

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

試験番号：0422

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

Week on Study	Control		750 ppm			1500 ppm			3000 ppm		
	Av. Wt. <50>	No. of Surviv.	Av. Wt.	% of cont. <50>	No. of Surviv.	Av. Wt.	% of cont. <50>	No. of Surviv.	Av. Wt.	% of cont. <50>	No. of Surviv.
0	23.7 ( 50 )	50 / 50	23.7 ( 50 )	100	50 / 50	23.7 ( 50 )	100	50 / 50	23.7 ( 50 )	100	50 / 50
1	24.9 ( 50 )	50 / 50	24.7 ( 50 )	99	50 / 50	24.3 ( 50 )	98	50 / 50	23.7 ( 50 )	95	50 / 50
2	25.7 ( 50 )	50 / 50	25.2 ( 50 )	98	50 / 50	24.9 ( 50 )	97	50 / 50	24.3 ( 50 )	95	50 / 50
3	26.0 ( 50 )	50 / 50	25.8 ( 50 )	99	50 / 50	25.7 ( 50 )	99	50 / 50	25.1 ( 50 )	97	50 / 50
4	27.0 ( 50 )	50 / 50	26.6 ( 50 )	99	50 / 50	26.1 ( 50 )	97	50 / 50	25.7 ( 50 )	95	50 / 50
5	27.9 ( 50 )	50 / 50	27.6 ( 50 )	99	50 / 50	27.3 ( 50 )	98	50 / 50	26.5 ( 50 )	95	50 / 50
6	28.7 ( 50 )	50 / 50	28.2 ( 50 )	98	50 / 50	27.7 ( 50 )	97	50 / 50	26.9 ( 50 )	94	50 / 50
7	29.5 ( 50 )	50 / 50	29.0 ( 50 )	98	50 / 50	28.6 ( 50 )	97	50 / 50	27.6 ( 50 )	94	50 / 50
8	30.2 ( 50 )	50 / 50	30.0 ( 50 )	99	50 / 50	29.3 ( 50 )	97	50 / 50	28.2 ( 50 )	93	50 / 50
9	31.2 ( 50 )	50 / 50	30.8 ( 50 )	99	50 / 50	30.1 ( 50 )	96	50 / 50	28.6 ( 50 )	92	50 / 50
10	31.9 ( 50 )	50 / 50	31.5 ( 50 )	99	50 / 50	30.9 ( 50 )	97	50 / 50	29.3 ( 50 )	92	50 / 50
11	32.6 ( 50 )	50 / 50	32.1 ( 50 )	98	50 / 50	31.6 ( 50 )	97	50 / 50	29.8 ( 50 )	91	50 / 50
12	33.2 ( 50 )	50 / 50	32.7 ( 50 )	98	50 / 50	31.9 ( 50 )	96	50 / 50	30.1 ( 50 )	91	50 / 50
13	34.0 ( 50 )	50 / 50	33.4 ( 50 )	98	50 / 50	32.8 ( 50 )	96	50 / 50	30.9 ( 50 )	91	50 / 50
14	35.0 ( 50 )	50 / 50	34.4 ( 50 )	98	50 / 50	33.8 ( 50 )	97	50 / 50	31.7 ( 50 )	91	50 / 50
18	38.0 ( 50 )	50 / 50	36.9 ( 50 )	97	50 / 50	36.5 ( 50 )	96	50 / 50	33.9 ( 50 )	89	50 / 50
22	40.4 ( 50 )	50 / 50	39.7 ( 50 )	98	50 / 50	38.9 ( 50 )	96	50 / 50	36.1 ( 50 )	89	50 / 50
26	43.0 ( 50 )	50 / 50	42.0 ( 50 )	98	50 / 50	40.6 ( 50 )	94	50 / 50	37.7 ( 50 )	88	50 / 50
30	45.2 ( 50 )	50 / 50	44.0 ( 50 )	97	50 / 50	42.2 ( 50 )	93	50 / 50	39.1 ( 50 )	87	50 / 50
34	47.4 ( 50 )	50 / 50	45.9 ( 50 )	97	50 / 50	43.7 ( 50 )	92	50 / 50	40.5 ( 50 )	85	50 / 50
38	48.6 ( 50 )	50 / 50	47.2 ( 50 )	97	50 / 50	45.0 ( 50 )	93	50 / 50	41.4 ( 50 )	85	50 / 50
42	49.9 ( 50 )	50 / 50	48.5 ( 50 )	97	50 / 50	46.9 ( 50 )	94	50 / 50	42.5 ( 50 )	85	50 / 50
46	50.8 ( 50 )	50 / 50	49.8 ( 50 )	98	50 / 50	48.0 ( 50 )	94	50 / 50	43.6 ( 50 )	86	50 / 50
50	51.6 ( 50 )	50 / 50	50.5 ( 50 )	98	50 / 50	48.7 ( 49 )	94	49 / 50	44.1 ( 50 )	85	50 / 50
54	52.6 ( 49 )	49 / 50	51.3 ( 50 )	98	50 / 50	49.2 ( 49 )	94	49 / 50	45.2 ( 49 )	86	49 / 50
58	54.0 ( 49 )	49 / 50	51.4 ( 50 )	95	50 / 50	49.3 ( 49 )	91	49 / 50	45.7 ( 49 )	85	49 / 50
62	53.8 ( 49 )	49 / 50	53.5 ( 49 )	99	49 / 50	50.3 ( 48 )	93	48 / 50	47.2 ( 48 )	88	48 / 50
66	53.4 ( 48 )	48 / 50	53.7 ( 49 )	101	49 / 50	51.5 ( 47 )	96	47 / 50	47.0 ( 48 )	88	48 / 50
70	54.5 ( 46 )	46 / 50	54.8 ( 49 )	101	49 / 50	51.6 ( 47 )	95	47 / 50	47.3 ( 48 )	87	48 / 50
74	54.4 ( 45 )	45 / 50	54.3 ( 48 )	100	48 / 50	51.3 ( 46 )	94	46 / 50	46.9 ( 46 )	86	46 / 50
78	54.9 ( 44 )	44 / 50	55.3 ( 48 )	101	48 / 50	51.9 ( 46 )	95	46 / 50	46.4 ( 42 )	85	42 / 50
82	54.4 ( 44 )	44 / 50	55.8 ( 48 )	103	48 / 50	52.3 ( 45 )	96	45 / 50	47.4 ( 35 )	87	35 / 50
86	53.8 ( 42 )	42 / 50	54.7 ( 47 )	102	47 / 50	51.5 ( 43 )	96	43 / 50	45.0 ( 32 )	84	32 / 50
90	53.8 ( 40 )	40 / 50	55.1 ( 45 )	102	45 / 50	49.7 ( 43 )	92	43 / 50	43.5 ( 31 )	81	31 / 50
94	53.0 ( 40 )	40 / 50	53.8 ( 45 )	102	45 / 50	49.5 ( 39 )	93	39 / 50	42.1 ( 27 )	79	27 / 50
98	51.7 ( 38 )	38 / 50	52.1 ( 41 )	101	41 / 50	46.4 ( 37 )	90	37 / 50	40.2 ( 24 )	78	24 / 50
102	50.9 ( 37 )	37 / 50	50.7 ( 39 )	100	39 / 50	46.4 ( 31 )	91	31 / 50	37.5 ( 23 )	74	23 / 50
104	50.9 ( 35 )	35 / 50	50.8 ( 38 )	100	38 / 50	45.9 ( 29 )	90	29 / 50	37.1 ( 23 )	73	23 / 50

< > : No. of effective animals, ( ) : No. of measured animals, Av. Wt. : Averaged body weight (Unit : g).

