviv.	Av.Wt.		% of cont.	No. of Surviv.	Av.Wt.		% of cont.	No. of Surviv.	Av.Wt.		% of cont.	No. of Surviv.
	<10>					<10>				<10>				<10>				<10>				<10>	
0	97	(10)	10/10	97	(10)	100	10/10	97	(10)	100	10/10	97	(10)	100	10/10	97	(10)	100	10/10	97	(10)	100	10/10
1	112	(10)	10/10	112	(10)	100	10/10	109	(10)	97	10/10	106	(10)	95	10/10	104	(10)	93	10/10	93	(10)	83	10/10
2	126	(10)	10/10	126	(10)	100	10/10	123	(10)	98	10/10	118	(10)	94	10/10	115	(10)	91	10/10	96	(10)	76	10/10
3	133	(10)	10/10	131	(10)	98	10/10	128	(10)	96	10/10	122	(10)	92	10/10	118	(10)	89	10/10	99	(10)	74	10/10
4	141	(10)	10/10	139	(10)	99	10/10	135	(10)	96	10/10	126	(10)	89	10/10	123	(10)	87	10/10	103	(10)	73	10/10
5	149	(10)	10/10	145	(10)	97	10/10	140	(10)	94	10/10	132	(10)	89	10/10	129	(10)	87	10/10	108	(10)	72	10/10
6	154	(10)	10/10	148	(10)	96	10/10	141	(10)	92	10/10	133	(10)	86	10/10	131	(10)	85	10/10	110	(10)	71	10/10
7	154	(10)	10/10	149	(10)	97	10/10	141	(10)	92	10/10	135	(10)	88	10/10	132	(10)	86	10/10	112	(10)	73	10/10
8	159	(10)	10/10	152	(10)	96	10/10	141	(10)	89	10/10	137	(10)	86	10/10	132	(10)	83	10/10	113	(10)	71	10/10
9	163	(10)	10/10	156	(10)	96	10/10	145	(10)	89	10/10	138	(10)	85	10/10	135	(10)	83	10/10	118	(10)	72	10/10
10	165	(10)	10/10	155	(10)	94	10/10	146	(10)	88	10/10	139	(10)	84	10/10	135	(10)	82	10/10	118	(10)	72	10/10
11	168	(10)	10/10	160	(10)	95	10/10	147	(10)	88	10/10	141	(10)	84	10/10	137	(10)	82	10/10	121	(10)	72	10/10
12	171	(10)	10/10	161	(10)	94	10/10	149	(10)	87	10/10	144	(10)	84	10/10	139	(10)	81	10/10	123	(10)	72	10/10
13	172	(10)	10/10	163	(10)	95	10/10	150	(10)	87	10/10	144	(10)	84	10/10	140	(10)	81	10/10	123	(10)	72	10/10

