メタリルクロライドのラットを用いた
吸入によるがん原性試験報告書

試験番号：0269

TABLES

TABLES

TABLE 1 EXPERIMENTAL DESIGN AND MATERIALS AND METHODS IN THE 2-YEAR INHALATION STUDY OF 2-METHALLYL CHLORIDE

2-year study
<Method of Administration> Inhalation
<Number of Groups> Male 4, Female 4
<Size of Groups> 50 males and 50 females of each group
<Animals> Strain and Species F344/DuCrj (Fischer) rat Animal Source Charles River Japan, Inc. Duration Held Before Study 2 wk Age When Placed on Study 6 wk Age When Killed 110～111 wk
<Doses> Male : 0, 50, 100, or 200 ppm Female : 0, 50, 100, or 200 ppm
<Duration of Dosing> 6h/d, 5d/wk, for 104wk
<Animal Maintenance> Feed CRF-1 (Oriental Yeast Co., Ltd.) Sterilized by γ-ray Available *ad libitum* Water Filtrated and sterilized by ultraviolet ray Automatic watering system in duration of quarantine Available *ad libitum* Animal per Cage Single (stainless steel wire) Animal Room Environment Barrier system Temperature : 23±3℃ Fluorescent light 12h/d Chamber Environment Temperature : 22±2℃ Humidity : 55±15% Air changes :12±1/h Pressure :0～-15mmAq
<Type and Frequency of Observation> Clinical Sign Observed 1 per d Body Weight Weighed 1 per wk for 14wk Weighed 1 per 4wks thereafter Food Consumption Weighed 1 per wk for 14wk Weighed 1 per 4wks thereafter

TABLE 1 (continued) EXPERIMENTAL DESIGN AND MATERIALS AND METHODS IN THE 2-YEAR INHALATION STUDY OF 2-METHALLYL CHLORIDE

2-year study
<Hematology> Red blood cell (RBC), Hemoglobin, Hematocrit, Mean Corpuscular Volume (MCV), Mean Corpuscular hemoglobin (MCH), Mean Corpuscular hemoglobin concentrate (MCHC), Platelet, White blood cell (WBC), Differential WBC. <Biochemistry> Total protein, Albumin, A/G ratio, Total bilirubin, Glucose, Total cholesterol Triglyceride, Phospholipid , Glutamic oxaloacetic transaminase (GOT), Glutamic pyruvic transaminase (GPT), Lactate dehydrogenase (LDH), Alkaline phosphatase (ALP), γ-Glutamyl transpeptidase (γ-GTP) , Creatine phosphokinase (CPK), Urea nitrogen, Creatinine , Sodium, Potassium, Chloride, Calcium, Inorganic phosphorus. <Urinalysis> pH, Protein, Glucose, Ketone body, Bilirubin, Occult blood, Urobilinogen. <Necropsy> Necropsy performed on all animals. <Organ Weight> Organ weight measurement performed on scheduled sacrificed animals. The following organs were weighed; brain, lung, liver, spleen, heart, kidney, adrenal, testis, ovary. <Histopathologic Examination> Histopathologic examination performed on all animals. The following organs were examined; skin, nasal cavity, trachea, lung, bone marrow, lymph node, thymus, spleen, heart, tongue, salivary gland, esophagus, stomach, small intestine, large intestine, liver, pancreas, kidney, urinary bladder, pituitary, thyroid, adrenal, testis, epididymis, seminal vesicle, prostate, ovary, uterus, vagina, mammary gland, brain, spinal cord, peripheral nerve, eye, Harderian gland, muscle, bone, other organs/tissues with gross lesions.

TABLE 2 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES OF MALE RATS IN THE 2-YEAR INHALATION STUDY OF 2-METHALLYL CHLORIDE