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

Week on Study	Control		1500 ppm			3000 ppm			6000 ppm		
	Av. Wt. <49>	No. of Surviv.	Av. Wt.	% of cont. <50>	No. of Surviv.	Av. Wt.	% of cont. <50>	No. of Surviv.	Av. Wt.	% of cont. <50>	No. of Surviv.
0	19.4 ( 49 )	49 / 49	19.3 ( 50 )	99	50 / 50	19.3 ( 50 )	99	50 / 50	19.3 ( 50 )	99	50 / 50
1	19.9 ( 49 )	49 / 49	19.5 ( 50 )	98	50 / 50	19.4 ( 50 )	97	50 / 50	15.6 ( 50 )	78	50 / 50
2	20.0 ( 49 )	49 / 49	19.8 ( 50 )	99	50 / 50	19.8 ( 50 )	99	50 / 50	18.7 ( 50 )	94	50 / 50
3	20.2 ( 49 )	49 / 49	20.3 ( 50 )	100	50 / 50	20.3 ( 50 )	100	50 / 50	19.4 ( 50 )	96	50 / 50
4	20.8 ( 49 )	49 / 49	20.5 ( 50 )	99	50 / 50	20.6 ( 50 )	99	50 / 50	20.2 ( 50 )	97	50 / 50
5	21.3 ( 49 )	49 / 49	21.3 ( 50 )	100	50 / 50	21.2 ( 50 )	100	50 / 50	20.5 ( 50 )	96	50 / 50
6	21.7 ( 49 )	49 / 49	21.6 ( 49 )	100	49 / 50	21.5 ( 50 )	99	50 / 50	20.4 ( 50 )	94	50 / 50
7	22.1 ( 49 )	49 / 49	22.2 ( 49 )	100	49 / 50	22.0 ( 50 )	100	50 / 50	20.6 ( 50 )	93	50 / 50
8	22.9 ( 49 )	49 / 49	22.5 ( 49 )	98	49 / 50	22.6 ( 50 )	99	50 / 50	20.8 ( 50 )	91	50 / 50
9	23.4 ( 49 )	49 / 49	23.1 ( 49 )	99	49 / 50	23.0 ( 50 )	98	50 / 50	20.7 ( 50 )	88	50 / 50
10	23.7 ( 49 )	49 / 49	23.4 ( 49 )	99	49 / 50	23.4 ( 50 )	99	50 / 50	20.9 ( 50 )	88	50 / 50
11	23.9 ( 49 )	49 / 49	23.7 ( 49 )	99	49 / 50	23.5 ( 50 )	98	50 / 50	21.3 ( 50 )	89	50 / 50
12	23.9 ( 49 )	49 / 49	23.5 ( 49 )	98	49 / 50	23.7 ( 50 )	99	50 / 50	21.4 ( 50 )	90	50 / 50
13	24.8 ( 49 )	49 / 49	24.2 ( 49 )	98	49 / 50	24.2 ( 50 )	98	50 / 50	21.7 ( 50 )	88	50 / 50
14	25.0 ( 49 )	49 / 49	24.9 ( 49 )	100	49 / 50	24.6 ( 50 )	98	50 / 50	21.9 ( 50 )	88	50 / 50
18	27.0 ( 49 )	49 / 49	26.0 ( 49 )	96	49 / 50	25.9 ( 50 )	96	50 / 50	22.6 ( 50 )	84	50 / 50
22	29.0 ( 49 )	49 / 49	27.9 ( 49 )	96	49 / 50	27.1 ( 50 )	93	50 / 50	23.4 ( 50 )	81	50 / 50
26	29.9 ( 49 )	49 / 49	29.1 ( 49 )	97	49 / 50	28.1 ( 50 )	94	50 / 50	24.0 ( 50 )	80	50 / 50
30	31.5 ( 49 )	49 / 49	30.6 ( 48 )	97	48 / 50	28.6 ( 50 )	91	50 / 50	24.7 ( 50 )	78	50 / 50
34	33.2 ( 49 )	49 / 49	31.6 ( 48 )	95	48 / 50	29.8 ( 50 )	90	50 / 50	25.1 ( 50 )	76	50 / 50
38	34.7 ( 49 )	49 / 49	32.8 ( 48 )	95	48 / 50	30.7 ( 50 )	88	50 / 50	25.4 ( 50 )	73	50 / 50
42	36.2 ( 49 )	49 / 49	34.1 ( 48 )	94	48 / 50	31.7 ( 50 )	88	50 / 50	26.0 ( 50 )	72	50 / 50
46	37.3 ( 48 )	48 / 49	36.0 ( 47 )	97	47 / 50	32.4 ( 50 )	87	50 / 50	26.5 ( 49 )	71	49 / 50
50	38.2 ( 48 )	48 / 49	36.7 ( 47 )	96	47 / 50	33.0 ( 50 )	86	50 / 50	26.2 ( 49 )	69	49 / 50
54	38.5 ( 48 )	48 / 49	37.7 ( 46 )	98	46 / 50	33.8 ( 50 )	88	50 / 50	26.8 ( 48 )	70	48 / 50
58	39.6 ( 47 )	47 / 49	37.6 ( 46 )	95	46 / 50	34.1 ( 50 )	86	50 / 50	27.0 ( 48 )	68	48 / 50
62	40.4 ( 47 )	47 / 49	38.7 ( 46 )	96	46 / 50	34.3 ( 50 )	85	50 / 50	27.3 ( 47 )	68	47 / 50
66	40.6 ( 46 )	46 / 49	39.3 ( 46 )	97	46 / 50	34.7 ( 49 )	85	49 / 50	27.2 ( 47 )	67	47 / 50
70	40.7 ( 46 )	46 / 49	39.0 ( 46 )	96	46 / 50	35.2 ( 47 )	86	47 / 50	27.2 ( 46 )	67	46 / 50
74	41.3 ( 46 )	46 / 49	39.0 ( 45 )	94	45 / 50	35.4 ( 46 )	86	46 / 50	27.1 ( 46 )	66	46 / 50
78	42.2 ( 44 )	44 / 49	39.2 ( 45 )	93	45 / 50	35.2 ( 46 )	83	46 / 50	26.6 ( 42 )	63	42 / 50
82	41.7 ( 44 )	44 / 49	38.9 ( 44 )	93	44 / 50	34.6 ( 45 )	83	45 / 50	26.5 ( 36 )	64	36 / 50
86	41.0 ( 44 )	44 / 49	38.4 ( 42 )	94	42 / 50	33.7 ( 42 )	82	42 / 50	26.1 ( 31 )	64	31 / 50
90	40.2 ( 43 )	43 / 49	37.9 ( 40 )	94	40 / 50	32.6 ( 37 )	81	37 / 50	25.7 ( 28 )	64	28 / 50
94	40.4 ( 39 )	39 / 49	37.8 ( 37 )	94	37 / 50	32.6 ( 31 )	81	31 / 50	25.3 ( 25 )	63	25 / 50
98	40.7 ( 34 )	34 / 49	37.3 ( 32 )	92	32 / 50	31.4 ( 24 )	77	24 / 50	24.8 ( 21 )	61	21 / 50
102	40.5 ( 32 )	32 / 49	36.7 ( 29 )	91	29 / 50	31.3 ( 20 )	77	20 / 50	24.6 ( 20 )	61	20 / 50
104	40.3 ( 28 )	28 / 49	36.9 ( 28 )	92	28 / 50	30.8 ( 18 )	76	18 / 50	24.2 ( 19 )	60	19 / 50