< > : No.of effective animals, ( ) : No.of measured animals Av.Wt.:g

TABLE 3 FOOD CONSUMPTION CHANGES OF MALE RATS IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Week on Study	Control			1481ppm				2222ppm				3333ppm				5000ppm				7500ppm			
	Av.FC.		No. of Surviv.	Av.FC.		% of cont.	No. of Surviv.	Av.FC.		% of cont.	No. of Surviv.	Av.FC.		% of cont.	No. of Surviv.	Av.FC.		% of cont.	No. of Surviv.	Av.FC.		% of cont.	No. of Surviv.
	<10>					<10>				<10>				<10>				<10>				<10>	
1	13.5	(10)	10/10	13.0	(10)	96	10/10	12.4	(10)	92	10/10	12.2	(10)	90	10/10	11.5	(10)	85	10/10	9.6	(10)	71	10/10
2	14.3	(10)	10/10	14.4	(10)	101	10/10	13.7	(10)	96	10/10	13.7	(10)	96	10/10	12.6	(10)	88	10/10	9.5	(8)	66	10/10
3	15.1	(10)	10/10	14.7	(10)	97	10/10	14.1	(10)	93	10/10	13.5	(10)	89	10/10	11.4	(10)	75	10/10	7.4	(7)	49	10/10
4	14.8	(9)	10/10	14.5	(10)	98	10/10	13.6	(10)	92	10/10	12.9	(10)	87	10/10	11.2	(10)	76	10/10	7.8	(7)	53	10/10
5	15.4	(10)	10/10	15.2	(10)	99	10/10	14.1	(10)	92	10/10	13.5	(10)	88	10/10	11.6	(10)	75	10/10	8.3	(7)	54	10/10
6	14.8	(10)	10/10	14.8	(10)	100	10/10	13.7	(10)	93	10/10	13.5	(10)	91	10/10	11.5	(10)	78	10/10	8.3	(7)	56	10/10
7	15.1	(7)	10/10	15.0	(10)	99	10/10	13.8	(10)	91	10/10	13.7	(10)	91	10/10	12.0	(10)	79	10/10	8.6	(7)	57	10/10
8	14.6	(10)	10/10	14.9	(10)	102	10/10	13.6	(10)	93	10/10	13.4	(10)	92	10/10	11.7	(10)	80	10/10	8.9	(6)	61	10/10
9	15.3	(10)	10/10	15.3	(10)	100	10/10	14.0	(10)	92	10/10	13.5	(10)	88	10/10	11.8	(10)	77	10/10	7.8	(7)	51	10/10
10	15.1	(10)	10/10	15.3	(10)	101	10/10	14.0	(10)	93	10/10	13.3	(10)	88	10/10	11.5	(10)	76	10/10	8.5	(7)	56	10/10
11	15.1	(10)	10/10	15.6	(10)	103	10/10	14.3	(10)	95	10/10	13.4	(10)	89	10/10	11.8	(10)	78	10/10	8.2	(5)	54	10/10
12	14.9	(10)	10/10	15.3	(10)	103	10/10	14.1	(10)	95	10/10	13.4	(10)	90	10/10	11.9	(10)	80	10/10	9.0	(7)	60	10/10
13	15.2	(10)	10/10	15.6	(10)	103	10/10	14.6	(10)	96	10/10	13.6	(10)	89	10/10	12.5	(10)	82	10/10	9.3	(7)	61	10/10

< > : No.of effective animals, ( ) : No.of measured animals Av.FC.:g

TABLE 4 FOOD CONSUMPTION CHANGES OF FEMALE RATS IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Week on Study	Control Av.FC. <10>	Control No. of Surviv.	1481ppm Av.FC.	1481ppm % of cont. <10>	1481ppm No. of Surviv.	2222ppm Av.FC.	2222ppm % of cont. <10>	2222ppm No. of Surviv.	3333ppm Av.FC.	3333ppm % of cont. <10>	3333ppm No. of Surviv.	5000ppm Av.FC.	5000ppm % of cont. <10>	5000ppm No. of Surviv.	7500ppm Av.FC.	7500ppm % of cont. <10>	7500ppm No. of Surviv.
1	10.8 (10)	10/10	10.1 (10)	94	10/10	9.8 (10)	91	10/10	9.4 (10)	87	10/10	8.8 (10)	81	10/10	7.5 (10)	69	10/10
2	10.7 (10)	10/10	10.4 (10)	97	10/10	10.2 (10)	95	10/10	9.7 (10)	91	10/10	9.2 (10)	86	10/10	6.8 (10)	64	10/10
3	10.7 (10)	10/10	10.3 (10)	96	10/10	9.8 (10)	92	10/10	9.5 (10)	89	10/10	8.3 (10)	78	10/10	6.1 (10)	57	10/10
4	10.7 (10)	10/10	10.0 (10)	93	10/10	9.9 (10)	93	10/10	9.2 (10)	86	10/10	8.3 (10)	78	10/10	6.4 (10)	60	10/10
5	11.0 (10)	10/10	10.7 (10)	97	10/10	10.7 (10)	97	10/10	9.5 (10)	86	10/10	9.1 (10)	83	10/10	6.6 (10)	60	10/10
6	10.9 (10)	10/10	10.2 (10)	94	10/10	10.0 (9)	92	10/10	9.3 (10)	85	10/10	9.0 (10)	83	10/10	6.4 (10)	59	10/10
7	11.1 (10)	10/10	10.6 (10)	95	10/10	9.8 (9)	88	10/10	9.4 (10)	85	10/10	9.0 (10)	81	10/10	6.5 (9)	59	10/10
8	10.9 (10)	10/10	10.7 (10)	98	10/10	9.6 (9)	88	10/10	9.4 (10)	86	10/10	8.6 (10)	79	10/10	6.8 (10)	62	10/10
9	10.9 (10)	10/10	10.6 (10)	97	10/10	9.9 (10)	91	10/10	9.3 (10)	85	10/10	9.0 (10)	83	10/10	6.8 (10)	62	10/10
10	10.3 (10)	10/10	9.8 (10)	95	10/10	9.8 (10)	95	10/10	9.0 (10)	87	10/10	8.2 (10)	80	10/10	6.5 (10)	63	10/10
11	10.8 (10)	10/10	10.4 (10)	96	10/10	10.4 (10)	96	10/10	9.4 (10)	87	10/10	8.9 (10)	82	10/10	7.0 (10)	65	10/10
12	10.5 (10)	10/10	10.1 (10)	96	10/10	9.9 (10)	94	10/10	9.3 (10)	89	10/10	8.7 (10)	83	10/10	6.8 (10)	65	10/10
13	10.6 (10)	10/10	10.1 (9)	95	10/10	10.0 (10)	94	10/10	9.2 (10)	87	10/10	8.9 (10)	84	10/10	6.7 (10)	63	10/10