Week on Study	Control Av.Wt.	Control No.of Surviv. <50>	50 ppm Av.Wt.	50 ppm % of cont. <50>	50 ppm No.of Surviv.	100 ppm Av.Wt.	100 ppm % of cont. <50>	100 ppm No.of Surviv.	200 ppm Av.Wt.	200 ppm % of cont. <50>	200 ppm No.of Surviv.
0	119 (50)	50/50	118 (50)	99	50/50	119 (50)	100	50/50	119 (50)	100	50/50
1	122 (50)	50/50	122 (50)	100	50/50	123 (50)	101	50/50	123 (50)	101	50/50
1	149 (50)	50/50	149 (50)	100	50/50	151 (50)	101	50/50	146 (50)	98	50/50
2	183 (50)	50/50	184 (50)	101	50/50	185 (50)	101	50/50	177 (50)	97	50/50
3	209 (50)	50/50	211 (50)	101	50/50	211 (50)	101	50/50	200 (50)	96	50/50
4	229 (50)	50/50	234 (50)	102	50/50	231 (50)	101	50/50	216 (50)	94	50/50
5	246 (50)	50/50	252 (50)	102	50/50	246 (50)	100	50/50	230 (50)	93	50/50
6	264 (50)	50/50	267 (50)	101	50/50	261 (50)	99	50/50	243 (50)	92	50/50
7	280 (50)	50/50	282 (50)	101	50/50	275 (50)	98	50/50	257 (50)	92	50/50
8	291 (50)	50/50	295 (50)	101	50/50	287 (50)	99	50/50	267 (50)	92	50/50
9	304 (50)	50/50	306 (50)	101	50/50	299 (50)	98	50/50	278 (50)	91	50/50
10	314 (50)	50/50	313 (50)	100	50/50	305 (50)	97	50/50	287 (50)	91	50/50
11	322 (50)	50/50	321 (50)	100	50/50	313 (50)	97	50/50	295 (50)	92	50/50
12	328 (50)	50/50	328 (50)	100	50/50	320 (50)	98	50/50	301 (50)	92	50/50
13	337 (50)	50/50	338 (50)	100	50/50	329 (50)	98	50/50	310 (50)	92	50/50
14	344 (50)	50/50	345 (50)	100	50/50	336 (50)	98	50/50	317 (50)	92	50/50
18	372 (49)	49/50	372 (50)	100	50/50	362 (50)	97	50/50	337 (50)	91	50/50
22	389 (49)	49/50	388 (50)	100	50/50	379 (50)	97	50/50	348 (50)	89	50/50
26	398 (49)	49/50	397 (50)	100	50/50	385 (50)	97	50/50	357 (50)	90	50/50
30	403 (49)	49/50	403 (50)	100	50/50	391 (50)	97	50/50	365 (50)	91	50/50
34	420 (49)	49/50	419 (50)	100	50/50	404 (50)	96	50/50	381 (50)	91	50/50
38	436 (49)	49/50	438 (50)	100	50/50	420 (50)	96	50/50	394 (50)	90	50/50
42	444 (49)	49/50	446 (50)	100	50/50	429 (50)	97	50/50	402 (50)	91	50/50
46	450 (49)	49/50	449 (50)	100	50/50	433 (50)	96	50/50	403 (50)	90	50/50
50	454 (49)	49/50	458 (50)	101	50/50	440 (50)	97	50/50	412 (50)	91	50/50
54	463 (49)	49/50	466 (50)	101	50/50	445 (50)	96	50/50	418 (50)	90	50/50
58	470 (49)	49/50	471 (50)	100	50/50	451 (50)	96	50/50	420 (50)	89	50/50
62	469 (49)	49/50	474 (49)	101	49/50	452 (50)	96	50/50	423 (50)	90	50/50
66	469 (49)	49/50	476 (49)	101	49/50	452 (50)	96	50/50	422 (50)	90	50/50
70	470 (49)	49/50	476 (49)	101	49/50	454 (50)	97	50/50	425 (50)	90	50/50
74	471 (48)	48/50	477 (49)	101	49/50	455 (50)	97	50/50	425 (50)	90	50/50
78	471 (48)	48/50	474 (48)	101	48/50	452 (50)	96	50/50	424 (50)	90	50/50
82	466 (47)	47/50	474 (48)	102	48/50	452 (50)	97	50/50	424 (49)	91	49/50
86	464 (47)	47/50	472 (47)	102	47/50	458 (49)	99	49/50	428 (46)	92	46/50
90	457 (47)	47/50	471 (45)	103	45/50	460 (49)	101	49/50	427 (44)	93	44/50
94	446 (46)	46/50	459 (44)	103	44/50	444 (44)	100	44/50	421 (41)	94	41/50
98	432 (46)	45/50	450 (42)	104	42/50	436 (43)	101	43/50	408 (38)	94	38/50
102	430 (41)	41/50	441 (38)	103	38/50	420 (37)	98	37/50	405 (32)	94	32/50
104	423 (39)	39/50	430 (36)	102	35/50	417 (33)	99	33/50	402 (30)	95	30/50