< > : No. of effective animals, ( ) : No. of measured animals, Av. Wt. : Averaged body weight (Unit : g).

TABLE 3 FOOD CONSUMPTION CHANGES OF MALE MICE IN THE 2-YEAR FEED STUDY OF 2,4-DICHLORO-1-NITROBENZENE

Week on Study	Control		750 ppm			1500 ppm			3000 ppm		
	Av. FC. <50>	No. of Surviv.	Av. FC.	% of cont. <50>	No. of Surviv.	Av. FC.	% of cont. <50>	No. of Surviv.	Av. FC.	% of cont. <50>	No. of Surviv.
1	4.1 ( 49 )	50 / 50	4.1 ( 50 )	100	50 / 50	3.9 ( 50 )	95	50 / 50	3.8 ( 49 )	93	50 / 50
2	3.9 ( 50 )	50 / 50	3.7 ( 50 )	95	50 / 50	3.7 ( 50 )	95	50 / 50	3.8 ( 48 )	97	50 / 50
3	3.8 ( 48 )	50 / 50	3.8 ( 50 )	100	50 / 50	3.9 ( 49 )	103	50 / 50	3.8 ( 47 )	100	50 / 50
4	3.9 ( 50 )	50 / 50	3.8 ( 50 )	97	50 / 50	3.8 ( 50 )	97	50 / 50	3.9 ( 50 )	100	50 / 50
5	4.0 ( 50 )	50 / 50	4.0 ( 50 )	100	50 / 50	4.1 ( 50 )	103	50 / 50	3.9 ( 49 )	98	50 / 50
6	4.2 ( 49 )	50 / 50	4.0 ( 50 )	95	50 / 50	3.9 ( 49 )	93	50 / 50	3.8 ( 48 )	90	50 / 50
7	4.2 ( 50 )	50 / 50	4.1 ( 50 )	98	50 / 50	4.1 ( 49 )	98	50 / 50	3.9 ( 49 )	93	50 / 50
8	4.1 ( 50 )	50 / 50	4.0 ( 50 )	98	50 / 50	4.0 ( 50 )	98	50 / 50	3.8 ( 50 )	93	50 / 50
9	4.2 ( 50 )	50 / 50	4.0 ( 50 )	95	50 / 50	4.2 ( 50 )	100	50 / 50	3.8 ( 50 )	90	50 / 50
10	4.2 ( 49 )	50 / 50	4.1 ( 50 )	98	50 / 50	4.2 ( 50 )	100	50 / 50	3.9 ( 50 )	93	50 / 50
11	4.1 ( 50 )	50 / 50	3.9 ( 50 )	95	50 / 50	4.0 ( 50 )	98	50 / 50	3.8 ( 50 )	93	50 / 50
12	4.2 ( 50 )	50 / 50	4.0 ( 50 )	95	50 / 50	4.1 ( 50 )	98	50 / 50	3.8 ( 50 )	90	50 / 50
13	4.1 ( 50 )	50 / 50	3.9 ( 50 )	95	50 / 50	4.1 ( 50 )	100	50 / 50	3.9 ( 50 )	95	50 / 50
14	4.3 ( 50 )	50 / 50	4.0 ( 50 )	93	50 / 50	4.1 ( 50 )	95	50 / 50	3.9 ( 50 )	91	50 / 50
18	4.2 ( 50 )	50 / 50	3.9 ( 50 )	93	50 / 50	4.0 ( 50 )	95	50 / 50	3.7 ( 50 )	88	50 / 50
22	4.1 ( 49 )	50 / 50	3.9 ( 50 )	95	50 / 50	4.1 ( 49 )	100	50 / 50	3.9 ( 50 )	95	50 / 50
26	4.3 ( 50 )	50 / 50	4.1 ( 50 )	95	50 / 50	4.1 ( 50 )	95	50 / 50	4.0 ( 50 )	93	50 / 50
30	4.2 ( 50 )	50 / 50	4.0 ( 50 )	95	50 / 50	4.1 ( 50 )	98	50 / 50	3.9 ( 50 )	93	50 / 50
34	4.6 ( 50 )	50 / 50	4.2 ( 50 )	91	50 / 50	4.2 ( 49 )	91	50 / 50	4.1 ( 50 )	89	50 / 50
38	4.7 ( 50 )	50 / 50	4.3 ( 50 )	91	50 / 50	4.2 ( 50 )	89	50 / 50	4.1 ( 50 )	87	50 / 50
42	4.6 ( 45 )	50 / 50	4.3 ( 48 )	93	50 / 50	4.3 ( 50 )	93	50 / 50	4.0 ( 50 )	87	50 / 50
46	4.4 ( 50 )	50 / 50	4.2 ( 50 )	95	50 / 50	4.4 ( 47 )	100	50 / 50	4.1 ( 50 )	93	50 / 50
50	4.7 ( 49 )	50 / 50	4.5 ( 50 )	96	50 / 50	4.5 ( 49 )	96	49 / 50	4.3 ( 50 )	91	50 / 50
54	4.7 ( 42 )	49 / 50	4.5 ( 46 )	96	50 / 50	4.4 ( 43 )	94	49 / 50	4.5 ( 46 )	96	49 / 50
58	5.0 ( 48 )	49 / 50	4.5 ( 50 )	90	50 / 50	4.4 ( 49 )	88	49 / 50	4.4 ( 48 )	88	49 / 50
62	4.9 ( 49 )	49 / 50	4.9 ( 49 )	100	49 / 50	4.7 ( 48 )	96	48 / 50	4.6 ( 46 )	94	48 / 50
66	4.8 ( 45 )	48 / 50	4.9 ( 48 )	102	49 / 50	4.9 ( 47 )	102	47 / 50	4.7 ( 47 )	98	48 / 50
70	5.0 ( 42 )	46 / 50	4.9 ( 48 )	98	49 / 50	4.7 ( 44 )	94	47 / 50	4.7 ( 47 )	94	48 / 50
74	5.0 ( 44 )	45 / 50	5.0 ( 48 )	100	48 / 50	5.0 ( 46 )	100	46 / 50	4.6 ( 45 )	92	46 / 50
78	5.1 ( 43 )	44 / 50	4.9 ( 45 )	96	48 / 50	4.8 ( 42 )	94	46 / 50	4.5 ( 42 )	88	42 / 50
82	5.2 ( 43 )	44 / 50	5.0 ( 48 )	96	48 / 50	5.0 ( 43 )	96	45 / 50	4.6 ( 35 )	88	35 / 50
86	5.1 ( 41 )	42 / 50	4.8 ( 45 )	94	47 / 50	4.9 ( 43 )	96	43 / 50	4.6 ( 31 )	90	32 / 50
90	5.1 ( 38 )	40 / 50	4.7 ( 45 )	92	45 / 50	4.6 ( 41 )	90	43 / 50	4.8 ( 31 )	94	31 / 50
94	5.2 ( 38 )	40 / 50	4.8 ( 44 )	92	45 / 50	4.9 ( 39 )	94	39 / 50	4.9 ( 26 )	94	27 / 50
98	5.0 ( 32 )	38 / 50	4.8 ( 40 )	96	41 / 50	4.7 ( 34 )	94	37 / 50	5.0 ( 22 )	100	24 / 50
102	5.1 ( 36 )	37 / 50	4.8 ( 39 )	94	39 / 50	4.8 ( 29 )	94	31 / 50	4.7 ( 20 )	92	23 / 50
104	5.4 ( 32 )	35 / 50	5.0 ( 37 )	93	38 / 50	5.2 ( 29 )	96	29 / 50	5.3 ( 20 )	98	23 / 50

