

1 - ブロモブタンのマウスを用いた
吸入による13週間毒性試験報告書

試験番号：0504

TABLES

TABLES

- TABLE 1 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES OF MALE MICE IN THE 13-WEEK INHALATION STUDY OF 1-BROMOBUTANE
- TABLE 2 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES OF FEMALE MICE IN THE 13-WEEK INHALATION STUDY OF 1-BROMOBUTANE
- TABLE 3 FOOD CONSUMPTION CHANGES OF MALE MICE IN THE 13-WEEK INHALATION STUDY OF 1-BROMOBUTANE
- TABLE 4 FOOD CONSUMPTION CHANGES OF FEMALE MICE IN THE 13-WEEK INHALATION STUDY OF 1-BROMOBUTANE
- TABLE 5 HEMATOLOGY OF MALE MICE IN THE 13-WEEK INHALATION STUDY OF 1-BROMOBUTANE
- TABLE 6 HEMATOLOGY OF FEMALE MICE IN THE 13-WEEK INHALATION STUDY OF 1-BROMOBUTANE
- TABLE 7 BIOCHEMISTRY OF MALE MICE IN THE 13-WEEK INHALATION STUDY OF 1-BROMOBUTANE
- TABLE 8 ORGAN WEIGHTS OF MALE MICE IN THE 13-WEEK INHALATION STUDY OF 1-BROMOBUTANE
- TABLE 9 ORGAN WEIGHTS OF FEMALE MICE IN THE 13-WEEK INHALATION STUDY OF 1-BROMOBUTANE
- TABLE 10 INCIDENCES OF SELECTED LESIONS OF MALE MICE IN THE 13-WEEK INHALATION STUDY OF 1-BROMOBUTANE (SACRIFICED ANIMALS)
- TABLE 11 INCIDENCES OF SELECTED LESIONS OF FEMALE MICE IN THE 13-WEEK INHALATION STUDY OF 1-BROMOBUTANE (SACRIFICED ANIMALS)

TABLE 1 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES OF MALE MICE
IN THE 13-WEEK INHALATION STUDY OF 1-BROMOBUTANE

Week on Study	Control		31 ppm			63 ppm			125 ppm			250 ppm			500 ppm		
	Av. Wt. <10>	No. of Surviv.	Av. Wt. <10>	% of cont.	No. of Surviv.	Av. Wt. <10>	% of cont.	No. of Surviv.	Av. Wt. <10>	% of cont.	No. of Surviv.	Av. Wt. <10>	% of cont.	No. of Surviv.	Av. Wt. <10>	% of cont.	No. of Surviv.
0	24.2 (10)	10 / 10	24.2 (10)	100	10 / 10	24.2 (10)	100	10 / 10	24.2 (10)	100	10 / 10	24.2 (10)	100	10 / 10	24.2 (10)	100	10 / 10
1	25.3 (10)	10 / 10	25.2 (10)	100	10 / 10	25.2 (10)	100	10 / 10	24.0 (10)	95	10 / 10	24.1 (10)	95	10 / 10	24.4 (10)	96	10 / 10
2	26.5 (10)	10 / 10	26.0 (10)	98	10 / 10	26.2 (10)	99	10 / 10	25.7 (10)	97	10 / 10	24.5 (10)	92	10 / 10	25.0 (10)	94	10 / 10
3	27.4 (10)	10 / 10	26.2 (10)	96	10 / 10	26.4 (10)	96	10 / 10	25.5 (10)	93	10 / 10	25.7 (10)	94	10 / 10	25.3 (10)	92	10 / 10
4	28.5 (10)	10 / 10	26.6 (10)	93	10 / 10	27.0 (10)	95	10 / 10	26.5 (10)	93	10 / 10	26.5 (10)	93	10 / 10	25.8 (10)	91	10 / 10
5	29.0 (10)	10 / 10	27.1 (10)	93	10 / 10	27.7 (10)	96	10 / 10	27.2 (10)	94	10 / 10	26.7 (10)	92	10 / 10	26.6 (10)	92	10 / 10
6	29.6 (10)	10 / 10	27.6 (10)	93	10 / 10	28.0 (10)	95	10 / 10	27.3 (10)	92	10 / 10	27.5 (10)	93	10 / 10	27.2 (10)	92	10 / 10
7	30.1 (10)	10 / 10	28.4 (10)	94	10 / 10	28.7 (10)	95	10 / 10	28.4 (10)	94	10 / 10	27.9 (10)	93	10 / 10	27.8 (10)	92	10 / 10
8	30.7 (10)	10 / 10	29.0 (10)	94	10 / 10	29.3 (10)	95	10 / 10	28.8 (10)	94	10 / 10	28.2 (10)	92	10 / 10	28.4 (10)	93	10 / 10
9	31.2 (10)	10 / 10	29.2 (10)	94	10 / 10	29.5 (10)	95	10 / 10	28.9 (10)	93	10 / 10	28.7 (10)	92	10 / 10	28.4 (10)	91	10 / 10
10	31.7 (10)	10 / 10	29.9 (10)	94	10 / 10	29.6 (10)	93	10 / 10	29.4 (10)	93	10 / 10	29.0 (10)	91	10 / 10	29.3 (10)	92	10 / 10
11	32.3 (10)	10 / 10	30.7 (10)	95	10 / 10	30.2 (10)	93	10 / 10	29.9 (10)	93	10 / 10	29.4 (10)	91	10 / 10	29.7 (10)	92	10 / 10
12	32.7 (10)	10 / 10	30.8 (10)	94	10 / 10	30.5 (10)	93	10 / 10	30.3 (10)	93	10 / 10	29.5 (10)	90	10 / 10	30.4 (10)	93	10 / 10
13	33.3 (10)	10 / 10	31.6 (10)	95	10 / 10	31.2 (10)	94	10 / 10	30.7 (10)	92	10 / 10	30.0 (10)	90	10 / 10	30.4 (10)	91	10 / 10