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

TABLE 3 SURVIVAL ANIMAL NUMBERS AND BODY WEIGHT CHANGES OF FEMALE RATS IN THE 2-YEAR INHALATION STUDY OF 2-METHALLYL CHLORIDE

Week on Study	Control Av.Wt.	Control No.of Surviv. <50>	50 ppm Av.Wt.	50 ppm % of cont. <50>	50 ppm No.of Surviv.	100 ppm Av.Wt.	100 ppm % of cont. <50>	100 ppm No.of Surviv.	200 ppm Av.Wt.	200 ppm % of cont. <50>	200 ppm No.of Surviv.
0	97 (50)	50/50	97 (50)	100	50/50	97 (50)	100	50/50	97 (50)	100	50/50
1	99 (50)	50/50	99 (50)	100	50/50	100 (50)	101	50/50	100 (50)	101	50/50
1	115 (50)	50/50	113 (50)	98	50/50	115 (50)	100	50/50	112 (50)	97	50/50
2	129 (50)	50/50	129 (50)	100	50/50	130 (50)	101	50/50	126 (50)	98	50/50
3	139 (50)	50/50	140 (50)	101	50/50	141 (50)	101	50/50	136 (50)	98	50/50
4	146 (50)	50/50	148 (50)	101	50/50	149 (50)	102	50/50	142 (50)	97	50/50
5	154 (50)	50/50	156 (50)	101	50/50	156 (50)	101	50/50	148 (50)	96	50/50
6	163 (50)	50/50	162 (50)	99	50/50	162 (50)	99	50/50	154 (50)	94	50/50
7	170 (50)	50/50	170 (50)	100	50/50	169 (50)	99	50/50	162 (50)	95	50/50
8	176 (50)	50/50	175 (50)	99	50/50	173 (50)	98	50/50	167 (50)	95	50/50
9	180 (50)	50/50	179 (50)	99	50/50	177 (50)	98	50/50	170 (50)	94	50/50
10	184 (50)	50/50	183 (50)	99	50/50	180 (50)	98	50/50	174 (50)	95	50/50
11	188 (50)	50/50	188 (50)	100	50/50	184 (50)	98	50/50	178 (50)	95	50/50
12	190 (50)	50/50	190 (50)	100	50/50	187 (50)	98	50/50	181 (50)	95	50/50
13	194 (50)	50/50	194 (50)	100	50/50	191 (50)	98	50/50	184 (50)	95	50/50
14	195 (50)	50/50	195 (50)	100	50/50	193 (50)	99	50/50	184 (50)	94	50/50
18	203 (50)	50/50	204 (50)	100	50/50	200 (50)	99	50/50	193 (50)	95	50/50
22	211 (50)	50/50	210 (50)	100	50/50	207 (50)	98	50/50	200 (50)	95	50/50
26	223 (50)	50/50	223 (50)	100	50/50	219 (50)	98	50/50	212 (50)	95	50/50
30	229 (50)	50/50	231 (50)	101	50/50	225 (50)	98	50/50	217 (50)	95	50/50
34	237 (50)	50/50	238 (50)	100	50/50	232 (50)	98	50/50	225 (49)	95	49/50
38	243 (50)	50/50	248 (50)	102	50/50	238 (50)	98	50/50	230 (49)	95	49/50
42	247 (50)	50/50	251 (50)	102	50/50	242 (50)	98	50/50	233 (49)	94	49/50
46	251 (50)	50/50	257 (50)	102	50/50	247 (50)	98	50/50	238 (49)	95	49/50
50	259 (50)	50/50	266 (50)	103	50/50	253 (50)	98	50/50	242 (49)	93	49/50
54	265 (50)	50/50	272 (50)	103	50/50	259 (50)	98	50/50	249 (49)	94	49/50
58	271 (50)	50/50	280 (50)	103	50/50	265 (50)	98	50/50	253 (48)	93	48/50
62	278 (49)	49/50	285 (50)	103	50/50	270 (50)	97	50/50	259 (48)	93	48/50
66	285 (49)	49/50	292 (50)	102	50/50	276 (50)	97	50/50	265 (48)	93	48/50
70	290 (48)	48/50	298 (49)	103	49/50	282 (50)	97	50/50	270 (48)	93	48/50
74	291 (48)	48/50	306 (47)	105	47/50	287 (50)	99	50/50	275 (48)	95	48/50
78	297 (47)	47/50	306 (47)	103	47/50	290 (50)	98	50/50	279 (48)	94	48/50
82	300 (47)	47/50	312 (47)	104	47/50	294 (50)	98	50/50	286 (48)	95	48/50
86	307 (45)	45/50	316 (47)	103	47/50	303 (49)	99	49/50	292 (48)	95	48/50
90	306 (45)	45/50	322 (45)	105	45/50	308 (49)	101	49/50	290 (48)	95	47/50
94	306 (43)	41/50	323 (45)	106	45/50	310 (48)	101	48/50	296 (46)	97	46/50
98	311 (39)	39/50	322 (45)	104	44/50	312 (48)	100	48/50	295 (46)	95	46/50
102	312 (38)	38/50	324 (41)	104	40/50	311 (47)	100	47/50	299 (44)	96	44/50
104	309 (38)	38/50	322 (40)	104	40/50	311 (45)	101	45/50	297 (44)	96	44/50