< > : No. of effective animals, ( ) : No. of measured animals, Av. FC. : Averaged food consumption (Unit : g).

TABLE 4 FOOD CONSUMPTION CHANGES OF FEMALE MICE IN THE 2-YEAR  
FEED STUDY OF 2,4-DICHLORO-1-NITROBENZENE

Week on Study	Control		1500 ppm			3000 ppm			6000 ppm		
	Av. FC. <49>	No. of Surviv.	Av. FC.	% of cont. <50>	No. of Surviv.	Av. FC.	% of cont. <50>	No. of Surviv.	Av. FC.	% of cont. <50>	No. of Surviv.
1	3.6 ( 49 )	49 / 49	3.5 ( 50 )	97	50 / 50	3.5 ( 49 )	97	50 / 50	2.7 ( 45 )	75	50 / 50
2	3.4 ( 49 )	49 / 49	3.3 ( 50 )	97	50 / 50	3.5 ( 50 )	103	50 / 50	4.5 ( 37 )	132	50 / 50
3	3.4 ( 49 )	49 / 49	3.4 ( 50 )	100	50 / 50	3.3 ( 50 )	97	50 / 50	3.3 ( 42 )	97	50 / 50
4	3.5 ( 49 )	49 / 49	3.4 ( 50 )	97	50 / 50	3.2 ( 50 )	91	50 / 50	3.4 ( 50 )	97	50 / 50
5	3.5 ( 49 )	49 / 49	3.6 ( 50 )	103	50 / 50	3.4 ( 50 )	97	50 / 50	3.2 ( 48 )	91	50 / 50
6	3.5 ( 49 )	49 / 49	3.5 ( 48 )	100	49 / 50	3.3 ( 50 )	94	50 / 50	3.0 ( 44 )	86	50 / 50
7	3.6 ( 49 )	49 / 49	3.6 ( 49 )	100	49 / 50	3.5 ( 48 )	97	50 / 50	3.4 ( 47 )	94	50 / 50
8	3.5 ( 49 )	49 / 49	3.6 ( 49 )	103	49 / 50	3.4 ( 50 )	97	50 / 50	3.2 ( 50 )	91	50 / 50
9	3.6 ( 49 )	49 / 49	3.6 ( 49 )	100	49 / 50	3.5 ( 50 )	97	50 / 50	3.3 ( 49 )	92	50 / 50
10	3.6 ( 49 )	49 / 49	3.7 ( 49 )	103	49 / 50	3.5 ( 50 )	97	50 / 50	3.1 ( 49 )	86	50 / 50
11	3.5 ( 49 )	49 / 49	3.6 ( 49 )	103	49 / 50	3.3 ( 50 )	94	50 / 50	3.1 ( 49 )	89	50 / 50
12	3.7 ( 49 )	49 / 49	3.5 ( 49 )	95	49 / 50	3.4 ( 50 )	92	50 / 50	3.1 ( 50 )	84	50 / 50
13	3.6 ( 47 )	49 / 49	3.6 ( 49 )	100	49 / 50	3.4 ( 50 )	94	50 / 50	3.2 ( 50 )	89	50 / 50
14	3.6 ( 49 )	49 / 49	3.7 ( 49 )	103	49 / 50	3.5 ( 50 )	97	50 / 50	3.1 ( 50 )	86	50 / 50
18	3.6 ( 49 )	49 / 49	3.5 ( 49 )	97	49 / 50	3.5 ( 50 )	97	50 / 50	3.2 ( 50 )	89	50 / 50
22	4.0 ( 49 )	49 / 49	3.9 ( 49 )	98	49 / 50	3.6 ( 50 )	90	50 / 50	3.2 ( 50 )	80	50 / 50
26	3.9 ( 49 )	49 / 49	4.0 ( 49 )	103	49 / 50	3.7 ( 50 )	95	50 / 50	3.4 ( 47 )	87	50 / 50
30	3.9 ( 49 )	49 / 49	4.0 ( 48 )	103	48 / 50	3.6 ( 50 )	92	50 / 50	3.4 ( 50 )	87	50 / 50
34	4.2 ( 49 )	49 / 49	4.1 ( 48 )	98	48 / 50	3.9 ( 50 )	93	50 / 50	3.7 ( 50 )	88	50 / 50
38	4.1 ( 49 )	49 / 49	3.9 ( 48 )	95	48 / 50	3.9 ( 50 )	95	50 / 50	3.5 ( 50 )	85	50 / 50
42	4.0 ( 49 )	49 / 49	3.9 ( 48 )	98	48 / 50	3.8 ( 50 )	95	50 / 50	3.8 ( 48 )	95	50 / 50
46	3.9 ( 48 )	48 / 49	4.2 ( 47 )	108	47 / 50	3.9 ( 50 )	100	50 / 50	3.7 ( 49 )	95	49 / 50
50	4.2 ( 48 )	48 / 49	4.2 ( 47 )	100	47 / 50	3.9 ( 50 )	93	50 / 50	3.8 ( 47 )	90	49 / 50
54	4.2 ( 48 )	48 / 49	4.2 ( 44 )	100	46 / 50	4.0 ( 46 )	95	50 / 50	3.8 ( 47 )	90	48 / 50
58	4.1 ( 47 )	47 / 49	4.0 ( 46 )	98	46 / 50	4.1 ( 50 )	100	50 / 50	4.0 ( 46 )	98	48 / 50
62	4.1 ( 47 )	47 / 49	4.0 ( 46 )	98	46 / 50	3.8 ( 50 )	93	50 / 50	4.2 ( 46 )	102	47 / 50
66	4.5 ( 46 )	46 / 49	4.2 ( 46 )	93	46 / 50	4.1 ( 49 )	91	49 / 50	4.3 ( 44 )	96	47 / 50
70	4.4 ( 46 )	46 / 49	4.3 ( 46 )	98	46 / 50	4.2 ( 47 )	95	47 / 50	4.4 ( 42 )	100	46 / 50
74	4.3 ( 46 )	46 / 49	4.2 ( 45 )	98	45 / 50	4.2 ( 46 )	98	46 / 50	4.6 ( 43 )	107	46 / 50
78	4.6 ( 44 )	44 / 49	4.4 ( 45 )	96	45 / 50	4.5 ( 46 )	98	46 / 50	4.5 ( 34 )	98	42 / 50
82	4.4 ( 44 )	44 / 49	4.1 ( 44 )	93	44 / 50	4.2 ( 44 )	95	45 / 50	4.4 ( 27 )	100	36 / 50
86	4.2 ( 43 )	44 / 49	4.2 ( 42 )	100	42 / 50	4.3 ( 40 )	102	42 / 50	4.8 ( 27 )	114	31 / 50
90	4.3 ( 43 )	43 / 49	4.2 ( 40 )	98	40 / 50	3.9 ( 37 )	91	37 / 50	4.5 ( 21 )	105	28 / 50
94	4.4 ( 39 )	39 / 49	4.3 ( 37 )	98	37 / 50	4.6 ( 31 )	105	31 / 50	4.8 ( 16 )	109	25 / 50
98	4.7 ( 33 )	34 / 49	4.2 ( 32 )	89	32 / 50	4.6 ( 23 )	98	24 / 50	5.4 ( 14 )	115	21 / 50
102	4.7 ( 32 )	32 / 49	4.2 ( 29 )	89	29 / 50	5.4 ( 19 )	115	20 / 50	5.4 ( 9 )	115	20 / 50
104	4.6 ( 27 )	28 / 49	4.8 ( 28 )	104	28 / 50	5.3 ( 16 )	115	18 / 50	6.2 ( 13 )	135	19 / 50