< > : No.of effective animals, ( ) : No.of measured animals Av.FC.:g

TABLE 5 HEMATOLOGY OF MALE RATS IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Group Name	Control	1481 ppm	2222 ppm	3333 ppm	5000 ppm	7500 ppm
No. of examined animals	10	10	10	10	9	9
Red blood cell ($10^6/\mu$ L)	9.76 ± 0.22	9.82 ± 0.33	9.34 ± 0.54	9.17 ± 0.44 **	9.01 ± 0.36 **	8.01 ± 0.39 **
Hemoglobin (g/dL)	16.7 ± 0.4	16.3 ± 0.5	15.8 ± 0.4 **	15.5 ± 0.4 **	15.6 ± 0.2 **	15.0 ± 0.5 **
Hematocrit (%)	48.7 ± 1.4	47.9 ± 1.7	46.1 ± 2.3 *	45.6 ± 2.5 **	46.3 ± 1.7	45.1 ± 2.3 **
MCV (fL)	49.9 ± 0.7	48.8 ± 0.4 **	49.4 ± 0.6	49.7 ± 0.6	51.4 ± 0.6 **	56.3 ± 0.9 **
MCHC (g/dL)	34.3 ± 0.5	34.0 ± 0.5	34.4 ± 1.5	34.1 ± 1.9	33.7 ± 1.2	33.3 ± 1.4 **
Platlet ($10^3/\mu$ L)	667 ± 33	694 ± 30	674 ± 33	641 ± 49	608 ± 34 *	484 ± 56 **
Reticulocyte(‰)	25 ± 6	26 ± 7	28 ± 4	33 ± 8	36 ± 8 **	57 ± 8 **
Methmoglobin(%)	0.2 ± 0.1	0.2 ± 0.1	0.2 ± 0.1	0.3 ± 0.1	0.3 ± 0.1	0.4 ± 2 **
APTT (sec)	23.8 ± 2.1	22.7 ± 3.5	21.6 ± 1.7	20.1 ± 2.0 **	21.5 ± 2.1	18.2 ± 2.8 **

Mean ± S.D.