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

TABLE 4 INCIDENCE OF EXTERNAL AND INTERNAL MASS IN CLINICAL OBSERVATION OF MALE RATS IN THE 2-YEAR STUDY OF 2-METHALLYL CHLORIDE

Time of mass occurrence (week)		0～13	14～26	27～39	40～52	53～65	66～78	79～91	92～104	0～104
External mass										
	Control	0/50	0/50	0/49	3/49	2/49	2/49	4/48	6/46	12/50(1/11)
	50ppm	0/50	1/50	1/50	2/50	4/50	2/49	3/48	8/44	12/50(7/15)
	100ppm	0/50	0/50	0/50	0/50	1/50	2/50	8/50	18/47	18/50(6/17)
	200ppm	0/50	0/50	0/50	0/50	1/50	2/50	7/50	10/41	11/50(5/20)
Internal mass										
	Control	0/50	0/50	0/49	0/49	0/49	0/49	1/48	3/46	3/50(2/11)
	50ppm	0/50	0/50	0/50	0/50	0/50	0/49	1/48	2/44	3/50(1/15)
	100ppm	0/50	0/50	0/50	0/50	0/50	0/50	0/50	1/47	1/50(1/17)
	200ppm	0/50	0/50	0/50	0/50	0/50	0/50	2/50	3/41	4/50(3/20)

No. of animals with mass / No. of survival animals at first week on each period.
(No. of dead and moribund animals with mass / No. of dead and moribund animals)

TABLE 5 INCIDENCE OF EXTERNAL AND INTERNAL MASS IN CLINICAL OBSERVATION OF FEMALE RATS IN THE 2-YEAR STUDY OF 2-METHALLYL CHLORIDE

Time of mass occurrence (week)		0～13	14～26	27～39	40～52	53～65	66～78	79～91	92～104	0～104
External mass										
	Control	0/50	0/50	0/50	0/50	0/50	1/49	3/47	9/43	11/50(3/12)
	50ppm	0/50	0/50	0/50	0/50	2/50	2/50	4/47	6/45	8/50(2/10)
	100ppm	0/50	0/50	0/50	0/50	0/50	1/50	3/50	13/48	14/50(2/ 5)
	200ppm	0/50	0/50	0/50	0/49	0/49	1/48	3/48	7/47	8/50(2/ 6)
Internal mass										
	Control	0/50	0/50	0/50	0/50	0/50	0/49	3/47	3/43	5/50(5/12)
	50ppm	0/50	0/50	0/50	0/50	1/50	1/50	1/47	2/45	4/50(2/10)
	100ppm	0/50	0/50	0/50	0/50	0/50	0/50	0/50	1/48	1/50(1/ 5)
	200ppm	0/50	0/50	1/50	0/49	0/49	0/48	1/48	4/47	5/50(3/ 6)

No. of animals with mass / No. of survival animals at first week on each period.
(No. of dead and moribund animals with mass / No. of dead and moribund animals)