< > : No. of effective animals, ( ) : No. of measured animals, Av. FC. : Averaged food consumption (Unit : g).

TABLE 5 HEMATOLOGY OF MALE MICE IN THE 2-YEAR FEED STUDY OF 2,4-DICHLORO-1-NITROBENZENE

Group Name	Control	750 ppm	1500 ppm	3000 ppm
No. of examined animals	33	36	29	20
RED BLOOD CELL ( $10^6/\mu\text{L}$ )	9.68 $\pm$ 0.87	9.69 $\pm$ 1.19	9.28 $\pm$ 2.07	8.22 $\pm$ 1.92 *
HEMOGLOBIN (g/dL)	13.4 $\pm$ 1.2	13.2 $\pm$ 1.7	12.4 $\pm$ 2.8	11.3 $\pm$ 2.5 *
MCV (fL)	42.4 $\pm$ 1.6	42.5 $\pm$ 3.0	42.3 $\pm$ 3.1	44.7 $\pm$ 4.1 *
MCHC (g/dL)	32.7 $\pm$ 0.7	32.1 $\pm$ 1.0 *	31.6 $\pm$ 1.2 **	31.1 $\pm$ 2.0 **
Differential WBC (%)				
N-BAND	1 $\pm$ 1	1 $\pm$ 1	2 $\pm$ 4 *	3 $\pm$ 5 *

Mean  $\pm$  S.D.

Significant difference: \* : p<0.05 \*\* : p<0.01 Test of Dunnett

TABLE 6 HEMATOLOGY OF FEMALE MICE IN THE 2-YEAR FEED STUDY OF 2,4-DICHLORO-1-NITROBENZENE

Group Name	Control	1500 ppm	3000 ppm	6000 ppm
No. of examined animals	27	26	17	18
MCV (fL)	43.5 $\pm$ 3.6	43.7 $\pm$ 4.6	44.8 $\pm$ 7.9	41.7 $\pm$ 1.5 **
MCH (pg)	14.0 $\pm$ 0.6	13.7 $\pm$ 0.7	13.7 $\pm$ 1.6 *	13.3 $\pm$ 0.3 **
MCHC (g/dL)	32.3 $\pm$ 1.8	31.6 $\pm$ 2.4	30.9 $\pm$ 1.8 **	31.9 $\pm$ 1.1
Differential WBC (%)				
N-SEG	23 $\pm$ 10	20 $\pm$ 10	28 $\pm$ 11	35 $\pm$ 15 **

Mean  $\pm$  S.D.

Significant difference: \* : p<0.05 \*\* : p<0.01 Test of Dunnett



TABLE 7 BIOCHEMISTRY OF MALE MICE IN THE 2-YEAR FEED STUDY OF 2,4-DICHLORO-1-NITROBENZENE

Group Name	Control	750 ppm	1500 ppm	3000 ppm	
No. of examined animals	34	36	29	21	
ALBUMIN (g/dL)	2.8 ± 0.4	2.8 ± 0.4	3.0 ± 0.5	3.1 ± 0.4	*
T-BILIRUBIN (mg/dL)	0.11 ± 0.02	0.13 ± 0.06	0.14 ± 0.05	0.24 ± 0.17	**
GLUCOSE (mg/dL)	200 ± 26	187 ± 54	183 ± 47	166 ± 45	**
T-CHOLESTEROL (mg/dL)	119 ± 59	133 ± 44	149 ± 75	179 ± 78	**
TRIGLYCERIDE (mg/dL)	40 ± 18	43 ± 25	38 ± 26	26 ± 14	*
PHOSPHOLIPID (mg/dL)	213 ± 78	231 ± 67	267 ± 120	342 ± 148	**
GOT (IU/L)	60 ± 20	134 ± 179	470 ± 1254	568 ± 789	**
GPT (IU/L)	47 ± 51	100 ± 117	545 ± 1593	575 ± 856	**
LDH (IU/L)	258 ± 98	851 ± 2586	1932 ± 3818	6313 ± 8684	**
ALP (IU/L)	143 ± 154	179 ± 142	468 ± 727	952 ± 1025	**
G-GTP (IU/L)	2 ± 1	2 ± 1	3 ± 6	5 ± 5	**
CPK (IU/L)	48 ± 28	70 ± 91	87 ± 149	95 ± 99	**
SODIUM (mEq/L)	152 ± 1	153 ± 2	153 ± 2	154 ± 2	**
Mean ± S.D.					
Significant difference: * : p<0.05 ** : p<0.01 Test of Dunnett					