*) Significant difference, $p<0.05$ (Test of Dunnett)

**) Significant difference, $p<0.01$ (Test of Dunnett)

TABLE 6 HEMATOLOGY OF FEMALE RATS IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Group Name	Control	1481 ppm	2222 ppm	3333 ppm	5000 ppm	7500 ppm
No. of examined animals	10	9	10	9	9	9
Red blood cell ($10^6/\mu$ L)	8.98 ± 0.22	8.70 ± 0.35	8.63 ± 0.28	8.10 ± 0.50 **	8.15 ± 0.51 **	7.91 ± 0.27 **
Hemoglobin (g/dL)	16.4 ± 0.3	15.6 ± 0.6 **	15.4 ± 0.4 **	15.0 ± 0.6 **	14.8 ± 0.6 **	14.6 ± 0.4 **
Hematocrit (%)	46.9 ± 0.9	44.9 ± 2.1	44.8 ± 1.2	42.4 ± 2.5 **	43.3 ± 3.1 **	44.0 ± 1.6 **
MCV (fL)	52.3 ± 0.5	51.6 ± 0.9	51.9 ± 0.7	52.3 ± 0.6	53.1 ± 0.8	55.6 ± 1.1 **
MCHC (g/dL)	34.9 ± 0.3	34.7 ± 0.5	34.3 ± 0.4	35.6 ± 2.5	34.4 ± 1.9	33.2 ± 1.2 **
Platlet ($10^3/\mu$ L)	672 ± 33	662 ± 50	638 ± 51	588 ± 37 *	567 ± 82 **	485 ± 99 **
Reticulocyte(‰)	24 ± 5	28 ± 8	27 ± 7	32 ± 6	37 ± 9 **	50 ± 10 **
Methmoglobin(%)	0.2 ± 0.1	0.2 ± 0.1	0.2 ± 0.1	0.2 ± 0.1	0.4 ± 0.1 **	0.3 ± 0.1
Prothrombin time (sec)	11.6 ± 0.3	11.3 ± 0.2	11.6 ± 0.5	11.7 ± 0.6	11.9 ± 0.4	12.9 ± 0.5 **
WBC ($10^3/\mu$ L)	3.59 ± 0.92	3.92 ± 1.48	2.97 ± 0.80	2.49 ± 0.91	2.65 ± 0.66	2.06 ± 1.25 **

Mean ± S.D.

*) Significant difference, $p<0.05$ (Test of Dunnett)

**) Significant difference, $p<0.01$ (Test of Dunnett)

TABLE 7 BIOCHEMISTRY OF MALE RATS IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Group Name	Control	1481 ppm	2222 ppm	3333 ppm	5000 ppm	7500 ppm
No. of examined animals	10	10	10	10	9	9
Total protein (g/dL)	6.3 ± 0.1	7.1 ± 0.1 **	7.2 ± 0.2 **	7.2 ± 0.2 **	7.3 ± 0.3 **	6.5 ± 0.2
Albumin (g/dL)	3.9 ± 0.0	4.5 ± 0.1 *	4.6 ± 0.1 **	4.6 ± 0.1 **	4.7 ± 0.1 **	4.2 ± 0.2
A/G ratio	1.7 ± 0.1	1.7 ± 0.1	1.7 ± 0.1	1.8 ± 0.1	1.8 ± 0.1	1.9 ± 0.1 **
T-Bilirubin (mg/dL)	0.14 ± 0.01	0.15 ± 0.01	0.15 ± 0.01	0.16 ± 0.01 *	0.17 ± 0.01 **	0.19 ± 0.02 **
Glucose (mg/dL)	178 ± 10	183 ± 21	185 ± 31	183 ± 17	174 ± 10	149 ± 5 **
T-Cholesterol (mg/dL)	67 ± 10	118 ± 14 **	126 ± 11 **	140 ± 14 **	143 ± 10 **	126 ± 11 **
Triglyceride (mg/dL)	52 ± 11	63 ± 27	67 ± 16	65 ± 14	51 ± 14	25 ± 11 **
Phospholipid (mg/dL)	114 ± 12	186 ± 15 **	206 ± 13 **	231 ± 19 **	246 ± 19 **	220 ± 20 **
GOT (IU/L)	76 ± 12	77 ± 16	71 ± 12	62 ± 7 *	84 ± 58	84 ± 14
GPT (IU/L)	45 ± 6	56 ± 22	42 ± 7	42 ± 5	74 ± 64	78 ± 17 **
γ-GTP(IU/L)	2 ± 1	2 ± 1	2 ± 1	3 ± 1	6 ± 1 **	26 ± 4 **
Urea Nitrogen(mg/L)	19.1 ± 1.8	21.4 ± 1.2 *	22.1 ± 2.3 **	22.3 ± 1.3 **	19.2 ± 1.6	20.8 ± 2.4
Creatinine(mg/dL)	0.5 ± 0.0	0.6 ± 0.1	0.6 ± 0.1	0.5 ± 0.1	0.5 ± 0.1	0.4 ± 0.0 **
Sodium (mEq/L)	141 ± 1	141 ± 1	140 ± 1	140 ± 1	139 ± 1 **	138 ± 1 **
Chloride (mEq/L)	106 ± 1	104 ± 2 *	105 ± 1	104 ± 1 *	104 ± 1 **	105 ± 2
Calcium(mg/dL)	10.2 ± 0.1	10.6 ± 0.3 *	10.7 ± 0.3 **	10.8 ± 0.1 **	10.7 ± 0.3 **	10.1 ± 0.3
Inorganic phosphorus (mg/dL)	5.6 ± 0.5	5.5 ± 0.4	5.6 ± 0.6	5.7 ± 0.7	5.7 ± 0.4	6.3 ± 0.5 *

