アクリル酸=2 - ヒドロキシエチルのマウスを用いた
経口投与による 13 週間毒性試験(混水試験)報告書

試験番号：０３２４

TABLES

TABLES

TABLES (CONTINUED)

TABLE 1 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES OF MALE MICE IN THE 13-WEEK DRINKING WATER STUDY OF 2-HYDROXYETHYL ACRYLATE

Group	Control		375 ppm			750 ppm			1500 ppm			3000 ppm			6000 ppm		
	<10>		<10>			<10>			<10>			<10>			<10>		
Week on Study	Survival No.	BW g	Survival No.	BW g	%	Survival No.	BW g	%	Survival No.	BW g	%	Survival No.	BW g	%	Survival No.	BW g	%
0	10	23.1 (10)	10	23.1 (10)	100	10	23.0 (10)	100	10	23.1 (10)	100	10	23.1 (10)	100	10	23.1 (10)	100
1	10	24.0 (10)	10	23.8 (10)	99	10	23.8 (10)	99	10	23.9 (10)	100	10	23.1 (10)	96	10	21.4 (10)	89 **
2	10	24.3 (10)	10	24.9 (10)	102	10	24.5 (10)	101	10	25.0 (10)	103	10	24.0 (10)	99	10	22.5 (10)	93 **
3	10	25.5 (10)	10	25.6 (10)	100	10	25.6 (10)	100	10	26.0 (10)	102	10	24.5 (10)	96 *	10	23.5 (10)	92 **
4	10	26.8 (10)	10	26.7 (10)	100	10	26.2 (10)	98	10	26.9 (10)	100	10	24.7 (10)	92 **	10	24.3 (10)	91 **
5	10	27.6 (10)	10	27.8 (10)	101	10	27.2 (10)	99	10	27.6 (10)	100	10	25.6 (10)	93 **	10	24.8 (10)	90 **
6	10	28.5 (10)	10	28.8 (10)	101	10	27.6 (10)	97	10	28.2 (10)	99	10	25.9 (10)	91 **	10	25.0 (10)	88 **
7	10	29.1 (10)	10	29.5 (10)	101	10	28.6 (10)	98	10	29.3 (10)	101	10	26.3 (10)	90 **	10	25.5 (10)	88 **
8	10	29.8 (10)	10	30.4 (10)	102	10	29.1 (10)	98	10	29.5 (10)	99	10	26.7 (10)	90 **	10	25.9 (10)	87 **
9	10	30.9 (10)	10	31.4 (10)	102	10	29.8 (10)	96	10	30.7 (10)	99	10	27.9 (10)	90 **	10	26.2 (10)	85 **
10	10	31.7 (10)	10	32.8 (10)	103	10	31.0 (10)	98	10	31.4 (10)	99	10	28.4 (10)	90 **	10	26.6 (10)	84 **
11	10	32.4 (10)	10	33.4 (10)	103	10	31.7 (10)	98	10	31.9 (10)	98	10	28.7 (10)	89 **	10	26.6 (10)	82 **
12	10	33.3 (10)	10	33.9 (10)	102	10	32.0 (10)	96	10	32.4 (10)	97	10	29.9 (10)	90 **	10	26.9 (10)	81 **
13	10	34.3 (10)	10	35.5 (10)	103	10	33.1 (10)	97	10	33.3 (10)	97	10	29.5 (10)	86 **	10	27.4 (10)	80 **

< > : No.of effective animals, ( ) : No.of measured animals, % : Percent of control group
Significant difference, * : $p \leqq 0.05$, ** : $p \leqq 0.01$, Test of Dunnett

TABLE 2 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES OF FEMALE MICE IN THE 13-WEEK DRINKING WATER STUDY OF 2-HYDROXYETHYL ACRYLATE