TABLE 8 BIOCHEMISTRY OF FEMALE MICE IN THE 2-YEAR FEED STUDY OF 2,4-DICHLORO-1-NITROBENZENE

Group Name	Control	1500 ppm	3000 ppm	6000 ppm	
No. of examined animals	27	27	17	18	
TOTAL PROTEIN (g/dL)	4.8 ± 0.8	4.9 ± 0.6	5.1 ± 0.9	5.8 ± 0.4	**
ALBUMIN (g/dL)	2.7 ± 0.3	2.9 ± 0.4	3.1 ± 0.5	3.5 ± 0.2	**
A/G RATIO	1.3 ± 0.3	1.5 ± 0.3	1.6 ± 0.2	1.5 ± 0.2	
T-BILIRUBIN (mg/dL)	0.13 ± 0.10	0.17 ± 0.11	0.19 ± 0.11	0.24 ± 0.09	**
GLUCOSE (mg/dL)	163 ± 35	158 ± 38	152 ± 31	132 ± 33	*
T-CHOLESTEROL (mg/dL)	74 ± 16	105 ± 29	154 ± 70	269 ± 89	**
TRIGLYCERIDE (mg/dL)	32 ± 15	37 ± 23	24 ± 11	20 ± 10	*
PHOSPHOLIPID (mg/dL)	138 ± 26	201 ± 57	299 ± 137	466 ± 152	**
GOT (IU/L)	124 ± 208	203 ± 294	352 ± 384	342 ± 284	*
GPT (IU/L)	59 ± 105	174 ± 352	356 ± 531	696 ± 659	**
LDH (IU/L)	1208 ± 4813	1647 ± 4070	3378 ± 5731	2268 ± 1957	**
ALP (IU/L)	179 ± 43	500 ± 629	972 ± 1441	1592 ± 1056	**
G-GTP (IU/L)	1 ± 1	3 ± 5	11 ± 12	58 ± 59	**
CPK (IU/L)	150 ± 345	157 ± 173	186 ± 155	139 ± 76	**
UREA NITROGEN (mg/dL)	18.7 ± 13.5	24.6 ± 22.1	23.8 ± 14.0	23.7 ± 5.4	**
CALCIUM (mg/dL)	8.8 ± 0.4	9.0 ± 0.5	9.2 ± 0.5	9.9 ± 0.6	**
Mean ± S.D.					
Significant difference: * : p<0.05 ** : p<0.01 Test of Dunnett					

TABLE 9 URINALYSIS OF MALE MICE IN THE 2-YEAR FEED STUDY OF 2,4-DICHLORO-1-NITROBENZENE

Group name		Control	750 ppm	1500 ppm	3000 ppm
Number of examined animals		37	38	30	23
pH	Grade				
	5.0	0	0	0	0
	6.0	5	3	5	2
	6.5	14	11	2	3
	7.0	10	14	6	7
	7.5	8	7	10	7
	8.0	0	1	7	3
	8.5	0	2	0	1
	Chi square test			**	
Protein	-	0	1	1	1
	±	10	12	18	17
	+	19	22	7	5
	2+	7	3	4	0
	3+	1	0	0	0
	4+	0	0	0	0
	Chi square test			*	**

Significant difference: \* : p<0.05 \*\* : p<0.01

TABLE 10 URINALYSIS OF FEMALE MICE IN THE 2-YEAR FEED STUDY OF 2,4-DICHLORO-1-NITROBENZENE

Group name		Control	1500 ppm	3000 ppm	6000 ppm
Number of examined animals		29	29	18	19
Protein	Grade				
	-	0	0	2	7
	±	10	16	11	11
	+	15	7	5	1
	2+	4	5	0	0
	3+	0	1	0	0
	4+	0	0	0	0
	Chi square test			*	**
Ketone body	-	7	3	2	3
	±	19	10	7	8
	+	2	10	6	6
	2+	1	6	3	2
	3+	0	0	0	0
	4+	0	0	0	0
	Chi square test		**	*	

Significant difference: \* : p<0.05 \*\* : p<0.01

TABLE 11 ORGAN WEIGHTS OF MALE MICE IN THE 2-YEAR FEED STUDY OF  
2,4-DICHLORO-1-NITROBENZENE

Group Name	Control	750 ppm	1500 ppm	3000 ppm	
No. of examined animals	35	38	29	23	
Body weight (g)	48.0 ± 9.2	47.5 ± 8.2	43.2 ± 8.3	34.2 ± 4.7	**
Adrenals (g)	0.014 ± 0.004	0.013 ± 0.004	0.012 ± 0.004	0.014 ± 0.005	
Adrenals (%)	0.031 ± 0.011	0.029 ± 0.012	0.028 ± 0.011	0.040 ± 0.012	*
Testes (g)	0.236 ± 0.039	0.228 ± 0.030	0.230 ± 0.020	0.220 ± 0.031	
Testes (%)	0.510 ± 0.135	0.497 ± 0.134	0.554 ± 0.121	0.654 ± 0.113	**
Heart (g)	0.222 ± 0.023	0.231 ± 0.043	0.223 ± 0.023	0.213 ± 0.029	
Heart (%)	0.476 ± 0.081	0.502 ± 0.137	0.531 ± 0.102	0.630 ± 0.091	**
Lungs (g)	0.226 ± 0.042	0.264 ± 0.172	0.223 ± 0.042	0.213 ± 0.029	
Lungs (%)	0.498 ± 0.174	0.636 ± 0.799	0.542 ± 0.179	0.632 ± 0.109	**
Kidneys (g)	0.619 ± 0.098	0.631 ± 0.080	1.154 ± 2.863	0.629 ± 0.120	
Kidneys (%)	1.328 ± 0.304	1.368 ± 0.307	2.703 ± 6.545	1.850 ± 0.280	**
Spleen (g)	0.092 ± 0.064	0.108 ± 0.098	0.092 ± 0.034	0.113 ± 0.074	
Spleen (%)	0.196 ± 0.137	0.248 ± 0.257	0.226 ± 0.116	0.331 ± 0.201	**
Liver (g)	1.858 ± 0.768	2.150 ± 0.736	3.238 ± 2.168	5.249 ± 3.279	**
Liver (%)	4.117 ± 2.669	4.680 ± 1.994	8.252 ± 6.564	15.710 ± 9.670	**
Brain (g)	0.452 ± 0.016	0.448 ± 0.021	0.446 ± 0.021	0.439 ± 0.021	
Brain (%)	0.984 ± 0.244	0.981 ± 0.234	1.069 ± 0.201	1.303 ± 0.149	**