Mean ± S.D.

*) Significant difference, $p<0.05$ (Test of Dunnett)

**) Significant difference, $p<0.01$ (Test of Dunnett)

TABLE 8 BIOCHEMISTRY OF FEMALE RATS IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Group Name	Control	1481 ppm		2222 ppm		3333 ppm		5000 ppm		7500 ppm	
No. of examined animals	10	9		10		9		9		9	
Total protein (g/dL)	6.3 ± 0.2	6.8 ± 0.2	**	6.7 ± 0.2	**	6.8 ± 0.2	**	6.9 ± 0.2	**	6.5 ± 0.2	
Albumin (g/dL)	3.9 ± 0.1	4.2 ± 0.1	**	4.2 ± 0.2	**	4.3 ± 0.1	**	4.3 ± 0.2	**	4.2 ± 0.2	**
T-Bilirubin (mg/dL)	0.16 ± 0.01	0.17 ± 0.01		0.16 ± 0.01		0.16 ± 0.02		0.18 ± 0.01	*	0.19 ± 0.02	**
Glucose (mg/dL)	139 ± 16	146 ± 10		154 ± 9	*	151 ± 14		156 ± 9	*	156 ± 15	*
T-Cholesterol (mg/dL)	73 ± 5	136 ± 14	**	136 ± 10	**	148 ± 11	**	154 ± 12	**	142 ± 13	**
Phospholipid (mg/dL)	135 ± 10	220 ± 20	**	221 ± 19	**	241 ± 19	**	255 ± 21	**	244 ± 16	**
ALP (IU/L)	195 ± 22	166 ± 17		167 ± 25		161 ± 21	*	168 ± 27		232 ± 34	*
γ-GTP(IU/L)	2 ± 1	3 ± 1		4 ± 1		6 ± 2	**	18 ± 7	**	49 ± 6	**
Urea Nitrogen(mg/L)	18.3 ± 1.5	18.7 ± 1.1		20.1 ± 2.2		20.2 ± 2.1		20.7 ± 3.3		22.6 ± 2.8	**
Creatinine(mg/dL)	0.5 ± 0.1	0.5 ± 0.0		0.5 ± 0.0	**	0.5 ± 0.1	**	0.5 ± 0.1	**	0.4 ± 0.0	**
Sodium (mEq/L)	140 ± 1	140 ± 1		140 ± 1		139 ± 1		139 ± 1	*	138 ± 2	**
Potassium (mEq/L)	3.7 ± 0.2	3.8 ± 0.2		3.8 ± 0.3		3.7 ± 0.3		3.9 ± 0.2		4.1 ± 0.3	**
Calcium(mg/dL)	9.9 ± 0.1	10.2 ± 0.2		10.2 ± 0.3	*	10.2 ± 0.2		10.3 ± 0.3	**	10.0 ± 0.2	

Mean ± S.D.