< > : 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 13-WEEK INHALATION STUDY OF 1-BROMOBUTANE

Week on Study	Control		31 ppm			63 ppm			125 ppm			250 ppm			500 ppm		
	Av. Wt. <10>	No. of Surviv.	Av. Wt.	% of cont. <10>	No. of Surviv.	Av. Wt.	% of cont. <10>	No. of Surviv.	Av. Wt.	% of cont. <10>	No. of Surviv.	Av. Wt.	% of cont. <10>	No. of Surviv.	Av. Wt.	% of cont. <10>	No. of Surviv.
0	19.4 (10)	10 / 10	19.4 (10)	100	10 / 10	19.4 (10)	100	10 / 10	19.4 (10)	100	10 / 10	19.4 (10)	100	10 / 10	19.4 (10)	100	10 / 10
1	20.4 (10)	10 / 10	20.2 (10)	99	10 / 10	20.4 (10)	100	10 / 10	20.3 (10)	100	10 / 10	20.0 (10)	98	10 / 10	20.3 (10)	100	10 / 10
2	21.2 (10)	10 / 10	21.5 (10)	101	10 / 10	21.6 (10)	102	10 / 10	21.2 (10)	100	10 / 10	21.5 (10)	101	10 / 10	20.9 (10)	99	10 / 10
3	21.8 (10)	10 / 10	21.9 (10)	100	10 / 10	21.9 (10)	100	10 / 10	21.5 (10)	99	10 / 10	21.0 (10)	96	10 / 10	21.0 (10)	96	10 / 10
4	22.2 (10)	10 / 10	22.8 (10)	103	10 / 10	22.6 (10)	102	10 / 10	22.4 (10)	101	10 / 10	22.8 (10)	103	10 / 10	22.0 (10)	99	10 / 10
5	23.1 (10)	10 / 10	23.5 (10)	102	10 / 10	23.4 (10)	101	10 / 10	23.1 (10)	100	10 / 10	23.1 (10)	100	10 / 10	22.5 (10)	97	10 / 10
6	23.7 (10)	10 / 10	23.9 (10)	101	10 / 10	23.7 (10)	100	10 / 10	23.4 (10)	99	10 / 10	23.4 (10)	99	10 / 10	22.7 (10)	96	10 / 10
7	23.6 (10)	10 / 10	24.4 (10)	103	10 / 10	24.1 (10)	102	10 / 10	24.0 (10)	102	10 / 10	23.9 (10)	101	10 / 10	23.4 (10)	99	10 / 10
8	24.1 (10)	10 / 10	24.4 (10)	101	10 / 10	24.6 (10)	102	10 / 10	24.5 (10)	102	10 / 10	23.8 (10)	99	10 / 10	23.5 (10)	98	10 / 10
9	24.7 (10)	10 / 10	24.8 (10)	100	10 / 10	24.6 (10)	100	10 / 10	24.4 (10)	99	10 / 10	24.1 (10)	98	10 / 10	23.7 (10)	96	10 / 10
10	24.6 (10)	10 / 10	24.9 (10)	101	10 / 10	24.8 (10)	101	10 / 10	25.1 (10)	102	10 / 10	24.9 (10)	101	10 / 10	24.5 (10)	100	10 / 10
11	24.9 (10)	10 / 10	26.4 (10)	106	10 / 10	25.3 (10)	102	10 / 10	25.3 (10)	102	10 / 10	25.4 (10)	102	10 / 10	25.1 (10)	101	10 / 10
12	25.4 (10)	10 / 10	25.9 (10)	102	10 / 10	25.9 (10)	102	10 / 10	25.4 (10)	100	10 / 10	25.6 (10)	101	10 / 10	24.6 (10)	97	10 / 10
13	25.9 (10)	10 / 10	26.6 (10)	103	10 / 10	26.1 (10)	101	10 / 10	25.7 (10)	99	10 / 10	25.9 (10)	100	10 / 10	25.1 (10)	97	10 / 10

