

アクリル酸のマウスを用いた
吸入による2週間毒性試験報告書

試験番号：0639

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(SACRIFICED ANIMALS)

TABLE 2 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES OF MALE MICE IN THE 2-WEEK INHALATION STUDY OF ACRYLIC ACID

Week-Day on Study	Control		15 ppm			38 ppm			96 ppm			240 ppm			600 ppm		
	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.
	< 5>		< 5>			< 5>			< 5>			< 5>			< 5>		
0-0	23.9 (5)	5/5	23.9 (5)	100	5/5	23.8 (5)	100	5/5	23.8 (5)	100	5/5	23.8 (5)	100	5/5	23.8 (5)	100	5/5
1-2	23.7 (5)	5/5	23.5 (5)	99	5/5	23.6 (5)	100	5/5	23.8 (5)	100	5/5	22.8 (5)	96	5/5	21.1 (5)	89	5/5
1-4	24.1 (5)	5/5	23.8 (5)	99	5/5	23.7 (5)	98	5/5	24.2 (5)	100	5/5	21.9 (5)	91	5/5	- (-)	-	0/5
1-7	24.7 (5)	5/5	24.7 (5)	100	5/5	24.7 (5)	100	5/5	24.6 (5)	100	5/5	22.0 (5)	89	5/5	- (-)	-	0/5
2-3	25.4 (5)	5/5	25.0 (5)	98	5/5	24.8 (5)	98	5/5	25.0 (5)	98	5/5	21.6 (5)	85	5/5	- (-)	-	0/5
2-7	25.7 (5)	5/5	25.5 (5)	99	5/5	24.3 (5)	95	5/5	25.0 (5)	97	5/5	22.5 (5)	88	5/5	- (-)	-	0/5

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

TABLE 3 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES OF FEMALE MICE IN THE 2-WEEK INHALATION STUDY OF ACRYLIC ACID

Week-Day on Study	Control		15 ppm			38 ppm			96 ppm			240 ppm			600 ppm		
	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.
	< 5>		< 5>			< 5>			< 5>			< 5>			< 5>		
0-0	20.0 (5)	5/5	20.0 (5)	100	5/5	20.0 (5)	100	5/5	20.0 (5)	100	5/5	20.0 (5)	100	5/5	20.0 (5)	100	5/5
1-2	19.5 (5)	5/5	19.4 (5)	99	5/5	19.2 (5)	98	5/5	19.6 (5)	101	5/5	19.3 (5)	99	5/5	17.9 (5)	92	5/5
1-4	19.9 (5)	5/5	20.2 (5)	102	5/5	19.8 (5)	99	5/5	19.6 (5)	98	5/5	18.7 (5)	94	5/5	- (-)	-	0/5
1-7	20.9 (5)	5/5	21.0 (5)	100	5/5	20.1 (5)	96	5/5	20.1 (5)	96	5/5	18.7 (5)	89	5/5	- (-)	-	0/5
2-3	21.1 (5)	5/5	21.2 (5)	100	5/5	21.1 (5)	100	5/5	21.0 (5)	100	5/5	18.5 (5)	88	5/5	- (-)	-	0/5
2-7	21.4 (5)	5/5	21.7 (5)	101	5/5	21.3 (5)	100	5/5	21.1 (5)	99	5/5	19.8 (5)	93	5/5	- (-)	-	0/5

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

TABLE 4 FOOD CONSUMPTION CHANGES OF MALE MICE IN THE 2-WEEK INHALATION STUDY OF ACRYLIC ACID

Week-Day on Study	Control		15 ppm			38 ppm			96 ppm			240 ppm			600 ppm			
	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.	
	< 5>		< 5>			< 5>			< 5>			< 5>			< 5>			
1-7	4.4 (5)	5/ 5	4.5 (5)	102	5/ 5	4.5 (5)	102	5/ 5	4.6 (5)	105	5/ 5	3.3 (5)	75	5/ 5	-	(-)	-	0/ 5
2-7	4.4 (5)	5/ 5	4.4 (5)	100	5/ 5	4.2 (5)	95	5/ 5	4.4 (5)	100	5/ 5	3.6 (5)	82	5/ 5	-	(-)	-	0/ 5