Mean ± S.D.  
Significant difference: \* : p<0.05 \*\* : p<0.01 Test of Dunnett

TABLE 12 ORGAN WEIGHTS OF FEMALE MICE IN THE 2-YEAR FEED STUDY OF  
2,4-DICHLORO-1-NITROBENZENE

Group Name	Control	1500 ppm	3000 ppm	6000 ppm
No. of examined animals	28	28	18	19
Body weight (g)	38.0 ± 7.1	34.6 ± 4.8	28.5 ± 3.2 **	22.5 ± 2.7 **
Adrenals (g)	0.015 ± 0.005	0.014 ± 0.004	0.013 ± 0.003	0.011 ± 0.003 **
Adrenals (%)	0.040 ± 0.014	0.042 ± 0.011	0.046 ± 0.013	0.052 ± 0.014 *
Ovaries (g)	0.060 ± 0.043	0.276 ± 1.148	0.081 ± 0.098	0.022 ± 0.009 **
Ovaries (%)	0.163 ± 0.116	0.856 ± 3.600	0.276 ± 0.304	0.097 ± 0.037
Heart (g)	0.180 ± 0.038	0.171 ± 0.023	0.156 ± 0.015 *	0.143 ± 0.019 **
Heart (%)	0.490 ± 0.149	0.507 ± 0.127	0.552 ± 0.073 *	0.635 ± 0.051 **
Lungs (g)	0.246 ± 0.178	0.223 ± 0.053	0.213 ± 0.059	0.203 ± 0.055
Lungs (%)	0.763 ± 1.014	0.657 ± 0.177	0.759 ± 0.255 **	0.909 ± 0.261 **
Kidneys (g)	0.430 ± 0.058	0.541 ± 0.574	0.422 ± 0.060	0.374 ± 0.073 **
Kidneys (%)	1.167 ± 0.261	1.628 ± 1.905	1.490 ± 0.234 **	1.661 ± 0.221 **
Spleen (g)	0.154 ± 0.113	0.312 ± 0.493	0.233 ± 0.338	0.089 ± 0.078 *
Spleen (%)	0.428 ± 0.350	0.926 ± 1.572	0.764 ± 0.956	0.379 ± 0.269
Liver (g)	1.536 ± 0.686	2.257 ± 1.296 **	3.276 ± 1.525 **	3.790 ± 1.324 **
Liver (%)	4.213 ± 2.167	6.734 ± 4.371 **	11.616 ± 5.557 **	17.271 ± 6.650 **
Brain (g)	0.469 ± 0.018	0.461 ± 0.022	0.453 ± 0.018 *	0.429 ± 0.018 **
Brain (%)	1.290 ± 0.320	1.354 ± 0.180	1.601 ± 0.152 **	1.927 ± 0.206 **

Mean ± S.D.  
Significant difference: \* : p<0.05 \*\* : p<0.01 Test of Dunnett

TABLE 13 INCIDENCES OF SELECTED NEOPLASTIC LESIONS OF MALE MICE  
IN THE 2-YEAR FEED STUDY OF 2,4-DICHLORO-1-NITROBENZENE

Group Name	Control	750 ppm	1500 ppm	3000 ppm	Peto	Cochran-
Number of examined animals	50	50	50	50	test	Armitage
						test
liver	<50>	<50>	<50>	<50>		
hepatocellular adenoma	18 (36 %)	34 (68 %) **	30 (60 %) *	43 (86 %) **	↑ ↑	↑ ↑
hepatocellular carcinoma	7 (14 %)	7 (14 %)	11 (22 %)	15 (30 %) *	↑ ↑	↑
hepatoblastoma	1 (2 %)	5 (10 %)	16 (32 %) **	27 (54 %) **	↑ ↑	↑ ↑
hemangioma	3 (6 %)	3 (6 %)	5 (10 %)	1 (2 %)		
histiocytic sarcoma	2 (4 %)	3 (6 %)	3 (6 %)	1 (2 %)		
peritoneum	<50>	<50>	<50>	<50>		
hemangioma	0 (0 %)	1 (2 %)	0 (0 %)	0 (0 %)		
hemangiosarcoma	1 (2 %)	0 (0 %)	2 (4 %)	5 (10 %)	↑ ↑	↑
epididymis	<50>	<50>	<50>	<50>		
histiocytic sarcoma	0 (0 %)	1 (2 %)	1 (2 %)	4 (8 %)	↑ ↑	↑
Significant difference	* : p<0.05	** : p<0.01	Fisher's exact test for neoplastic lesion			
	↑(↓) : p<0.05	↑↑(↓↓) : p<0.01	Peto or Cochran-Armitage test for neoplastic lesion			
< >	: Number of animals examined at the site					

TABLE 14 INCIDENCES OF SELECTED NEOPLASTIC LESIONS OF FEMALE MICE  
IN THE 2-YEAR FEED STUDY OF 2,4-DICHLORO-1-NITROBENZENE

Group Name	Control	1500 ppm	3000 ppm	6000 ppm	Peto	Cochran-
Number of examined animals	49	50	50	50	test	Armitage
						test
liver	<49>	<50>	<50>	<50>		
hepatocellular adenoma	8 (16 %)	25 (50 %) **	42 (84 %) **	45 (90 %) **	↑ ↑	↑ ↑
hepatocellular carcinoma	1 (2 %)	2 (4 %)	11 (22 %) **	21 (42 %) **	↑ ↑	↑ ↑
hepatoblastoma	0 (0 %)	2 (4 %)	7 (14 %) **	7 (14 %) **	↑ ↑	↑ ↑
hemangioma	3 (6 %)	2 (4 %)	3 (6 %)	0 (0 %)		
histiocytic sarcoma	0 (0 %)	0 (0 %)	1 (2 %)	2 (4 %)		
peritoneum	<49>	<50>	<50>	<50>		
hemangioma	0 (0 %)	0 (0 %)	1 (2 %)	0 (0 %)		
hemangiosarcoma	0 (0 %)	3 (6 %)	7 (14 %) **	17 (34 %) **	↑ ↑	↑ ↑
Significant difference	* : p<0.05	** : p<0.01	Fisher's exact test for neoplastic lesion			
	↑(↓) : p<0.05	↑↑(↓↓) : p<0.01	Peto or Cochran-Armitage test for neoplastic lesion			
< >	: Number of animals examined at the site					

TABLE 15 INCIDENCES OF SELECTED NON-NEOPLASTIC LESIONS OF MALE MICE  
IN THE 2-YEAR FEED STUDY OF 2,4-DICHLORO-1-NITROBENZENE

Group Name	Control				750 ppm				1500 ppm				3000 ppm			
	50				50				50				50			
Grade of non-neoplastic lesion	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
liver	<50>				<50>				<50>				<50>			
clear cell focus	3	1	0	0	5	0	0	0	8	0	0	0	0	0	0	0
acidophilic cell focus	1	0	0	0	4	0	0	0	4	1	0	0	1	0	0	0
basophilic cell focus	2	0	0	0	3	0	0	0	1	0	1	0	0	0	0	0
hepatocellular hypertrophy:central	0	0	0	0	7	0	0	0 *	22	0	0	0 **	7	22	0	0 **
nasal cavity	<50>				<50>				<50>				<50>			
deposit of pigment	0	0	0	0	44	0	0	0 **	40	0	0	0 **	39	0	0	0 **
eosinophilic change:olfactory epithelium	17	2	0	0	16	3	0	0	9	2	0	0	17	7	1	0
eosinophilic change:respiratory epithelium	21	7	1	0	23	11	1	0	25	14	1	0	22	5	2	0
respiratory metaplasia:olfactory epithelium	20	0	0	0	15	0	0	0	26	23	0	0 **	1	46	3	0 **
respiratory metaplasia:gland	14	0	0	0	19	5	1	0 *	14	19	14	0 **	0	6	43	0 **
nasopharynx	<50>				<50>				<50>				<50>			
eosinophilic change	3	0	0	0	2	0	1	0	4	0	2	0	27	1	2	0 **
bone marrow	<50>				<50>				<50>				<50>			
erythropoiesis:increased	0	0	0	0	3	1	0	0	13	5	0	0 **	24	0	0	0 **
spleen	<50>				<50>				<50>				<50>			
deposit of hemosiderin	0	0	0	0	2	0	0	0	7	2	0	0 **	5	0	0	0
extramedullary hematopoiesis	7	1	1	0	5	3	1	0	13	7	10	0 **	10	13	12	0 **
kidney	<50>				<50>				<50>				<50>			
deposit of hemosiderin	0	0	0	0	0	1	1	0	0	5	6	0 **	0	3	15	0 **