< > : 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 13-WEEK INHALATION STUDY OF 1-BROMOBUTANE

Week on Study	Control		31 ppm			63 ppm			125 ppm			250 ppm			500 ppm		
	Av. FC. <10>	No. of Surviv.	Av. FC.	% of cont. <10>	No. of Surviv.	Av. FC.	% of cont. <10>	No. of Surviv.	Av. FC.	% of cont. <10>	No. of Surviv.	Av. FC.	% of cont. <10>	No. of Surviv.	Av. FC.	% of cont. <10>	No. of Surviv.
1	4.6 (10)	10 / 10	4.6 (10)	100	10 / 10	4.7 (10)	102	10 / 10	4.2 (10)	91	10 / 10	4.1 (10)	89	10 / 10	4.1 (10)	89	10 / 10
2	4.5 (10)	10 / 10	4.4 (10)	98	10 / 10	4.7 (10)	104	10 / 10	4.8 (10)	107	10 / 10	4.4 (10)	98	10 / 10	4.3 (10)	96	10 / 10
3	4.7 (10)	10 / 10	4.5 (10)	96	10 / 10	4.8 (10)	102	10 / 10	5.0 (9)	106	10 / 10	4.8 (10)	102	10 / 10	4.4 (10)	94	10 / 10
4	4.7 (10)	10 / 10	4.5 (10)	96	10 / 10	4.8 (10)	102	10 / 10	4.8 (10)	102	10 / 10	4.6 (10)	98	10 / 10	4.4 (10)	94	10 / 10
5	4.7 (10)	10 / 10	4.6 (10)	98	10 / 10	5.0 (10)	106	10 / 10	5.1 (10)	109	10 / 10	4.7 (10)	100	10 / 10	4.6 (10)	98	10 / 10
6	4.4 (10)	10 / 10	4.7 (10)	107	10 / 10	5.0 (10)	114	10 / 10	5.1 (10)	116	10 / 10	4.9 (10)	111	10 / 10	4.8 (10)	109	10 / 10
7	4.7 (10)	10 / 10	4.7 (10)	100	10 / 10	5.0 (10)	106	10 / 10	4.9 (10)	104	10 / 10	4.8 (10)	102	10 / 10	4.8 (10)	102	10 / 10
8	4.8 (10)	10 / 10	4.8 (10)	100	10 / 10	5.0 (10)	104	10 / 10	5.0 (10)	104	10 / 10	4.8 (10)	100	10 / 10	4.9 (10)	102	10 / 10
9	4.6 (10)	10 / 10	4.4 (10)	96	10 / 10	4.8 (10)	104	10 / 10	4.8 (10)	104	10 / 10	4.7 (10)	102	10 / 10	4.7 (10)	102	10 / 10
10	4.6 (10)	10 / 10	4.7 (10)	102	10 / 10	4.7 (10)	102	10 / 10	4.7 (10)	102	10 / 10	4.6 (10)	100	10 / 10	4.8 (10)	104	10 / 10
11	4.8 (10)	10 / 10	4.8 (10)	100	10 / 10	4.9 (10)	102	10 / 10	4.9 (10)	102	10 / 10	4.7 (10)	98	10 / 10	5.0 (10)	104	10 / 10
12	4.7 (10)	10 / 10	4.7 (10)	100	10 / 10	4.9 (10)	104	10 / 10	4.9 (10)	104	10 / 10	4.6 (10)	98	10 / 10	5.0 (10)	106	10 / 10
13	4.7 (10)	10 / 10	4.7 (10)	100	10 / 10	4.7 (10)	100	10 / 10	4.7 (10)	100	10 / 10	4.6 (10)	98	10 / 10	4.7 (10)	100	10 / 10