TABLE 6 FOOD CONSUMPTION CHANGES OF MALE RATS IN THE 2-YEAR INHALATION STUDY OF 2-METHALLYL CHLORIDE

Week on Study	Control Av.FC.	Control No.of Surviv. <50>	50 ppm Av.FC.	50 ppm % of cont. <50>	50 ppm No.of Surviv.	100 ppm Av.FC.	100 ppm % of cont. <50>	100 ppm No.of Surviv.	200 ppm Av.FC.	200 ppm % of cont. <50>	200 ppm No.of Surviv.
1	16.0 (50)	50/50	16.2 (50)	101	50/50	15.8 (50)	99	50/50	14.5 (50)	91	50/50
2	17.2 (50)	50/50	17.6 (50)	102	50/50	17.9 (50)	104	50/50	17.2 (50)	100	50/50
3	17.8 (50)	50/50	18.6 (50)	104	50/50	18.4 (50)	103	50/50	17.1 (50)	96	50/50
4	17.5 (50)	50/50	18.5 (50)	106	50/50	18.0 (50)	103	50/50	16.5 (50)	94	50/50
5	18.1 (50)	50/50	18.4 (50)	102	50/50	17.9 (50)	99	50/50	16.8 (50)	93	50/50
6	18.6 (50)	50/50	18.4 (50)	99	50/50	17.7 (50)	95	50/50	17.2 (50)	92	50/50
7	18.8 (50)	50/50	18.7 (50)	99	50/50	18.2 (50)	97	50/50	17.5 (50)	93	50/50
8	18.4 (50)	50/50	18.8 (50)	102	50/50	18.3 (50)	99	50/50	17.1 (50)	93	50/50
9	18.3 (50)	50/50	18.4 (50)	101	50/50	18.2 (50)	99	50/50	17.2 (50)	94	50/50
10	18.8 (50)	50/50	18.2 (50)	97	50/50	18.0 (50)	96	50/50	17.7 (50)	94	50/50
11	18.2 (50)	50/50	18.0 (50)	99	50/50	18.1 (50)	99	50/50	17.7 (50)	97	50/50
12	17.6 (50)	50/50	18.0 (50)	102	50/50	17.8 (50)	101	50/50	17.3 (50)	98	50/50
13	18.5 (50)	50/50	18.9 (50)	102	50/50	18.6 (50)	101	50/50	17.9 (50)	97	50/50
14	17.7 (50)	50/50	18.3 (50)	103	50/50	18.3 (50)	103	50/50	17.2 (50)	97	50/50
18	17.9 (49)	49/50	17.8 (50)	99	50/50	17.7 (46)	99	50/50	16.8 (50)	94	50/50
22	18.0 (49)	49/50	17.8 (50)	99	50/50	17.8 (50)	99	50/50	17.0 (50)	94	50/50
26	18.0 (49)	49/50	18.1 (50)	101	50/50	17.8 (50)	99	50/50	17.3 (50)	96	50/50
30	18.4 (49)	49/50	18.0 (50)	98	50/50	18.8 (50)	102	50/50	18.5 (50)	101	50/50
34	18.2 (49)	49/50	17.9 (50)	98	50/50	17.8 (50)	98	50/50	17.8 (50)	98	50/50
38	18.5 (49)	49/50	18.0 (50)	97	50/50	18.0 (50)	97	50/50	17.4 (50)	94	50/50
42	18.8 (49)	49/50	18.0 (50)	96	50/50	18.3 (50)	97	50/50	18.0 (50)	96	50/50
46	18.5 (49)	49/50	18.0 (50)	97	50/50	18.5 (50)	100	50/50	17.6 (50)	95	50/50
50	18.8 (49)	49/50	18.8 (50)	100	50/50	18.8 (50)	100	50/50	18.2 (50)	97	50/50
54	18.7 (49)	49/50	18.2 (50)	97	50/50	18.0 (50)	96	50/50	17.9 (50)	96	50/50
58	18.4 (49)	49/50	18.2 (50)	99	50/50	18.5 (50)	101	50/50	17.8 (50)	97	50/50
62	18.4 (49)	49/50	18.5 (49)	101	49/50	18.3 (50)	99	50/50	17.9 (50)	97	50/50
66	18.6 (49)	49/50	18.5 (49)	99	49/50	18.2 (50)	98	50/50	17.9 (50)	96	50/50
70	18.7 (49)	49/50	18.8 (49)	101	49/50	18.9 (50)	101	50/50	18.6 (50)	99	50/50
74	18.7 (48)	48/50	18.6 (49)	99	49/50	19.1 (50)	102	50/50	18.4 (50)	98	50/50
78	19.5 (48)	48/50	19.1 (48)	98	48/50	18.9 (50)	97	50/50	18.7 (50)	96	50/50
82	18.9 (47)	47/50	18.6 (48)	98	48/50	18.9 (50)	100	50/50	18.7 (49)	99	49/50
86	19.3 (47)	47/50	18.6 (47)	96	47/50	19.3 (49)	100	49/50	18.9 (46)	98	46/50
90	19.4 (47)	47/50	19.5 (45)	101	45/50	19.5 (49)	101	49/50	19.1 (44)	98	44/50
94	18.7 (46)	46/50	18.4 (44)	98	44/50	18.9 (44)	101	44/50	19.4 (40)	104	41/50
98	18.9 (46)	45/50	19.5 (42)	103	42/50	19.8 (43)	105	43/50	19.0 (38)	101	38/50
102	19.0 (41)	41/50	18.0 (37)	95	38/50	18.6 (37)	98	37/50	18.2 (32)	96	32/50
104	18.5 (39)	39/50	17.7 (36)	96	35/50	18.9 (33)	102	33/50	18.5 (30)	100	30/50