*) Significant difference, $p<0.05$ (Test of Dunnett)

**) Significant difference, $p<0.01$ (Test of Dunnett)

TABLE 9 URINALYSIS OF MALE RATS IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Group		Control	1481 ppm	2222 ppm	3333 ppm	5000 ppm	7500 ppm
Number of examined animals		10	10	10	10	10	10
	Grade						
Ketone body	−	0	2 *	3 *	6 **	4 *	4 *
	±	5	8	7	4	6	6
	+	5	0	0	0	0	0
	2+	0	0	0	0	0	0
	3+	0	0	0	0	0	0
	4+	0	0	0	0	0	0

Significant difference * : $p<0.05$ ** : $p<0.01$ Chi square test

TABLE 10 ORGAN WEIGHTS OF MALE RATS IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Group Name	Control	1481 ppm	2222 ppm	3333 ppm	5000 ppm	7500 ppm
No. of examined animals	10	10	10	10	10	10
Body weight (g)	282 ± 15	273 ± 11	264 ± 12 **	247 ± 8 **	210 ± 13 **	144 ± 15 **
Thymus (g)	0.204 ± 0.020	0.182 ± 0.024	0.184 ± 0.030	0.185 ± 0.022	0.161 ± 0.027 **	0.104 ± 0.022 **
Thymus (%)	0.072 ± 0.006	0.067 ± 0.009	0.070 ± 0.011	0.075 ± 0.008	0.077 ± 0.013	0.071 ± 0.010
Adrenals (g)	0.061 ± 0.013	0.064 ± 0.011	0.059 ± 0.010	0.062 ± 0.009	0.058 ± 0.007	0.049 ± 0.008 *
Adrenals (%)	0.022 ± 0.005	0.024 ± 0.004	0.022 ± 0.004	0.025 ± 0.003	0.028 ± 0.003 **	0.034 ± 0.004 **
Testes (g)	2.988 ± 0.125	3.041 ± 0.079	2.619 ± 0.139 **	1.621 ± 0.106 **	1.138 ± 0.082 **	0.857 ± 0.097 **
Testes (%)	1.061 ± 0.040	1.113 ± 0.041	0.996 ± 0.070 *	0.657 ± 0.050 **	0.542 ± 0.037 **	0.596 ± 0.037 **
Heart (g)	0.928 ± 0.050	0.905 ± 0.056	0.871 ± 0.072	0.863 ± 0.059	0.757 ± 0.039 **	0.525 ± 0.058 **
Heart (%)	0.330 ± 0.017	0.331 ± 0.018	0.330 ± 0.021	0.350 ± 0.023	0.360 ± 0.010 **	0.365 ± 0.022 **
Lungs (g)	1.013 ± 0.054	1.004 ± 0.035	0.975 ± 0.044	0.964 ± 0.054	0.862 ± 0.052 **	0.692 ± 0.055 **
Lungs (%)	0.360 ± 0.016	0.368 ± 0.015	0.370 ± 0.012	0.391 ± 0.026	0.410 ± 0.012 **	0.483 ± 0.029 **
Kidneys (g)	1.809 ± 0.086	2.063 ± 0.128 **	2.076 ± 0.133 **	2.070 ± 0.084 **	1.813 ± 0.100	1.389 ± 0.069 **
Kidneys (%)	0.643 ± 0.026	0.755 ± 0.038	0.787 ± 0.029	0.839 ± 0.035 **	0.864 ± 0.043 **	0.971 ± 0.068 **
Spleen (g)	0.533 ± 0.021	0.520 ± 0.042	0.542 ± 0.042	0.549 ± 0.120	0.465 ± 0.030 **	0.377 ± 0.046 **
Spleen (%)	0.190 ± 0.007	0.190 ± 0.011	0.206 ± 0.016	0.223 ± 0.053 *	0.221 ± 0.008 **	0.262 ± 0.015 **
Liver (g)	7.042 ± 0.323	9.681 ± 0.740 **	9.946 ± 0.686 **	9.976 ± 0.490 **	9.163 ± 0.646 **	6.352 ± 0.802
Liver (%)	2.499 ± 0.039	3.539 ± 0.195	3.772 ± 0.124	4.040 ± 0.144 **	4.361 ± 0.167 **	4.412 ± 0.253 **
Brain (g)	1.879 ± 0.044	1.865 ± 0.043	1.859 ± 0.048	1.848 ± 0.040	1.793 ± 0.041 **	1.665 ± 0.040 **
Brain (%)	0.668 ± 0.035	0.683 ± 0.022	0.706 ± 0.027	0.749 ± 0.028 *	0.856 ± 0.048 **	1.168 ± 0.110 **