< > : 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 13-WEEK INHALATION STUDY OF 1-BROMOBUTANE

Week on Study	Control		31 ppm			63 ppm			125 ppm			250 ppm			500 ppm		
	Av. FC. <10>	No. of Surviv.	Av. FC.	% of cont. <10>	No. of Surviv.	Av. FC.	% of cont. <10>	No. of Surviv.	Av. FC.	% of cont. <10>	No. of Surviv.	Av. FC.	% of cont. <10>	No. of Surviv.	Av. FC.	% of cont. <10>	No. of Surviv.
1	3.8 (10)	10 / 10	3.9 (10)	103	10 / 10	3.9 (10)	103	10 / 10	3.8 (10)	100	10 / 10	3.5 (10)	92	10 / 10	3.6 (10)	95	10 / 10
2	3.9 (10)	10 / 10	4.0 (10)	103	10 / 10	4.1 (10)	105	10 / 10	4.1 (10)	105	10 / 10	3.9 (10)	100	10 / 10	3.8 (10)	97	10 / 10
3	4.0 (10)	10 / 10	4.2 (10)	105	10 / 10	4.2 (10)	105	10 / 10	4.2 (10)	105	10 / 10	3.9 (10)	98	10 / 10	4.0 (10)	100	10 / 10
4	4.2 (10)	10 / 10	4.4 (10)	105	10 / 10	4.3 (10)	102	10 / 10	4.2 (10)	100	10 / 10	4.1 (10)	98	10 / 10	4.0 (10)	95	10 / 10
5	4.2 (10)	10 / 10	4.6 (10)	110	10 / 10	4.5 (10)	107	10 / 10	4.5 (10)	107	10 / 10	4.3 (10)	102	10 / 10	4.3 (10)	102	10 / 10
6	4.8 (10)	10 / 10	4.7 (10)	98	10 / 10	4.5 (10)	94	10 / 10	4.5 (10)	94	10 / 10	4.4 (10)	92	10 / 10	4.4 (10)	92	10 / 10
7	4.3 (10)	10 / 10	4.7 (10)	109	10 / 10	4.5 (10)	105	10 / 10	4.7 (10)	109	10 / 10	4.5 (10)	105	10 / 10	4.5 (10)	105	10 / 10
8	4.5 (10)	10 / 10	4.7 (10)	104	10 / 10	4.7 (10)	104	10 / 10	4.7 (10)	104	10 / 10	4.5 (10)	100	10 / 10	4.5 (10)	100	10 / 10
9	4.3 (10)	10 / 10	4.5 (10)	105	10 / 10	4.3 (10)	100	10 / 10	4.6 (10)	107	10 / 10	4.5 (10)	105	10 / 10	4.6 (10)	107	10 / 10
10	4.2 (10)	10 / 10	4.5 (10)	107	10 / 10	4.4 (10)	105	10 / 10	4.6 (10)	110	10 / 10	4.5 (10)	107	10 / 10	4.6 (10)	110	10 / 10
11	4.3 (10)	10 / 10	4.9 (10)	114	10 / 10	4.5 (10)	105	10 / 10	4.6 (10)	107	10 / 10	4.6 (10)	107	10 / 10	4.6 (10)	107	10 / 10
12	4.3 (10)	10 / 10	4.7 (10)	109	10 / 10	4.5 (10)	105	10 / 10	4.6 (10)	107	10 / 10	4.5 (10)	105	10 / 10	4.6 (10)	107	10 / 10
13	4.2 (10)	10 / 10	4.8 (10)	114	10 / 10	4.6 (10)	110	10 / 10	4.6 (10)	110	10 / 10	4.6 (10)	110	10 / 10	4.9 (10)	117	10 / 10