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

TABLE 7 FOOD CONSUMPTION CHANGES OF FEMALE RATS IN THE 2-YEAR INHALATION STUDY OF 2-METHALLYL CHLORIDE

Week on Study	Control Av.FC.	Control No.of Surviv. <50>	50 ppm Av.FC.	50 ppm % of cont. <50>	50 ppm No.of Surviv.	100 ppm Av.FC.	100 ppm % of cont. <50>	100 ppm No.of Surviv.	200 ppm Av.FC.	200 ppm % of cont. <50>	200 ppm No.of Surviv.
1	13.0 (50)	50/50	12.5 (50)	96	50/50	12.8 (50)	98	50/50	11.7 (50)	90	50/50
2	12.9 (50)	50/50	13.0 (50)	101	50/50	13.7 (50)	106	50/50	13.3 (50)	103	50/50
3	12.3 (50)	50/50	13.0 (50)	106	50/50	13.3 (50)	108	50/50	12.5 (50)	102	50/50
4	12.2 (50)	50/50	12.3 (50)	101	50/50	12.5 (48)	102	50/50	11.8 (50)	97	50/50
5	12.8 (50)	50/50	12.6 (50)	98	50/50	12.5 (50)	98	50/50	11.8 (50)	92	50/50
6	12.9 (50)	50/50	12.5 (50)	97	50/50	12.2 (50)	95	50/50	12.0 (50)	93	50/50
7	12.8 (50)	50/50	12.8 (50)	100	50/50	12.5 (50)	98	50/50	12.7 (50)	99	50/50
8	12.8 (50)	50/50	12.8 (50)	100	50/50	12.2 (50)	95	50/50	12.6 (50)	98	50/50
9	12.6 (50)	50/50	11.9 (50)	94	50/50	11.8 (50)	94	50/50	12.3 (50)	98	50/50
10	12.4 (50)	50/50	12.2 (50)	98	50/50	12.0 (50)	97	50/50	12.3 (50)	99	50/50
11	12.5 (50)	50/50	12.6 (50)	101	50/50	12.5 (50)	100	50/50	12.7 (50)	102	50/50
12	12.2 (50)	50/50	12.4 (50)	102	50/50	12.2 (50)	100	50/50	12.1 (50)	99	50/50
13	12.7 (50)	50/50	12.4 (50)	98	50/50	12.9 (50)	102	50/50	12.6 (50)	99	50/50
14	11.6 (50)	50/50	11.7 (50)	101	50/50	11.8 (50)	102	50/50	11.7 (50)	101	50/50
18	12.0 (50)	50/50	11.8 (50)	98	50/50	12.1 (50)	101	50/50	12.2 (50)	102	50/50
22	12.2 (50)	50/50	11.8 (50)	97	50/50	12.1 (50)	99	50/50	12.7 (50)	104	50/50
26	13.7 (50)	50/50	13.6 (50)	99	50/50	13.8 (50)	101	50/50	14.0 (50)	102	50/50
30	13.4 (50)	50/50	13.0 (50)	97	50/50	13.1 (50)	98	50/50	13.6 (50)	101	50/50
34	13.1 (50)	50/50	12.7 (50)	97	50/50	13.1 (50)	100	50/50	13.4 (49)	102	49/50
38	12.2 (50)	50/50	12.5 (50)	102	50/50	12.2 (50)	100	50/50	12.4 (49)	102	49/50
42	13.0 (50)	50/50	12.6 (50)	97	50/50	12.5 (50)	96	50/50	13.1 (49)	101	49/50
46	13.1 (50)	50/50	13.0 (50)	99	50/50	13.1 (50)	100	50/50	13.2 (49)	101	49/50
50	14.1 (50)	50/50	13.7 (50)	97	50/50	13.2 (50)	94	50/50	13.1 (49)	93	49/50
54	13.1 (50)	50/50	13.0 (50)	99	50/50	12.9 (50)	98	50/50	12.9 (49)	98	49/50
58	13.2 (50)	50/50	13.3 (50)	101	50/50	13.0 (50)	98	50/50	12.9 (48)	98	48/50
62	13.8 (49)	49/50	13.0 (50)	94	50/50	13.1 (50)	95	50/50	13.4 (48)	97	48/50
66	14.0 (49)	49/50	13.5 (50)	96	50/50	13.5 (50)	96	50/50	13.3 (48)	95	48/50
70	14.4 (48)	48/50	13.8 (49)	96	49/50	13.9 (50)	97	50/50	13.9 (48)	97	48/50
74	13.6 (48)	48/50	14.1 (47)	104	47/50	13.9 (50)	102	50/50	14.0 (48)	103	48/50
78	14.4 (47)	47/50	13.7 (47)	95	47/50	13.9 (50)	97	50/50	14.0 (48)	97	48/50
82	14.2 (47)	47/50	13.9 (47)	98	47/50	13.8 (50)	97	50/50	14.3 (48)	101	48/50
86	14.5 (45)	45/50	14.1 (47)	97	47/50	14.4 (49)	99	49/50	14.4 (48)	99	48/50
90	14.3 (45)	45/50	14.4 (45)	101	45/50	14.4 (49)	101	49/50	13.7 (48)	96	47/50
94	14.4 (42)	41/50	14.1 (45)	98	45/50	13.8 (48)	96	48/50	14.5 (46)	101	46/50
98	14.7 (39)	39/50	14.7 (45)	100	44/50	14.7 (48)	100	48/50	14.4 (46)	98	46/50
102	14.7 (38)	38/50	14.5 (41)	99	40/50	13.7 (47)	93	47/50	14.0 (44)	95	44/50
104	14.5 (38)	38/50	14.1 (40)	97	40/50	13.5 (46)	93	45/50	14.0 (44)	97	44/50