Grade 1: Slight    2: Moderate    3: Marked    4: Severe  
 < > : Number of animals examined at the site  
 Significant difference ; \* :  $p \leq 0.05$     \*\* :  $p \leq 0.01$     Test of Chi Square

TABLE 16 INCIDENCES OF SELECTED NON-NEOPLASTIC LESIONS OF FEMALE MICE  
IN THE 2-YEAR FEED STUDY OF 2,4-DICHLORO-1-NITROBENZENE

Group Name	Control				1500 ppm				3000 ppm				6000 ppm			
	49				50				50				50			
Grade of non-neoplastic lesion	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
liver	<49>				<50>				<50>				<50>			
clear cell focus	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
acidophilic cell focus	0	0	0	0	2	1	0	0	5	1	0	0	*	8	0	0
basophilic cell focus	1	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
hepatocellular hypertrophy:central	0	0	0	0	0	0	0	0	2	0	0	0	0	6	17	0
nasal cavity	<49>				<50>				<50>				<50>			
deposit of pigment	0	0	0	0	43	0	0	0	**	38	0	0	0	**	47	0
eosinophilic change:olfactory epithelium	6	1	0	0	14	3	0	0	23	1	2	0	**	22	22	1
eosinophilic change:respiratory epithelium	28	4	1	0	11	34	3	0	**	25	21	4	0	**	44	4
respiratory metaplasia:olfactory epithelium	9	0	0	0	7	40	1	0	**	0	42	8	0	**	0	6
respiratory metaplasia:gland	6	0	0	0	4	28	15	0	**	0	2	47	0	**	0	0
nasopharynx	<49>				<50>				<50>				<50>			
eosinophilic change	0	0	3	0	20	6	7	2	**	23	6	6	1	**	19	14
bone marrow	<49>				<50>				<50>				<50>			
erythropoiesis:increased	2	0	0	0	5	2	0	0	7	3	0	0	*	10	0	0
spleen	<49>				<50>				<50>				<50>			
deposit of hemosiderin	0	0	0	0	1	0	0	0	9	1	0	0	**	7	1	0
extramedullary hematopoiesis	4	6	5	0	3	3	8	0	11	10	13	0	**	10	10	13
kidney	<49>				<50>				<50>				<50>			
deposit of hemosiderin	0	0	0	0	0	1	2	0	2	1	4	0	1	3	3	0

Grade 1: Slight    2: Moderate    3: Marked    4: Severe  
 < > : Number of animals examined at the site  
 Significant difference ; \* :  $p \leq 0.05$     \*\* :  $p \leq 0.01$     Test of Chi Square

TABLE 17 HISTORICAL CONTROL DATA OF SELECTED NEOPLASTIC LESIONS  
IN JAPAN BIOASSAY RESEARCH CENTER : Crj:BDF<sub>1</sub> MALE MICE

Organs Tumors	No. of animals examined	No. of animals bearing tumor	Incidence (%)	Min. - Max. (%)
Liver	1496			
hepato cellular adenoma		273	18.2	4 - 34
hepato cellular carcinoma		307	20.5	2 - 42
hepatoblastoma		10	0.7	0 - 6
Peritoneum	1496			
hemangioma <sup>a</sup>		9	0.6	0 - 12
hemangiosarcoma <sup>b</sup>		3	0.2	0 - 4
Epididymis	1496			
histiocytic sarcoma		20	1.3	0 - 6

30 carcinogenicity studies examined in Japan Bioassay Research Center were used.

Study No. : 0044, 0060, 0062, 0064, 0066, 0068, 0096, 0105, 0116, 0140, 0159, 0163, 0190, 0206, 0211, 0225, 0243, 0268, 0270, 0279, 0285, 0297, 0319, 0329, 0343, 0348, 0366, 0372, 0402, 0406

a: The tumors include one case of hemangioma in the retroperitoneum.

b: The tumors include one case of hemangioendothelioma in the peritoneum and one case of hemangiosarcoma in the retroperitoneum.

TABLE 18 HISTORICAL CONTROL DATA OF SELECTED NEOPLASTIC LESIONS  
IN JAPAN BIOASSAY RESEARCH CENTER : Crj:BDF<sub>1</sub> FEMALE MICE

Organs Tumors	No. of animals examined	No. of animals bearing tumor	Incidence (%)	Min. - Max. (%)
Liver	1498			
hepato cellular adenoma		82	5.5	0 - 12
hepato cellular carcinoma		37	2.5	0 - 8
hepatoblastoma		0	0	0 - 0
Peritoneum	1498			
hemangioma		1	0.1	0 - 2
hemangiosarcoma <sup>a</sup>		6	0.4	0 - 4

30 carcinogenicity studies examined in Japan Bioassay Research Center were used.

Study No. : 0044, 0060, 0062, 0064, 0066, 0068, 0096, 0105, 0116, 0140, 0159, 0163, 0190, 0206, 0211, 0225, 0243, 0268, 0270, 0279, 0285, 0297, 0319, 0329, 0343, 0348, 0366, 0372, 0402, 0406

a: The tumors include three cases of hemangiosarcoma in the retroperitoneum.



TABLE 19 CAUSE OF DEATH OF MICE IN THE 2-YEAR FEED STUDY OF  
2,4-DICHLORO-1-NITROBENZENE

Group name	Male				Female			
	Control	750 ppm	1500 ppm	3000 ppm	Control	1500 ppm	3000 ppm	6000 ppm
Number of dead or moribund animals	15	12	21	27	21	22	32	31
No microscopical confirmation	1	2	1	2	1	1	0	0
Respiratory system lesion	0	0	0	0	0	0	0	1
Cardiovascular lesion	0	0	1	1	0	0	0	1
Renal lesion	0	1	0	0	0	1	0	0
Urinary retention	5	0	2	0	0	0	0	0
Hydronephrosis	1	0	1	1	0	0	0	0
Tumor death : leukemia	1	0	0	0	8	10	5	1
subcutis	1	1	0	0	2	0	1	1
lung	1	1	0	2	0	0	0	0
spleen	0	0	0	1	0	0	0	1
tooth	0	0	1	0	0	0	0	0
salivary gland	0	0	0	0	0	1	0	0
stomach	0	0	0	0	0	2	0	0
liver	3	5	14	15	0	2	10	9
ovary	—	—	—	—	0	0	1	0
uterus	—	—	—	—	9	5	9	5
epididymis	0	0	0	3	—	—	—	—
mammary gland	1	0	0	0	1	0	0	0
peripheral nerves	0	1	0	1	0	0	0	0
bone	0	0	0	0	0	0	0	1
peritoneum	1	0	1	1	0	0	6	11
retroperitoneum	0	1	0	0	0	0	0	0