Group	Control		375 ppm			750 ppm			1500 ppm			3000 ppm			6000 ppm		
	<10>		<10>			<10>			<10>			<10>			<10>		
Week on Study	Survival No.	BW g	Survival No.	BW g	%	Survival No.	BW g	%	Survival No.	BW g	%	Survival No.	BW g	%	Survival No.	BW g	%
0	10	19.2 (10)	10	19.2 (10)	100	10	19.2 (10)	100	10	19.2 (10)	100	10	19.2 (10)	100	10	19.2 (10)	100
1	10	19.2 (10)	10	19.3 (10)	101	10	19.1 (10)	99	10	19.7 (10)	103	10	19.0 (10)	99	10	17.9 (10)	93 **
2	10	19.7 (10)	10	19.8 (10)	101	10	20.1 (10)	102	10	19.9 (10)	101	10	19.8 (10)	101	10	18.7 (10)	95 *
3	10	20.4 (10)	10	20.1 (10)	99	10	20.4 (10)	100	10	20.4 (10)	100	10	19.8 (10)	97	10	19.0 (10)	93 **
4	10	21.3 (10)	10	20.8 (10)	98	10	21.0 (10)	99	10	21.0 (10)	99	10	20.4 (10)	96	10	19.8 (10)	93 **
5	10	21.9 (10)	10	21.7 (10)	99	10	22.2 (10)	101	10	22.2 (10)	101	10	21.3 (10)	97	10	20.8 (10)	95 *
6	10	21.6 (10)	10	21.5 (10)	100	10	21.6 (10)	100	10	21.7 (10)	100	10	21.5 (10)	100	10	20.9 (10)	97
7	10	22.4 (10)	10	22.4 (10)	100	10	22.2 (10)	99	10	22.6 (10)	101	10	21.8 (10)	97	10	21.3 (10)	95 *
8	10	22.6 (10)	10	22.7 (10)	100	10	22.6 (10)	100	10	22.8 (10)	101	10	22.3 (10)	99	10	21.7 (10)	96
9	10	23.1 (10)	10	23.1 (10)	100	10	23.2 (10)	100	10	22.9 (10)	99	10	22.1 (10)	96	10	22.3 (10)	97
10	10	23.2 (10)	10	23.3 (10)	100	10	23.5 (10)	101	10	23.8 (10)	103	10	22.7 (10)	98	10	22.8 (10)	98
11	10	23.8 (10)	10	23.7 (10)	100	10	23.5 (10)	99	10	24.0 (10)	101	10	23.4 (10)	98	10	22.9 (10)	96
12	10	23.3 (10)	10	23.0 (10)	99	10	23.3 (10)	100	10	23.7 (10)	102	10	24.0 (10)	103	10	23.6 (10)	101
13	10	24.8 (10)	10	24.5 (10)	99	10	25.1 (10)	101	10	25.1 (10)	101	10	23.5 (10)	95	10	22.8 (10)	92 **

< > : No.of effective animals, ( ) : No.of measured animals, % : Percent of control group
Significant difference, * : $p \leqq 0.05$, ** : $p \leqq 0.01$, Test of Dunnett

TABLE 3 WATER CONSUMPTION CHANGES OF MALE MICE
IN THE 13-WEEK DRINKING WATER STUDY OF 2-HYDROXYETHYL ACRYLATE

Group	Control	375 ppm		750 ppm		1500 ppm		3000 ppm		6000 ppm	
Week on Study	<10> WC g	<10> WC g	%	<10> WC g	%	<10> WC g	%	<10> WC g	%	<10> WC g	%
1	4.4 (10)	3.9 (10)	89	3.2 (10)	73 *	3.3 (10)	75	2.4 (10)	55 **	1.8 (10)	41 **
2	4.1 (10)	4.1 (10)	100	3.3 (10)	80	3.3 (10)	80	2.3 (10)	56 **	1.8 (10)	44 **
3	4.2 (10)	3.8 (10)	90	3.2 (10)	76	3.1 (10)	74 *	2.1 (10)	50 **	1.8 (10)	43 **
4	4.2 (10)	3.7 (10)	88	3.0 (10)	71 **	2.8 (10)	67 **	2.0 (10)	48 **	1.8 (10)	43 **
5	4.1 (10)	3.9 (10)	95	3.1 (10)	76	2.7 (10)	66 **	2.1 (10)	51 **	1.8 (10)	44 **
6	4.0 (10)	3.7 (10)	92	3.2 (10)	80 *	2.9 (10)	72 **	2.2 (10)	55 **	2.0 (10)	50 **
7	4.1 (10)	4.2 (10)	102	3.4 (10)	83	2.8 (10)	68 **	2.2 (10)	54 **	2.0 (10)	49 **
8	4.0 (10)	4.0 (10)	100	3.2 (10)	80	2.6 (10)	65 **	2.0 (10)	50 **	1.9 (10)	47 **
9	3.9 (10)	4.0 (10)	103	3.3 (10)	85	2.7 (10)	69 **	2.1 (10)	54 **	1.9 (10)	49 **
10	3.8 (10)	4.1 (10)	108	3.1 (10)	82	2.6 (10)	68 *	2.0 (10)	53 **	1.8 (10)	47 **
11	3.7 (10)	3.5 (10)	95	3.0 (10)	81	2.5 (10)	68 **	2.0 (10)	54 **	2.0 (10)	54 **
12	3.7 (10)	3.3 (10)	89	2.8 (10)	76 *	2.5 (10)	68 **	2.4 (10)	65 **	1.7 (10)	46 **
13	3.7 (10)	3.5 (10)	95	3.0 (10)	81 **	2.5 (10)	68 **	2.1 (10)	57 **	1.9 (10)	51 **

< > : No.of effective animals, ( ) : No.of measured animals, % : Percent of control group
Significant difference, * : $p \leqq 0.05$, ** : $p \leqq 0.01$, Test of Dunnett