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

TABLE 8 NEOPLASTIC LESIONS INCIDENCE AND STATISTICAL ANALYSIS IN MALE RATS IN THE 2-YEAR INHALATION STUDY OF 2-METHALLYL CHLORIDE

Group Name	Control	50ppm	100ppm	200ppm
SITE : thyroid				
TUMOR : follicular adenoma(f)				
Tumor rate				
Overall rates(a)	2/50(4.0)	0/50(0.0)	2/50(4.0)	6/50(12.0)
Adjusted rates(b)	5.13	0.0	6.06	19.35
Terminal rates(c)	2/39(5.1)	0/35(0.0)	2/33(6.0)	5/30(16.7)
Statistical analysis				
Peto test				
Standard method(d)	P=------			
Prevalence method(d)	P=0.0052**			
Combined analysis (d)	P=------			
Cochran-Armitage test(e)	P=0.00213*			
Fisher Exact test(e)		P=0.2574	P=0.3088	P=0.1606
SITE : thyroid				
TUMOR : follicular adenoma, follicular adenocarcinoma				
Tumor rate				
Overall rates(a)	4/50(8.0)	4/50(8.0)	3/50(6.0)	10/50(20.0)
Adjusted rates(b)	10.26	11.43	9.09	27.27
Terminal rates(c)	4/39(10.3)	4/35(11.4)	3/33(9.1)	7/30(23.3)
Statistical analysis				
Peto test				
Standard method(d)	P=------			
Prevalence method(d)	P=0.0080**			
Combined analysis (d)	P=------			
Cochran-Armitage test(e)	P=0.0388*			
Fisher Exact test(e)		P=0.3579	P=0.4895	P=0.1108