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

TABLE 5 FOOD CONSUMPTION CHANGES OF FEMALE MICE IN THE 2-WEEK INHALATION STUDY OF ACRYLIC ACID

Week-Day on Study	Control		15 ppm			38 ppm			96 ppm			240 ppm			600 ppm			
	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.	
	< 5>		< 5>			< 5>			< 5>			< 5>			< 5>			
1-7	3.8 (5)	5/ 5	4.1 (5)	108	5/ 5	3.6 (5)	95	5/ 5	3.8 (5)	100	5/ 5	2.9 (5)	76	5/ 5	-	(-)	-	0/ 5
2-7	3.8 (5)	5/ 5	3.9 (5)	103	5/ 5	4.1 (5)	108	5/ 5	4.0 (5)	105	5/ 5	3.4 (5)	89	5/ 5	-	(-)	-	0/ 5

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

TABLE 6 HEMATOLOGY OF MALE MICE IN THE 2-WEEK INHALATION STUDY OF ACRYLIC ACID

Group Name	Control	15 ppm	38 ppm	96 ppm	240 ppm	600 ppm
No. of examined animals	5	5	5	5	5	0
RETICULOCYTE (%)	2.0 ± 0.1	2.0 ± 0.2	2.1 ± 0.2	2.0 ± 0.1	2.4 ± 0.2 **	- ± -
Mean ± S.D.						
Significant difference: * : $p \leq 0.05$ ** : $p \leq 0.01$ Test of Dunnett						

TABLE 7 HEMATOLOGY OF FEMALE MICE IN THE 2-WEEK INHALATION STUDY OF ACRYLIC ACID

Group Name	Control	15 ppm	38 ppm	96 ppm	240 ppm	600 ppm
No. of examined animals	5	5	5	5	5	0
RETICULOCYTE (%)	2.1 ± 0.5	2.2 ± 0.5	2.0 ± 0.7	2.2 ± 0.5	2.9 ± 0.6	- ± -
Mean ± S.D.						
Significant difference: * : $p \leq 0.05$ ** : $p \leq 0.01$ Test of Dunnett						

TABLE 8 ORGAN WEIGHTS OF MALE MICE IN THE 2-WEEK INHALATION STUDY OF ACRYLIC ACID

Group Name	Control	15 ppm	38 ppm	96 ppm	240 ppm	600 ppm
No. of examined animal	5	5	5	5	5	0
Body weight (g)	22.1 ± 0.7	21.6 ± 0.8	21 ± 2.6	21.6 ± 1.3	18.9 ± 0.7	- ± -
Thymus (g)	0.045 ± 0.006	0.042 ± 0.007	0.033 ± 0.014	0.046 ± 0.012	0.032 ± 0.005	- ± -
Thymus (%)	0.203 ± 0.027	0.192 ± 0.030	0.152 ± 0.058	0.214 ± 0.047	0.170 ± 0.027	- ± -
Kidneys (g)	0.365 ± 0.015	0.373 ± 0.007	0.467 ± 0.228	0.402 ± 0.072	0.332 ± 0.017 *	- ± -
Kidneys (%)	1.649 ± 0.069	1.726 ± 0.091	2.378 ± 1.633	1.866 ± 0.312	1.755 ± 0.066	- ± -
Spleen (g)	0.048 ± 0.004	0.044 ± 0.002	0.043 ± 0.005	0.046 ± 0.006	0.038 ± 0.004 *	- ± -
Spleen (%)	0.215 ± 0.018	0.202 ± 0.005	0.207 ± 0.024	0.211 ± 0.023	0.203 ± 0.020	- ± -
Brain (g)	0.440 ± 0.006	0.444 ± 0.009	0.428 ± 0.017	0.436 ± 0.005	0.432 ± 0.010	- ± -
Brain (%)	1.990 ± 0.080	2.052 ± 0.068	2.060 ± 0.271	2.029 ± 0.136	2.287 ± 0.075 *	- ± -