TABLE 4 WATER CONSUMPTION CHANGES OF FEMALE MICE
IN THE 13-WEEK DRINKING WATER STUDY OF 2-HYDROXYETHYL ACRYLATE

Group	Control	375 ppm		750 ppm		1500 ppm		3000 ppm		6000 ppm	
Week on Study	<10> WC g	<10> WC g	%	<10> WC g	%	<10> WC g	%	<10> WC g	%	<10> WC g	%
1	4.0 (10)	3.3 (10)	83 **	3.1 (10)	78 **	2.9 (10)	72 **	2.4 (10)	60 **	1.6 (10)	40 **
2	4.2 (10)	3.6 (10)	86	3.1 (10)	74	2.7 (10)	64 **	2.3 (10)	55 **	1.7 (10)	40 **
3	4.1 (10)	3.3 (10)	80	3.4 (10)	83	2.8 (10)	68 *	2.2 (10)	54 **	1.4 (10)	34 **
4	4.4 (10)	3.4 (10)	77	3.4 (10)	77	2.7 (10)	61 **	2.3 (10)	52 **	1.6 (10)	36 **
5	4.5 (10)	3.8 (10)	84	3.3 (10)	73	2.7 (10)	60 **	2.3 (10)	51 **	1.7 (10)	38 **
6	4.8 (10)	3.9 (10)	81	3.3 (10)	69	2.8 (10)	58 **	2.4 (10)	50 **	1.8 (10)	38 **
7	4.3 (10)	3.7 (10)	86 **	3.3 (10)	77 **	2.8 (10)	65 **	2.3 (10)	53 **	1.8 (10)	42 **
8	4.4 (10)	3.6 (10)	82 **	3.3 (10)	75 **	2.8 (10)	64 **	2.4 (10)	55 **	1.9 (10)	43 **
9	4.8 (10)	3.8 (10)	79	3.3 (10)	69	3.0 (10)	62 **	2.4 (10)	50 **	2.0 (10)	42 **
10	4.8 (10)	4.1 (10)	85	3.4 (10)	71 *	3.1 (10)	65 **	2.6 (10)	54 **	2.1 (10)	44 **
11	4.2 (10)	4.2 (10)	100	3.3 (10)	79	2.7 (10)	64 **	2.4 (10)	57 **	2.1 (10)	50 **
12	4.3 (10)	4.0 (10)	93	3.1 (10)	72	2.7 (10)	63 **	2.8 (10)	65 **	2.0 (10)	47 **
13	4.4 (10)	3.9 (10)	89	3.2 (10)	73	2.7 (10)	61 **	2.4 (10)	55 **	2.0 (10)	45 **

< > : No.of effective animals, ( ) : No.of measured animals, % : Percent of control group
Significant difference, * : $p \leqq 0.05$, ** : $p \leqq 0.01$, Test of Dunnett

TABLE 5 FOOD CONSUMPTION CHANGES OF MALE MICE
IN THE 13-WEEK DRINKING WATER STUDY OF 2-HYDROXYETHYL ACRYLATE

Group	Control	375 ppm		750 ppm		1500 ppm		3000 ppm		6000 ppm	
Week on Study	<10> FC g	<10> FC g	%	<10> FC g	%	<10> FC g	%	<10> FC g	%	<10> FC g	%
1	3.9 (10)	3.7 (10)	95	3.7 (10)	95	3.7 (10)	95	3.5 (10)	90 *	3.2 (10)	82 **
2	3.7 (10)	3.7 (10)	100	3.5 (10)	95	3.7 (10)	100	3.4 (10)	92	3.4 (10)	92
3	3.8 (10)	3.6 (10)	95	3.7 (10)	97	3.8 (10)	100	3.4 (10)	89 *	3.5 (10)	92
4	3.8 (10)	3.7 (10)	97	3.6 (10)	95	3.8 (10)	100	3.3 (10)	87 **	3.5 (10)	92
5	3.8 (10)	3.9 (10)	103	3.7 (10)	97	3.8 (10)	100	3.4 (10)	89 *	3.5 (10)	92
6	3.8 (10)	3.8 (10)	100	3.6 (10)	95	3.7 (10)	97	3.4 (10)	89	3.5 (10)	92
7	3.9 (10)	4.0 (10)	103	3.8 (10)	97	3.9 (10)	100	3.4 (10)	87 **	3.5 (10)	90 **
8	3.9 (10)	4.0 (10)	103	3.8 (10)	97	3.8 (10)	97	3.5 (10)	90 **	3.6 (10)	92 *
9	4.0 (10)	4.0 (10)	100	3.8 (10)	95	3.9 (10)	97	3.6 (10)	90 *	3.5 (10)	88 **
10	4.0 (10)	4.1 (10)	103	3.9 (10)	97	3.9 (10)	97	3.6 (10)	90 **	3.5 (10)	88 **
11	4.2 (10)	4.0 (10)	95	4.0 (10)	95	3.8 (10)	90	3.5 (10)	83 **	3.4 (10)	81 **
12	4.1 (10)	4.1 (10)	100	3.9 (10)	95	3.9 (10)	95	3.8 (10)	93	3.5 (10)	85 **
13	3.9 (10)	4.1 (10)	105	3.9 (10)	100	3.9 (10)	100	3.4 (10)	87 **	3.5 (10)	90 **

< > : No.of effective animals, ( ) : No.of measured animals, % : Percent of control group
Significant difference, * : $p \leqq 0.05$, ** : $p \leqq 0.01$, Test of Dunnett