Mean ± S.D.

*) Significant difference, $p<0.05$ (Test of Dunnett)

**) Significant difference, $p<0.01$ (Test of Dunnett)

TABLE 11 ORGAN WEIGHTS OF FEMALE RATS IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Group Name	Control	1481 ppm	2222 ppm	3333 ppm	5000 ppm	7500 ppm
No. of examined animals	10	10	10	10	10	10
Body weight (g)	159 ± 9	149 ± 12	138 ± 12 **	133 ± 8 **	129 ± 7 **	113 ± 9 **
Thymus (g)	0.168 ± 0.023	0.166 ± 0.019	0.152 ± 0.025	0.147 ± 0.024	0.140 ± 0.019 *	0.124 ± 0.026 **
Thymus (%)	0.106 ± 0.014	0.112 ± 0.010	0.110 ± 0.013	0.110 ± 0.017	0.109 ± 0.016	0.109 ± 0.017
Adrenals (g)	0.062 ± 0.008	0.060 ± 0.004	0.058 ± 0.006	0.055 ± 0.007	0.051 ± 0.005 **	0.047 ± 0.007 **
Adrenals (%)	0.039 ± 0.005	0.040 ± 0.005	0.042 ± 0.005	0.042 ± 0.004	0.040 ± 0.004	0.042 ± 0.006
Ovary (g)	0.105 ± 0.010	0.097 ± 0.012	0.101 ± 0.013	0.094 ± 0.009	0.088 ± 0.014 **	0.063 ± 0.009 **
Ovary (%)	0.066 ± 0.007	0.065 ± 0.010	0.074 ± 0.010	0.071 ± 0.008	0.068 ± 0.010	0.055 ± 0.007 *
Heart (g)	0.619 ± 0.029	0.592 ± 0.045	0.557 ± 0.029	0.547 ± 0.067 *	0.522 ± 0.026 **	0.435 ± 0.052 **
Heart (%)	0.391 ± 0.021	0.398 ± 0.018	0.405 ± 0.019	0.410 ± 0.034	0.407 ± 0.019	0.385 ± 0.024
Lungs (g)	0.748 ± 0.049	0.736 ± 0.045	0.701 ± 0.044	0.691 ± 0.022 *	0.667 ± 0.042 **	0.587 ± 0.041 **
Lungs (%)	0.472 ± 0.022	0.495 ± 0.027	0.509 ± 0.018 **	0.521 ± 0.024 **	0.518 ± 0.016 **	0.522 ± 0.031 **
Kidneys (g)	1.126 ± 0.069	1.215 ± 0.066 **	1.178 ± 0.102	1.193 ± 0.048	1.181 ± 0.059	1.062 ± 0.047
Kidneys (%)	0.711 ± 0.045	0.818 ± 0.054 **	0.855 ± 0.050 **	0.900 ± 0.064 **	0.919 ± 0.033 **	0.945 ± 0.045 **
Spleen (g)	0.376 ± 0.026	0.357 ± 0.030	0.333 ± 0.029 **	0.332 ± 0.025 **	0.341 ± 0.027 *	0.299 ± 0.037 **
Spleen (%)	0.238 ± 0.021	0.239 ± 0.010	0.241 ± 0.007	0.250 ± 0.012 *	0.265 ± 0.016 **	0.264 ± 0.016 **
Liver (g)	3.828 ± 0.268	4.871 ± 0.387 **	4.855 ± 0.356 **	5.149 ± 0.314 **	5.444 ± 0.346 **	5.126 ± 0.569 **
Liver (%)	2.414 ± 0.091	3.270 ± 0.122 **	3.525 ± 0.119 **	3.876 ± 0.145 **	4.233 ± 0.150 **	4.538 ± 0.229 **
Brain (g)	1.736 ± 0.027	1.738 ± 0.047	1.721 ± 0.045	1.714 ± 0.032	1.687 ± 0.060 *	1.625 ± 0.034 **
Brain (%)	1.098 ± 0.065	1.172 ± 0.096	1.255 ± 0.100 **	1.294 ± 0.077 **	1.314 ± 0.061 **	1.447 ± 0.095 **