(a):Number of tumor-bearing animals/number of animals examined at the site.
(b):Kaplan-Meire estimated tumor incidence at the end of the study after adjusting for intercurrent mortality.
(c):Observed tumor incidence at terminal kill.
(d):Beneath the control incidence are the P-values associated with the trend test.
Standard method :Death analysis
Prevalence method :Incidental tumor test
Combined analysis :Death analysis + Incidental tumor test
(e):The Cochran-Armitage and Fisher exact test compare directly the overall incidence rates.
(f):Historical incidence for 2-year studies: 8/899(0.9%); range 0% to 4%
?: The conditional probabities of the largest and smallest possible out comes can not be estimated or this P-value is beyond the estimated P-value.
------:There is no data which should be statistical analysis.
Significant difference; *:P≦0.05 **:P≦0.01

TABLE 9 NUMBER OF RATS WITH SELECTED NON-NEOPLASTIC LESIONS IN THE 2-YEAR INHALATION STUDY OF 2-METHALLYL CHLORIDE

Group name		Male				Female			
		Control	50ppm	100ppm	200ppm	Control	50ppm	100ppm	200ppm
Nasal cavity		<50>(39)	<50>(35)	<50>(33)	<50>(30)	<50>(38)	<50>(40)	<50>(45)	<50>(44)
eosinophilic change:olfactory ep.		28 (24)	46**(35)**	49**(33)**	46**(30)**	41 (32)	50**(40)**	50**(45)**	49**(44)**
	+	22 (18)	2 (0)	0 (0)	2 (0)	24 (17)	1 (1)	0 (0)	0 (0)
	2+	6 (6)	10 (6)	9 (1)	10 (6)	11 (9)	3 (2)	3 (2)	1 (0)
	3+	0 (0)	32 (28)	34 (26)	30 (21)	6 (6)	32 (24)	39 (35)	35 (32)
	4+	0 (0)	2 (1)	6 (6)	4 (3)	0 (0)	14 (13)	8 (8)	13 (12)
Kidney		<50>(39)	<50>(35)	<50>(33)	<50>(30)	<50>(38)	<50>(40)	<50>(45)	<50>(44)
chronic nephropathy		47 (39)	47 (35)	50 (33)	47 (30)	45 (38)	43 (36)	34* (30)**	27**(27)**
	+	1 (1)	0 (0)	1 (1)	2 (0)	14 (10)	18 (12)	19 (17)	22 (22)
	2+	3 (2)	1 (0)	5 (0)	2 (0)	18 (17)	11 (10)	9 (9)	3 (3)
	3+	31 (28)	36 (31)	30 (25)	31 (20)	11 (9)	14 (14)	5 (4)	2 (2)
	4+	12 (8)	10 (4)	14 (7)	12 (10)	2 (2)	0 (0)	1 (0)	0 (0)

Grade +:Slight 2+:Moderate 3+:Marked 4+:Severe
< >:Number of animals examined at the site
( ):Sacrificed animals
Significant difference *:P≦0.05 **:P≦0.01 Test of Chi square

TABLE 10 CAUSE OF DEATH OF RATS IN THE 2-YEAR INHALATION STUDY OF 2-METHALLYL CHLORIDE

	Male				Female			
Group	Control	50ppm	100ppm	200ppm	Control	50ppm	100ppm	200ppm
Number of dead or moribund animals	11	15	17	20	12	10	5	6
No microscopical confirmation	0	0	0	0	0	0	0	1
Chronic nephropathy	4	6	6	2	0	0	0	0
Urinary retention	0	1	0	0	0	0	0	0
Tumor death : leukemia	2	1	2	4	3	4	1	2
skin/apendage	0	0	0	1	0	0	0	0
subcutis	0	0	3	0	0	0	0	0
lung	0	0	0	1	0	0	0	0
thymus	0	0	0	0	0	1	0	0
oral cavity	0	1	0	0	0	0	0	0
salivary gland	0	0	0	1	0	0	0	0
small intestine	0	0	0	1	0	0	0	1
large intestine	0	0	0	1	0	0	0	0
liver	0	1	0	0	0	0	0	1
pituitary	1	0	2	2	4	2	3	1
thyroid	0	0	1	0	1	0	0	0
adrenal	0	2	0	0	3	0	0	0
prostate	1	0	0	0	-	-	-	-
uterus	-	-	-	-	0	1	1	0
mammary gland	0	0	0	0	0	2	0	0
brain	2	0	0	2	0	0	0	0
Zymbal gland	0	0	2	1	0	0	0	0
muscle	0	1	0	0	0	0	0	0
bone	0	0	0	1	1	0	0	0
mediastinum	0	0	0	1	0	0	0	0
peritoneum	1	2	1	2	0	0	0	0