TABLE 6 FOOD CONSUMPTION CHANGES OF FEMALE MICE
IN THE 13-WEEK DRINKING WATER STUDY OF 2-HYDROXYETHYL ACRYLATE

Group	Control	375 ppm		750 ppm		1500 ppm		3000 ppm		6000 ppm	
Week on Study	<10> FC g	<10> FC g	%	<10> FC g	%	<10> FC g	%	<10> FC g	%	<10> FC g	%
1	3.3 (10)	3.2 (10)	97	3.2 (10)	97	3.3 (10)	100	3.0 (10)	91 *	2.7 (10)	82 **
2	3.1 (10)	3.0 (10)	97	3.2 (10)	103	3.0 (10)	97	3.1 (10)	100	3.0 (10)	97
3	3.3 (10)	3.2 (10)	97	3.3 (10)	100	3.3 (10)	100	3.1 (10)	94 **	3.0 (10)	91 **
4	3.6 (10)	3.4 (10)	94	3.4 (10)	94	3.3 (10)	92 *	3.2 (10)	89 **	3.2 (10)	89 **
5	3.6 (10)	3.5 (10)	97	3.7 (10)	103	3.5 (10)	97	3.4 (10)	94	3.4 (10)	94
6	3.6 (10)	3.4 (10)	94	3.5 (10)	97	3.4 (10)	94	3.4 (10)	94	3.3 (10)	92
7	3.7 (10)	3.7 (10)	100	3.7 (10)	100	3.6 (10)	97	3.4 (10)	92 **	3.6 (10)	97
8	3.7 (10)	3.7 (10)	100	3.7 (10)	100	3.5 (10)	95	3.5 (10)	95	3.4 (10)	92
9	3.7 (10)	3.7 (10)	100	3.8 (10)	103	3.6 (10)	97	3.5 (10)	95 **	3.6 (10)	97
10	3.8 (10)	3.7 (10)	97	3.7 (10)	97	3.7 (10)	97	3.5 (10)	92	3.7 (10)	97
11	3.6 (10)	3.7 (10)	103	3.7 (10)	103	3.5 (10)	97	3.5 (10)	97	3.5 (10)	97
12	3.8 (10)	3.7 (10)	97	3.8 (10)	100	3.7 (10)	97	3.7 (10)	97	3.8 (10)	100
13	3.7 (10)	3.7 (10)	100	3.7 (10)	100	3.6 (10)	97	3.3 (10)	89 **	3.5 (10)	95

< > : No.of effective animals, ( ) : No.of measured animals, % : Percent of control group
Significant Difference, * : $p \leqq 0.05$, ** : $p \leqq 0.01$, Test of Dunnett

TABLE 7 HEMATOLOGY OF MALE MICE IN THE 13-WEEK DRINKING WATER STUDY OF 2-HYDROXYETHYL ACRYLATE (SELECTED)

Group	Control	375 ppm	750 ppm	1500 ppm	3000 ppm	6000 ppm	
No. of examined animals	<8>	<9>	<9>	<9>	<10>	<9>	
Red blood cell ($10^6/\mu$ L)	10.40 ± 0.71	10.36 ± 0.38	10.48 ± 0.45	10.57 ± 0.34	10.62 ± 0.43	10.46 ± 0.24	
Hemoglobin (g/dL)	15.9 ± 0.5	15.4 ± 0.4	15.6 ± 0.5	15.8 ± 0.2	15.8 ± 0.5	15.6 ± 0.5	
Hematocrit (%)	47.4 ± 3.3	47.0 ± 1.7	48.0 ± 1.9	48.4 ± 1.3	48.3 ± 1.9	48.0 ± 1.1	
MCV (fL)	45.6 ± 0.3	45.4 ± 0.7	45.8 ± 0.8	45.8 ± 0.5	45.5 ± 0.5	45.9 ± 0.5	
MCH (pg)	15.3 ± 0.7	14.9 ± 0.3	14.9 ± 0.3	15.0 ± 0.4	14.8 ± 0.2	14.9 ± 0.3	
MCHC (g/dL)	33.7 ± 1.6	32.8 ± 0.8	32.5 ± 0.5	32.8 ± 0.7	32.6 ± 0.5	32.5 ± 0.7	
Platelet ($10^3/\mu$ L)	1447 ± 140	1450 ± 71	1463 ± 109	1412 ± 97	1456 ± 113	1462 ± 126	
WBC ($10^3/\mu$ L)	1.80 ± 0.58	1.40 ± 0.69	1.51 ± 0.84	1.51 ± 0.81	1.31 ± 0.30	1.08 ± 0.71	
Differential WBC (%)							
N-SEG	14 ± 3	18 ± 6	16 ± 4	15 ± 3	14 ± 4	21 ± 6	**
LYMPHO	82 ± 4	78 ± 6	79 ± 4	81 ± 3	83 ± 4	76 ± 7	

Data represent means ± S.D.