Mean ± S.D.

*) Significant difference, $p<0.05$ (Test of Dunnett)

**) Significant difference, $p<0.01$ (Test of Dunnett)

TABLE 12 INCIDENCES OF SELECTED LESIONS OF MALE RATS IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Group		Control	1481 ppm	2222 ppm	3333 ppm	5000 ppm	7500 ppm
Number of examined animals		10	10	10	10	10	10
Organ Findings	Grade of Nonneoplastic finding						
Spleen							
Deposit of hemosiderin	1+	0	1	10 **	10 **	10 **	10 **
Increased extramedullary hematopoiesis	1+	0	0	1	4	9 **	10 **
Liver							
Swelling:central	1+	0	6 *	10 **	10 **	9 **	8 **
Vacuolic change:ventral	1+	0	0	0	6 *	7 **	2 **
	2+	0	0	0	0	3	8
Kidney							
Basophilic change	1+	0	10 **	10 **	10 **	1	0
Eosinophilic body	1+	0	0 **	0 **	0 **	0 **	5 *
	2+	8	0	0	0	0	4
	3+	2	10	10	10	10	0
Desquamation:tublar epith	1+	0	4 **	3 **	2 **	0	0
	2+	0	6	7	8	0	0
Testis							
germ cell necrosis	1+	0	0	6 *	0 **	0 **	0 **
	2+	0	0	0	9	0	0
	3+	0	0	0	1	10	10
Epididymis							
debris of spermatic elemen	1+	0	0	6 *	10 **	10 **	10 **
disappear:sperma	3+	0	0	0	10 **	10 **	10 **

Grade 1+: Slight 2+: Moderate 3+: Marked 4+: Severe

Significant difference * : $p<0.05$ ** : $p<0.01$ Chi square test for non-neoplastic lesion

TABLE 13 INCIDENCES OF SELECTED LESIONS OF FEMALE RATS IN THE 13-WEEK FEED STUDY OF 1,4-DICHLORO-2-NITROBENZENE

Group		Control	14814 ppm	2222 ppm	3333 ppm	5000 ppm	7500 ppm
Number of examined animals		10	10	10	10	10	10
Organ Findings	Grade of Nonneoplastic finding						
Bone marrow							
granulation	1+	3	1	1	0 *	0 *	0 *
	2+	2	1	0	0	0	0
Spleen							
Deposit of hemosiderin	1+	0	8 **	10 **	10 **	10 **	9 **
Increased extramedullary hematopoiesis	1+	0	0	0	2	8 **	9 **
Liver							
Swelling:central	1+	0	10 **	10 **	10 **	10 **	10 **
Vacuolic change:ventral	1+	0	0	0	0	0	8 **
Kidney							
Eosinophilic droplet:	1+	0	2 **	3 **	0 **	2 **	3
proximal tubule	2+	0	8	7	10	8	1

Grade 1+: Slight 2+: Moderate 3+: Marked 4+: Severe

Significant difference * : $p<0.05$ ** : $p<0.01$ Chi square test for non-neoplastic lesion