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

TABLE 9 ORGAN WEIGHTS OF FEMALE MICE IN THE 2-WEEK INHALATION STUDY OF ACRYLIC ACID

Group Name	Control	15 ppm	38 ppm	96 ppm	240 ppm	600 ppm
No. of examined animal	5	5	5	5	5	0
Body weight (g)	17.9 ± 1.1	17.8 ± 0.8	17.7 ± 1.2	17.6 ± 0.9	16.1 ± 0.9 *	- ± -
Thymus (g)	0.064 ± 0.008	0.065 ± 0.010	0.060 ± 0.009	0.064 ± 0.007	0.041 ± 0.011 **	- ± -
Thymus (%)	0.358 ± 0.028	0.361 ± 0.043	0.337 ± 0.034	0.363 ± 0.032	0.251 ± 0.059 **	- ± -
Kidneys (g)	0.255 ± 0.004	0.270 ± 0.011	0.262 ± 0.019	0.265 ± 0.014	0.259 ± 0.009	- ± -
Kidneys (%)	1.427 ± 0.080	1.514 ± 0.060	1.482 ± 0.063	1.502 ± 0.044	1.614 ± 0.060 **	- ± -
Spleen (g)	0.049 ± 0.003	0.053 ± 0.005	0.050 ± 0.006	0.049 ± 0.003	0.041 ± 0.005 *	- ± -
Spleen (%)	0.272 ± 0.019	0.299 ± 0.024	0.281 ± 0.020	0.279 ± 0.013	0.252 ± 0.020	- ± -

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

TABLE 10 INCIDENCES OF SELECTED LESIONS OF MALE MICE IN THE 2-WEEK INHALATION STUDY OF ACRYLIC ACID (DEAD ANIMALS)

Group Name	Control				15 ppm				38 ppm				96 ppm				240 ppm				600 ppm			
Number of examined animals	0				0				0				0				0				5			
Grade	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																								
necrosis:respiratory epithelium	—				—				—				—				—				<5>			
ulcer:respiratory epithelium	—				—				—				—				—				0 0 5 0			
inflammation:respiratory epithelium	—				—				—				—				—				5 0 0 0			
necrosis:olfactory epithelium	—				—				—				—				—				0 5 0 0			

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
 < > : Number of animals examined at the site

TABLE 11 INCIDENCES OF SELECTED LESIONS OF MALE MICE IN THE 2-WEEK INHALATION STUDY OF ACRYLIC ACID (SACRIFICED ANIMALS)

Group Name	Control				15 ppm				38 ppm				96 ppm				240 ppm				600 ppm			
Number of examined animals	5				5				5				5				5				0			
Grade	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	<5>				<5>				<5>				<5>				<5>				<0>			
necrosis:respiratory epithelium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	0	0	—			
ulcer:respiratory epithelium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	—			
inflammation:respiratory epithelium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	—			
atrophy:respiratory epithelium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	—			
necrosis:olfactory epithelium	0	0	0	0	0	0	0	0	2	0	0	0	3	0	0	0	4	0	0	0	—			
atrophy:olfactory epithelium	0	0	0	0	2	0	0	0	2	2	0	0	1	4	0	0	0	5	0	0	—			
disarrangement:olfactory epithelium	0	0	0	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	—			

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
 < > : Number of animals examined at the site

TABLE 13 INCIDENCES OF SELECTED LESIONS OF FEMALE MICE IN THE 2-WEEK INHALATION STUDY OF ACRYLIC ACID (SACRIFICED ANIMALS)

Group Name	Control				15 ppm				38 ppm				96 ppm				240 ppm				600 ppm			
Number of examined animals	5				5				5				5				5				0			
Grade	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	<5>				<5>				<5>				<5>				<5>				<0>			
necrosis:respiratory epithelium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0
ulcer:respiratory epithelium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
inflammation:respiratory epithelium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
atrophy:respiratory epithelium	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0
necrosis:olfactory epithelium	0	0	0	0	0	0	0	0	1	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0
atrophy:olfactory epithelium	0	0	0	0	4	0	0	0	4	1	0	0	2	3	0	0	0	5	0	0	0	0	0	0
disarrangement:olfactory epithelium	0	0	0	0	4	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Grade 1 : Slight 2 : Moderate 3 : Marked 4 : Severe
 < > : Number of animals examined at the site