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

TABLE 5 HEMATOLOGY OF MALE MICE IN THE 13-WEEK INHALATION STUDY OF 1-BROMOBUTANE

Group Name	Control	31 ppm	63 ppm	125 ppm	250 ppm	500 ppm
No. of examined animals	9	10	9	9	10	10
RED BLOOD CELL ($10^6/\mu\text{L}$)	11.01 \pm 0.24	11.02 \pm 0.28	10.89 \pm 0.21	10.86 \pm 0.33	10.43 \pm 0.47 **	10.14 \pm 0.45 **
HEMOGLOBIN (g/dL)	16.1 \pm 0.6	15.8 \pm 0.4	15.8 \pm 0.3	15.8 \pm 0.5	15.0 \pm 0.7 **	14.9 \pm 0.7 **
HEMATOCRIT (%)	52.2 \pm 1.3	52.0 \pm 1.0	51.8 \pm 1.3	51.8 \pm 1.5	49.8 \pm 2.0 *	49.3 \pm 2.3 **
MCV (fL)	47.4 \pm 0.9	47.2 \pm 0.5	47.5 \pm 0.5	47.7 \pm 0.4	47.8 \pm 0.5	48.6 \pm 0.6 **
Mean \pm S.D.						
*) Significant difference, p<0.05 (Test of Dunnett)						
**) Significant difference, p<0.01 (Test of Dunnett)						

TABLE 6 HEMATOLOGY OF FEMALE MICE IN THE 13-WEEK INHALATION STUDY OF 1-BROMOBUTANE

Group Name	Control	31 ppm	63 ppm	125 ppm	250 ppm	500 ppm
No. of examined animals	9	10	10	9	9	10
RED BLOOD CELL ($10^6/\mu\text{L}$)	10.81 \pm 0.46	10.93 \pm 0.29	10.81 \pm 0.35	10.91 \pm 0.35	10.60 \pm 0.48	10.27 \pm 0.3 *
MCV (fL)	47.3 \pm 0.3	47.5 \pm 0.5	47.9 \pm 0.8	47.9 \pm 0.5	48.4 \pm 0.4 **	48.9 \pm 0.3 **
MCH (pg)	14.7 \pm 0.4	14.6 \pm 0.1	14.6 \pm 0.2	14.6 \pm 0.1	14.8 \pm 0.1	14.9 \pm 0.1 **
MCHC (g/dL)	31.2 \pm 0.8	30.7 \pm 0.4	30.4 \pm 0.4 *	30.5 \pm 0.4 *	30.7 \pm 0.1	30.5 \pm 0.2 *
Mean \pm S.D.						
*) Significant difference, p<0.05 (Test of Dunnett)						
**) Significant difference, p<0.01 (Test of Dunnett)						

TABLE 7 BIOCHEMISTRY OF MALE MICE IN THE 13-WEEK INHALATION STUDY OF 1-BROMOBUTANE

Group Name	Control	31 ppm	63 ppm	125 ppm	250 ppm	500 ppm
No. of examined animals	10	10	9	9	10	10
TOTAL PROTEIN (g/dL)	5.0 ± 0.3	5.1 ± 0.2	5.0 ± 0.2	4.9 ± 0.1	5.3 ± 0.2	* 5.2 ± 0.3
ALBUMIN (g/dL)	2.8 ± 0.1	2.9 ± 0.1	2.9 ± 0.1	2.8 ± 0.1	3.1 ± 0.2	** 3.0 ± 0.2
T-CHOLESTEROL (mg/dL)	81 ± 14	77 ± 10	74 ± 12	75 ± 7	97 ± 14	* 101 ± 15
GPT (IU/L)	20 ± 4	18 ± 2	21 ± 6	20 ± 4	74 ± 42	** 22 ± 6
ALP (IU/L)	147 ± 11	152 ± 6	156 ± 7	144 ± 8	162 ± 15	** 145 ± 12
CALCIUM (mg/dL)	8.5 ± 0.4	8.5 ± 0.3	8.6 ± 0.2	8.5 ± 0.1	8.8 ± 0.2	* 8.7 ± 0.2

Mean ± S.D.