Significant difference, ** : $p \leqq 0.01$, Test of Dunnett

TABLE 8 HEMATOLOGY OF FEMALE MICE IN THE 13-WEEK DRINKING WATER STUDY OF 2-HYDROXYETHYL ACRYLATE (SELECTED)

Group	Control	375 ppm	750 ppm	1500 ppm	3000 ppm	6000 ppm
No. of examined animals	<10>	<10>	<8>	<9>	<10>	<8>
Red blood cell ($10^6/\mu$ L)	10.46 ± 0.30	10.44 ± 0.53	10.38 ± 0.27	10.45 ± 0.41	10.08 ± 0.45	10.37 ± 0.38
Hemoglobin (g/dL)	15.8 ± 0.4	15.7 ± 0.7	15.5 ± 0.4	15.7 ± 0.7	15.3 ± 0.4	15.5 ± 0.5
Hematocrit (%)	47.6 ± 1.3	47.4 ± 2.5	47.0 ± 1.3	47.2 ± 2.0	45.5 ± 2.1	47.0 ± 1.9
MCV (fL)	45.5 ± 0.3	45.4 ± 0.5	45.3 ± 0.4	45.1 ± 0.3	45.1 ± 0.5	45.3 ± 0.7
MCH (pg)	15.1 ± 0.2	15.1 ± 0.5	15.0 ± 0.2	15.0 ± 0.1	15.2 ± 0.4	15.0 ± 0.4
MCHC (g/dL)	33.3 ± 0.4	33.3 ± 1.2	33.1 ± 0.2	33.2 ± 0.2	33.7 ± 1.0	33.0 ± 1.1
Platelet ($10^3/\mu$ L)	1338 ± 67	1335 ± 82	1331 ± 91	1242 ± 101	1314 ± 110	1311 ± 58
WBC ($10^3/\mu$ L)	1.28 ± 0.58	1.22 ± 0.87	0.80 ± 0.51	0.92 ± 0.49	0.79 ± 0.71	0.79 ± 0.71
Differential WBC (%)						
N-SEG	16 ± 4	16 ± 4	16 ± 4	17 ± 5	16 ± 4	22 ± 8
LYMPHO	81 ± 4	80 ± 3	81 ± 5	79 ± 4	80 ± 3	74 ± 8

Data represent means ± S.D.

TABLE 9 BIOCHEMISTRY OF MALE MICE IN THE 13-WEEK DRINKING WATER STUDY OF 2-HYDROXYETHYL ACRYLATE

Group	Control	375 ppm	750 ppm	1500 ppm	3000 ppm	6000 ppm
No. of animals examined	<9>	<10>	<9>	<9>	<10>	<9>
Total protein (g/dL)	5.1 ± 0.2	5.0 ± 0.2	5.0 ± 0.2	4.9 ± 0.1	4.8 ± 0.2 **	4.6 ± 0.2 **
Albumin (g/dL)	3.0 ± 0.1	2.9 ± 0.1	2.8 ± 0.1	2.9 ± 0.1	2.8 ± 0.1 *	2.7 ± 0.1 **
A/G ratio	1.4 ± 0.1	1.4 ± 0.1	1.3 ± 0.2	1.4 ± 0.1	1.5 ± 0.1	1.4 ± 0.1
T-Bilirubin (mg/dL)	0.17 ± 0.01	0.21 ± 0.14	0.20 ± 0.05	0.17 ± 0.01	0.16 ± 0.01	0.17 ± 0.02
Glucose (mg/dL)	235 ± 67	207 ± 35	208 ± 35	209 ± 29	188 ± 38	179 ± 25
T-Cholesterol (mg/dL)	87 ± 7	83 ± 6	82 ± 11	78 ± 4 *	76 ± 4 **	77 ± 6 **
Triglyceride (mg/dL)	34 ± 16	34 ± 13	33 ± 19	34 ± 15	27 ± 9	22 ± 9
Phospholipid (mg/dL)	175 ± 17	167 ± 14	165 ± 20	160 ± 12	158 ± 10	158 ± 17
GOT (IU/L)	53 ± 12	49 ± 7	55 ± 21	44 ± 6	47 ± 6	50 ± 15
GPT (IU/L)	20 ± 8	18 ± 3	23 ± 12	16 ± 2	17 ± 3	20 ± 7
LDH (IU/L)	236 ± 47	233 ± 92	294 ± 157	186 ± 41	202 ± 29	238 ± 101
ALP (IU/L)	155 ± 14	156 ± 21	151 ± 14	153 ± 11	150 ± 13	148 ± 9
γ -GTP (IU/L)	2 ± 1	1 ± 1	1 ± 1	2 ± 1	1 ± 1	1 ± 1
CPK (IU/L)	91 ± 66	63 ± 21	108 ± 101	59 ± 30	70 ± 24	86 ± 59
Urea nitrogen (mg/L)	26.6 ± 4.7	25.2 ± 5.3	24.6 ± 3.9	23.9 ± 2.5	24.9 ± 4.2	25.2 ± 3.6
Sodium (mEq/L)	150 ± 2	152 ± 2	151 ± 1	151 ± 1	151 ± 1	151 ± 2
Potassium (mEq/L)	4.6 ± 0.3	4.9 ± 0.6	4.8 ± 0.5	4.4 ± 0.3	4.5 ± 0.3	4.6 ± 0.3
Chloride (mEq/L)	122 ± 3	123 ± 3	121 ± 3	122 ± 1	122 ± 3	122 ± 3
Calcium (mg/dL)	8.8 ± 0.2	8.8 ± 0.3	8.7 ± 0.4	8.8 ± 0.2	8.8 ± 0.2	8.6 ± 0.3
Inorganic phosphorus (mg/dL)	7.7 ± 1.3	7.3 ± 0.9	7.6 ± 1.6	7.0 ± 1.2	6.8 ± 1.2	6.4 ± 1.2