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

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

TABLE 8 ORGAN WEIGHTS OF MALE MICE IN THE 13-WEEK INHALATION STUDY OF 1-BROMOBUTANE

Group Name	Control	31 ppm	63 ppm	125 ppm	250 ppm	500 ppm
No. of examined animal	10	10	10	10	10	10
Body weight (g)	29.7 ± 2.1	27.8 ± 2.2	27.3 ± 1.7 *	26.6 ± 1.5 **	26.0 ± 1.3 **	26.8 ± 1.9 **
Heart (g)	0.175 ± 0.018	0.168 ± 0.012	0.176 ± 0.012	0.171 ± 0.013	0.160 ± 0.010	0.166 ± 0.010
Heart (%)	0.589 ± 0.044	0.606 ± 0.036	0.646 ± 0.053 *	0.644 ± 0.041 *	0.615 ± 0.042	0.619 ± 0.050
Lungs (g)	0.176 ± 0.014	0.171 ± 0.011	0.168 ± 0.008	0.173 ± 0.013	0.166 ± 0.010	0.181 ± 0.009
Lungs (%)	0.593 ± 0.057	0.619 ± 0.059	0.616 ± 0.027	0.652 ± 0.043 *	0.639 ± 0.041	0.678 ± 0.035 **
Kidneys (g)	0.465 ± 0.026	0.465 ± 0.032	0.476 ± 0.033	0.479 ± 0.029	0.488 ± 0.026	0.492 ± 0.027
Kidneys (%)	1.569 ± 0.089	1.678 ± 0.062	1.744 ± 0.093 **	1.803 ± 0.086 **	1.882 ± 0.132 **	1.840 ± 0.104 **
Spleen (g)	0.053 ± 0.006	0.049 ± 0.004	0.051 ± 0.005	0.046 ± 0.007 **	0.049 ± 0.003	0.047 ± 0.004 *
Spleen (%)	0.179 ± 0.019	0.176 ± 0.015	0.185 ± 0.012	0.172 ± 0.020	0.189 ± 0.010	0.175 ± 0.009
Liver (g)	1.211 ± 0.061	1.181 ± 0.085	1.216 ± 0.085	1.226 ± 0.092	1.236 ± 0.088	1.356 ± 0.159 **
Liver (%)	4.082 ± 0.196	4.256 ± 0.116	4.457 ± 0.232	4.606 ± 0.205 **	4.758 ± 0.257 **	5.054 ± 0.408 **
Brain (g)	0.451 ± 0.012	0.455 ± 0.012	0.451 ± 0.016	0.457 ± 0.010	0.454 ± 0.010	0.443 ± 0.006
Brain (%)	1.525 ± 0.118	1.646 ± 0.096 *	1.658 ± 0.110 *	1.722 ± 0.098 **	1.750 ± 0.087 **	1.657 ± 0.106 *

Mean ± S.D.