Data represent means ± S.D.
Significant difference, * : $p \leqq 0.05$, ** : $p \leqq 0.01$, Test of Dunnett

TABLE 10 BIOCHEMISTRY OF FEMALE MICE IN THE 13-WEEK DRINKING WATER STUDY OF 2-HYDROXYETHYL ACRYLATE

Group	Control	375 ppm	750 ppm	1500 ppm	3000 ppm	6000 ppm
No. of examined animals	<10>	<10>	<9>	<10>	<10>	<8>
Total protein (g/dL)	5.0 ± 0.1	5.1 ± 0.2	5.0 ± 0.2	5.0 ± 0.2	4.8 ± 0.3 *	4.7 ± 0.2 **
Albumin (g/dL)	3.1 ± 0.1	3.1 ± 0.2	3.1 ± 0.1	3.1 ± 0.2	3.0 ± 0.1	3.0 ± 0.1
A/G ratio	1.7 ± 0.1	1.6 ± 0.2	1.6 ± 0.2	1.6 ± 0.1	1.7 ± 0.1	1.7 ± 0.1
T-Bilirubin (mg/dL)	0.16 ± 0.01	0.19 ± 0.05	0.17 ± 0.02	0.17 ± 0.02	0.17 ± 0.02	0.16 ± 0.01
Glucose (mg/dL)	167 ± 19	156 ± 18	156 ± 28	156 ± 16	174 ± 13	170 ± 11
T-Cholesterol (mg/dL)	78 ± 6	71 ± 8	77 ± 8	72 ± 7	66 ± 7 **	77 ± 11
Triglyceride (mg/dL)	22 ± 55	19 ± 5	23 ± 7	21 ± 6	19 ± 4	15 ± 3
Phospholipid (mg/dL)	153 ± 17	135 ± 17	151 ± 18	144 ± 15	130 ± 18 *	147 ± 19
GOT (IU/L)	51 ± 7	61 ± 11	64 ± 11	60 ± 12	59 ± 13	61 ± 14
GPT (IU/L)	19 ± 4	21 ± 4	22 ± 5	22 ± 5	19 ± 3	21 ± 3
LDH (IU/L)	225 ± 32	273 ± 85	251 ± 71	250 ± 55	253 ± 52	252 ± 56
ALP (IU/L)	245 ± 24	253 ± 28	247 ± 29	239 ± 35	248 ± 38	250 ± 34
γ -GTP (IU/L)	2 ± 1	2 ± 2	2 ± 1	1 ± 1	2 ± 1	1 ± 1
CPK (IU/L)	106 ± 55	101 ± 33	82 ± 40	101 ± 34	124 ± 73	98 ± 42
Urea nitrogen (mg/L)	20.4 ± 3.5	22.0 ± 3.4	20.6 ± 2.9	20.4 ± 2.7	21.6 ± 2.7	25.2 ± 2.6 **
Sodium (mEq/L)	151 ± 2	152 ± 2	151 ± 3	152 ± 2	151 ± 2	151 ± 1
Potassium (mEq/L)	4.5 ± 0.2	4.8 ± 0.6	4.8 ± 0.4	4.6 ± 0.4	4.6 ± 0.4	4.5 ± 0.3
Chloride (mEq/L)	122 ± 2	122 ± 5	122 ± 3	123 ± 3	122 ± 2	122 ± 2
Calcium (mg/dL)	8.8 ± 0.3	8.6 ± 0.2	8.6 ± 0.3	8.9 ± 0.2	8.7 ± 0.3	8.7 ± 0.2
Inorganic phosphorus (mg/dL)	6.3 ± 0.7	6.4 ± 1.0	6.2 ± 0.7	6.3 ± 0.4	5.9 ± 0.4	6.1 ± 0.7

Data represent means ± S.D.
Significant difference, * : $p \leqq 0.05$, ** : $p \leqq 0.01$, Test of Dunnett

TABLE 11 URINALYSIS OF MALE MICE IN THE 13-WEEK DRINKING WATER STUDY OF 2-HYDROXYETHYL ACRYLATE (SELECTED)

Group		Control	375 ppm	750 ppm	1500 ppm	3000 ppm	6000 ppm
Number of animals examined		<10>	<10>	<9>	<10>	<10>	<10>
pH	6.0	0	0	0	0	0	1 *
	6.5	0	0	0	1	0	4
	7.0	1	0	2	3	2	4
	7.5	2	2	2	4	6	1
	8.0	5	6	4	2	2	0
	8.5	2	2	1	0	0	0
	(Grade)						
Protein	−	0	0	0	0 *	0 **	0 **
	±	1	1	1	0	0	0
	+	9	9	4	4	2	1
	2+	0	0	4	4	8	9
	3+	0	0	0	2	0	0
Ketone body	−	4	4	0	0 *	0 **	0 *
	±	5	6	6	4	2	3
	+	1	0	3	6	8	7
	2+	0	0	0	0	0	0

Significant difference, * : $p \leqq 0.05$, ** : $p \leqq 0.01$ Chi square test

TABLE 12 URINALYSIS OF FEMALE MICE IN THE 13-WEEK DRINKING WATER STUDY OF 2-HYDROXYETHYL ACRYLATE (SELECTED)

Group		Control	375 ppm	750 ppm	1500 ppm	3000 ppm	6000 ppm
Number of animals examined		<10>	<10>	<10>	<10>	<10>	<10>
pH	6.0	0	2	1	2	3 *	5 **
	6.5	0	3	2	3	4	4
	7.0	3	2	4	3	2	0
	7.5	4	0	2	1	1	1
	8.0	3	3	1	1	0	0
	8.5	0	0	0	0	0	0
	(Grade)						
Protein	−	0	0	0	0	0 *	0
	±	1	0	0	0	0	0
	+	7	8	6	4	2	3
	2+	2	2	4	6	8	7
	3+	0	0	0	0	0	0
Ketone body	−	6	1	0 *	0 **	0 **	0 **
	±	4	8	9	4	1	3
	+	0	1	1	6	8	6
	2+	0	0	0	0	1	1

Significant difference, * : $p \leqq 0.05$, ** : $p \leqq 0.01$ Chi square test

TABLE 13 ORGAN WEIGHTS OF MALE MICE IN THE 13-WEEK DRINKING WATER STUDY OF 2-HYDROXYETHYL ACRYLATE

Group		Control	350 ppm	750 ppm	1500 ppm	3000 ppm	6000 ppm
No. of animals examined		<10>	<10>	<10>	<10>	<10>	<10>
Liver	(g)	1.115 ± 0.069	1.143 ± 0.055	1.116 ± 0.063	1.130 ± 0.083	1.052 ± 0.056	1.037 ± 0.060 *
	(%)	3.688 ± 0.127	3.662 ± 0.206	3.812 ± 0.130	3.803 ± 0.220	3.972 ± 0.163 **	4.148 ± 0.156 **
Kidney	(g)	0.417 ± 0.019	0.439 ± 0.035	0.439 ± 0.019	0.457 ± 0.028 **	0.443 ± 0.030	0.433 ± 0.023
	(%)	1.383 ± 0.089	1.406 ± 0.114	1.500 ± 0.063	1.542 ± 0.123 **	1.674 ± 0.160 **	1.733 ± 0.080 **
Thymus	(g)	0.033 ± 0.007	0.033 ± 0.006	0.030 ± 0.007	0.029 ± 0.006	0.027 ± 0.004	0.029 ± 0.003
	(%)	0.108 ± 0.020	0.105 ± 0.020	0.102 ± 0.025	0.098 ± 0.018	0.103 ± 0.014	0.115 ± 0.012
Adrenal	(g)	0.011 ± 0.004	0.012 ± 0.002	0.010 ± 0.001	0.011 ± 0.003	0.011 ± 0.003	0.010 ± 0.001
	(%)	0.038 ± 0.013	0.039 ± 0.005	0.034 ± 0.004	0.037 ± 0.008	0.040 ± 0.010	0.038 ± 0.005
Testis	(g)	0.229 ± 0.032	0.232 ± 0.018	0.240 ± 0.024	0.230 ± 0.017	0.222 ± 0.027	0.219 ± 0.029
	(%)	0.758 ± 0.115	0.744 ± 0.066	0.823 ± 0.101	0.774 ± 0.059	0.842 ± 0.137	0.876 ± 0.116
Heart	(g)	0.146 ± 0.009	0.158 ± 0.016	0.149 ± 0.014	0.154 ± 0.011	0.141 ± 0.009	0.136 ± 0.009
	(%)	0.485 ± 0.028	0.506 ± 0.054	0.509 ± 0.035	0.520 ± 0.032	0.532 ± 0.023 *	0.543 ± 0.032 **
Lung	(g)	0.163 ± 0.013	0.158 ± 0.007	0.158 ± 0.007	0.156 ± 0.012	0.152 ± 0.006 *	0.148 ± 0.007 **
	(%)	0.540 ± 0.044	0.505 ± 0.029	0.541 ± 0.027	0.526 ± 0.056	0.576 ± 0.048	0.594 ± 0.032 *
Spleen	(g)	0.051 ± 0.007	0.052 ± 0.005	0.050 ± 0.005	0.046 ± 0.004	0.045 ± 0.004 *	0.048 ± 0.004
	(%)	0.169 ± 0.019	0.166 ± 0.015	0.170 ± 0.013	0.155 ± 0.013	0.171 ± 0.017	0.193 ± 0.015 **
Brain	(g)	0.440 ± 0.011	0.442 ± 0.011	0.440 ± 0.013	0.441 ± 0.011	0.444 ± 0.008	0.437 ± 0.009
	(%)	1.462 ± 0.135	1.416 ± 0.071	1.505 ± 0.085	1.489 ± 0.090	1.680 ± 0.103 **	1.750 ± 0.079 **

Data represent means ± S.D.
Significant difference, * : $p \leqq 0.05$, ** : $p \leqq 0.01$, Test of Dunnett