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

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

TABLE 9 ORGAN WEIGHTS OF FEMALE MICE IN THE 13-WEEK INHALATION STUDY OF 1-BROMOBUTANE

Group Name	Control	31 ppm	63 ppm	125 ppm	250 ppm	500 ppm
No. of examined animal	10	10	10	10	10	10
Body weight (g)	22.0 ± 0.9	22.0 ± 1.9	21.7 ± 1.1	21.4 ± 0.7	21.5 ± 1.1	20.9 ± 1.2
Adrenals (g)	0.013 ± 0.002	0.013 ± 0.001	0.012 ± 0.001	0.015 ± 0.003	0.012 ± 0.002	0.011 ± 0.001 *
Adrenals (%)	0.061 ± 0.007	0.059 ± 0.004	0.057 ± 0.007	0.068 ± 0.013	0.058 ± 0.008	0.054 ± 0.007
Lungs (g)	0.162 ± 0.013	0.164 ± 0.012	0.164 ± 0.013	0.169 ± 0.008	0.169 ± 0.007	0.174 ± 0.007
Lungs (%)	0.737 ± 0.043	0.748 ± 0.040	0.756 ± 0.045	0.791 ± 0.037 *	0.787 ± 0.044 *	0.834 ± 0.035 **
Kidneys (g)	0.312 ± 0.017	0.313 ± 0.016	0.314 ± 0.012	0.318 ± 0.015	0.316 ± 0.019	0.325 ± 0.014
Kidneys (%)	1.419 ± 0.061	1.433 ± 0.097	1.449 ± 0.068	1.484 ± 0.049	1.473 ± 0.098	1.556 ± 0.049 **
Spleen (g)	0.062 ± 0.006	0.058 ± 0.012	0.059 ± 0.006	0.056 ± 0.007	0.053 ± 0.007 *	0.047 ± 0.005 **
Spleen (%)	0.281 ± 0.019	0.263 ± 0.035	0.271 ± 0.026	0.262 ± 0.028	0.246 ± 0.027 *	0.226 ± 0.014 **
Liver (g)	0.980 ± 0.043	0.986 ± 0.117	0.999 ± 0.070	1.030 ± 0.083	1.000 ± 0.071	0.982 ± 0.060
Liver (%)	4.458 ± 0.177	4.488 ± 0.338	4.605 ± 0.168	4.806 ± 0.278 *	4.657 ± 0.288	4.695 ± 0.207
Brain (g)	0.471 ± 0.019	0.474 ± 0.015	0.469 ± 0.015	0.465 ± 0.006	0.462 ± 0.008	0.453 ± 0.012 *
Brain (%)	2.141 ± 0.090	2.173 ± 0.201	2.166 ± 0.118	2.173 ± 0.080	2.154 ± 0.116	2.170 ± 0.101

Mean ± S.D.

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

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

TABLE 10 INCIDENCES OF SELECTED LESIONS OF MALE MICE IN THE 13-WEEK INHALATION STUDY OF 1-BROMOBUTANE (SACRIFICED ANIMALS)

Group Name No. of Animals on Study Grade	Control				31 ppm				63 ppm				125 ppm				250 ppm				500 ppm							
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4				
Nasal cavity	<10>				<10>				<10>				<10>				<10>				<10>							
eosinophilic change:olfactory epithelium	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
disarrangement:olfactory epithelium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	0
respiratory metaplasia:olfactory epithelium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
Lung	<10>				<10>				<10>				<10>				<10>				<10>							
basophilic change:bronchiole	0	0	0	0	10	0	0	0																				
	0	0	0	0	10	0	0	0																				
	10	0	0	0																								
	10	0	0	0																								
	10	0	0	0																								
	10	0	0	0																								
	10	0	0	0																								
Stomach	<10>				<10>				<10>				<10>				<10>				<10>							
erosion:forestomach	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	1	0	0	0				
hyperplasia:forestomach	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	7	0	0								
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	5	0	0								
Liver	<10>				<10>				<10>				<10>				<10>				<10>							
necrosis:central	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	7	0	0								
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0								
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0								
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0								

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

TABLE 11 INCIDENCES OF SELECTED LESIONS OF FEMALE MICE IN THE 13-WEEK INHALATION STUDY OF 1-BROMOBUTANE (SACRIFICED ANIMALS)

Group Name No. of Animals on Study Grade	Control 10				31 ppm 10				63 ppm 10				125 ppm 10				250 ppm 10				500 ppm 10								
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4					
Nasal cavity	<10>				<10>				<10>				<10>				<10>				<10>								
eosinophilic change:olfactory epithelium	0	0	0	0	1	0	0	0	1	1	0	0	2	0	0	0	6	0	0	0	*	8	0	0	0	**			
eosinophilic change:respiratory epithelium	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	7	0	0	0	**	8	0	0	0	**			
disarrangement:olfactory epithelium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0		3	0	0	0				
Lung	<10>				<10>				<10>				<10>				<10>				<10>								
basophilic change:bronchiole	0	0	0	0	10	0	0	0	**	10	0	0	0	**	10	0	0	0	**	10	0	0	0	**	10	0	0	0	**
Stomach	<10>				<10>				<10>				<10>				<10>				<10>								
erosion:forestomach	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0		1	0	0	0				
hyperplasia:forestomach	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	3	0	0	**	4	6	0	0	**			

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