TABLE 14 ORGAN WEIGHTS OF FEMALE MICE IN THE 13-WEEK DRINKING WATER STUDY OF 2-HYDROXYETHYL ACRYLATE

Group		Control	375 ppm	750 ppm	1500 ppm	3000 ppm	6000 ppm
No. of animals examined		<10>	<10>	<10>	<10>	<10>	<10>
Liver	(g)	0.869 ± 0.029	0.854 ± 0.038	0.910 ± 0.054	0.921 ± 0.049	0.909 ± 0.051	0.941 ± 0.061 **
	(%)	4.118 ± 0.117	4.141 ± 0.166	4.302 ± 0.250	4.299 ± 0.251	4.326 ± 0.164	4.491 ± 0.193 **
Kidney	(g)	0.284 ± 0.012	0.298 ± 0.014	0.359 ± 0.144 *	0.327 ± 0.017 **	0.340 ± 0.014 **	0.357 ± 0.017 **
	(%)	1.346 ± 0.062	1.444 ± 0.081 *	1.705 ± 0.712 **	1.529 ± 0.090 **	1.618 ± 0.055 **	1.704 ± 0.055 **
Thymus	(g)	0.040 ± 0.005	0.037 ± 0.005	0.037 ± 0.006	0.042 ± 0.004	0.036 ± 0.004	0.036 ± 0.005
	(%)	0.187 ± 0.024	0.180 ± 0.023	0.175 ± 0.029	0.194 ± 0.016	0.169 ± 0.017	0.174 ± 0.027
Adrenal	(g)	0.013 ± 0.002	0.012 ± 0.002	0.012 ± 0.002	0.012 ± 0.002	0.011 ± 0.001	0.011 ± 0.001
	(%)	0.060 ± 0.011	0.056 ± 0.011	0.056 ± 0.006	0.057 ± 0.006	0.054 ± 0.005	0.051 ± 0.005
Ovaries	(g)	0.040 ± 0.004	0.033 ± 0.002 **	0.032 ± 0.004 **	0.033 ± 0.005 **	0.031 ± 0.006 **	0.031 ± 0.005 **
	(%)	0.191 ± 0.019	0.158 ± 0.012 **	0.152 ± 0.014 **	0.153 ± 0.025 **	0.148 ± 0.027 **	0.150 ± 0.022 **
Heart	(g)	0.119 ± 0.004	0.121 ± 0.008	0.120 ± 0.004	0.125 ± 0.008	0.123 ± 0.005	0.118 ± 0.005
	(%)	0.565 ± 0.013	0.588 ± 0.036	0.569 ± 0.030	0.585 ± 0.039	0.585 ± 0.029	0.562 ± 0.027
Lung	(g)	0.153 ± 0.009	0.148 ± 0.008	0.144 ± 0.012	0.149 ± 0.009	0.148 ± 0.013	0.142 ± 0.009
	(%)	0.727 ± 0.050	0.718 ± 0.047	0.678 ± 0.041	0.696 ± 0.035	0.706 ± 0.054	0.677 ± 0.037
Spleen	(g)	0.057 ± 0.005	0.051 ± 0.003	0.057 ± 0.010	0.054 ± 0.005	0.052 ± 0.006	0.052 ± 0.005
	(%)	0.269 ± 0.021	0.247 ± 0.015	0.269 ± 0.034	0.254 ± 0.018	0.246 ± 0.024	0.249 ± 0.020
Brain	(g)	0.454 ± 0.016	0.458 ± 0.016	0.458 ± 0.018	0.457 ± 0.016	0.455 ± 0.010	0.443 ± 0.009
	(%)	2.153 ± 0.082	2.222 ± 0.074	2.166 ± 0.083	2.135 ± 0.125	2.169 ± 0.113	2.118 ± 0.071

Data represent means ± S.D.
Significant difference, * : $p \leqq 0.05$, ** : $p \leqq 0.01$, Test of Dunnett

TABLE 15 HISTOLOGICAL LESIONS OF MALE MICE IN THE 13-WEEK DRINKING WATER STUDY OF 2-HYDROXYETHYL ACRYLATE (SELECTED)

Group		Control	375 ppm	750 ppm	1500 ppm	3000 ppm	6000 ppm
No. of animals examined		<10>	<10>	<10>	<10>	<10>	<10>
	Grade						
Stomach							
Ulcer : forestomach	+	0	0	0	0	0	3
	2+	0	0	0	0	1	2
Hyperplasia : forestomach	+	0	0	0	0	2	0
	2+	0	0	0	0	1	5
	3+	0	0	0	0	0	2
Kidney							
Vacuolization of proximal tuble	+	4	6	8	9	5	2
	2+	6	4	1	0	0	0

Grade + : Slight 2+ : moderate 3+ : Marked

TABLE 16 HISTOLOGICAL LESIONS OF FEMALE MICE IN THE 13-WEEK DRINKING WATER STUDY OF 2-HYDROXYETHYL ACRYLATE (SELECTED)

Group		Control	375 ppm	750 ppm	1500 ppm	3000 ppm	6000 ppm
No. of animals examined		<10>	<10>	<10>	<10>	<10>	<10>
	Grade						
Stomach							
Ulcer : forestomach	+	0	0	0	0	0	6
	2+	0	0	0	0	0	1
Hyperplasia : forestomach	+	0	0	0	0	1	1
	2+	0	0	0	0	0	8
	3+	0	0	0	0	0	1

Grade + : Slight 2+ : moderate 3+ : Marked