

シクロヘキセンのマウスを用いた  
吸入による 2 週間毒性試験報告書

試験番号：0359

# TABLES

## TABLES

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TABLE 1 EXPERIMENTAL DESIGN AND MATERIALS AND METHODS  
IN THE 2-WEEK INHALATION STUDY OF CYCLOHEXENE

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<Method of Administration>	
Inhalation	
<Number of Groups>	
Male 6, Female 6	
<Size of Groups>	
5 males and 5 females of each group	
<Animals>	
Strain and Species	
Crj:BDF1 mouse	
Animal Source	
Charles River Japan, Inc.	
Duration Held Before Study	
2 wk	
Age When Placed on Study	
6 wk	
Age When Killed	
8 wk	
<Doses>	
Male and Female	
0, 600, 1200, 2400, 4800 or 9600ppm	
<Duration of Dosing>	
6 h/d, 5 d/wk for 2 wk	
<Animal Maintenance>	
Feed	
CRF-1 (Oriental Yeast Co., Ltd.)	
Sterilized by $\gamma$ -ray	
Available <i>ad libitum</i>	
Water	
Filtrated and sterilized by ultraviolet ray	
Automatic watering system	
Available <i>ad libitum</i>	
Animal per Cage	
Single (stainless steel wire)	
Animal Room Environment	
Barrier system	
Temperature	: 21±2°C
Humidity	: 55±15%
Fluorescent light 12 h/d	
15~17 room air changes /h	
Chamber Environment	
Barrier system	
Temperature	: 20~24°C
Humidity	: 30~70%
12±1 air changes /h	
<Type and Frequency of Observation>	
Clinical Sign	
Clinical Sign	
Before the exposure : 1-2, 1-4, 1-7, 2-3 and 2-7 (wk-d)	
During the exposure : First day( 0.5, 1.5, 3.5 and 5.5 hour)	
Observed 1 or 2 per day for mortality	
Body Weight	
Weighed 0-0, 1-2, 1-4, 1-7, 2-3 and 2-7(wk-d)	
Food Consumption	
Weighed 1-7 and 2-7(wk-d)	

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TABLE 1 EXPERIMENTAL DESIGN AND MATERIALS AND METHODS  
(Continued) IN THE 2-WEEK INHALATION STUDY OF CYCLOHEXENE

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<Hematology>

Hematological examination performed on all animals per sex per groups.  
(schedule sacrificed animals)

The following measurement parameters were examined;

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>

Biochemistrical examination performed on all animals per sex per groups.  
(schedule sacrificed animals)

The following measurement parameters were examined;

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),  
 $\gamma$  -Glutamyl transpeptidase ( $\gamma$  -GTP),  
Creatine phosphokinase (CPK),  
Urea nitrogen,  
Sodium, Potassium, Chloride,  
Calcium, Inorganic phosphorus.

<Necropsy>

Necropsy performed on all animals.

<Organ Weight>

Organ weight measurement performed on five animals per sex per groups.  
(schedule sacrificed animals)

The following organs were weighed;

thymus, adrenal, testis, ovary, heart, lung, kidney, spleen, liver, brain.

<Histopathologic Examination>

Histopathologic examination performed on all animals per sex per groups.  
(dead animals and schedule sacrificed animals)

The following organs were examined;

skin, nasal cavity, nasopharynx, larynx, trachea, lung,  
bone marrow, lymph node, thymus, spleen, heart, tongue,  
salivary gland, esophagus, stomach, small intestine,  
large intestine, liver, gall bladder, pancreas, kidney, urinary bladder,  
pituitary, thyroid, parathyroid, adrenal, testis, epididymis, seminal vesicle,  
prostate, ovary, uterus, vagina, mammary gland,  
brain, spinal cord, peripheral nerve, eye, harderian gland, muscle, bone.

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

Week-Day on Study	0ppm		600ppm		1200ppm		2400ppm		4800ppm		9600ppm			
	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.
	<5>	<5>	<5>	<5>	<5>	<5>	<5>	<5>	<5>	<5>	<5>	<5>	<5>	<5>
0-0	22.3	(5) 5/5	22.4	(5) 100	5/5	22.4	(5) 100	5/5	22.4	(5) 100	5/5	22.3	(5) 100	5/5
1-1	—	5/5	—	—	5/5	—	—	5/5	—	—	4/5	—	—	0/5
1-2	23.0	(5) 5/5	22.1	(5) 96	5/5	19.8	(5) 86	5/5	—	—	0/5	—	—	0/5
1-3	—	5/5	—	—	5/5	—	—	0/5	—	—	0/5	—	—	0/5
1-4	23.3	(5) 5/5	20.6	(5) 88	5/5	—	—	0/5	—	—	0/5	—	—	0/5
1-5	—	5/5	—	—	5/5	—	—	0/5	—	—	0/5	—	—	0/5
1-6	—	5/5	—	—	4/5	—	—	0/5	—	—	0/5	—	—	0/5
1-7	23.9	(5) 5/5	21.2	(4) 89	4/5	—	—	0/5	—	—	0/5	—	—	0/5
2-1	—	5/5	—	—	4/5	—	—	0/5	—	—	0/5	—	—	0/5
2-2	—	5/5	—	—	4/5	—	—	0/5	—	—	0/5	—	—	0/5
2-3	24.4	(5) 5/5	18.6	(3) 76	3/5	—	—	0/5	—	—	0/5	—	—	0/5
2-4	—	5/5	—	—	2/5	—	—	0/5	—	—	0/5	—	—	0/5
2-5	—	5/5	—	—	2/5	—	—	0/5	—	—	0/5	—	—	0/5
2-6	—	5/5	—	—	2/5	—	—	0/5	—	—	0/5	—	—	0/5
2-7	25.2	(5) 5/5	18.1	(2) 72	2/5	—	—	0/5	—	—	0/5	—	—	0/5

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

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

Week-Day on Study	0ppm		600ppm		1200ppm		2400ppm		4800ppm		9600ppm			
	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.
	<5>	<5>	<5>	<5>	<5>	<5>	<5>	<5>	<5>	<5>	<5>	<5>	<5>	<5>
0-0	18.2	(5) 5/5	18.1	(5) 99	5/5	18.1	(5) 99	5/5	18.2	(5) 100	5/5	18.2	(5) 100	5/5
1-1	—	5/5	—	—	5/5	—	—	5/5	—	—	5/5	—	—	0/5
1-2	18.1	(5) 5/5	17.9	(5) 99	5/5	17.3	(5) 96	5/5	16.0	(4) 88	4/5	—	—	0/5
1-3	—	5/5	—	—	5/5	—	—	0/5	—	—	0/5	—	—	0/5
1-4	18.3	(5) 5/5	18.7	(5) 102	5/5	—	—	0/5	—	—	0/5	—	—	0/5
1-5	—	5/5	—	—	5/5	—	—	0/5	—	—	0/5	—	—	0/5
1-6	—	5/5	—	—	5/5	—	—	0/5	—	—	0/5	—	—	0/5
1-7	18.9	(5) 5/5	18.9	(5) 100	5/5	—	—	0/5	—	—	0/5	—	—	0/5
2-1	—	5/5	—	—	5/5	—	—	0/5	—	—	0/5	—	—	0/5
2-2	—	5/5	—	—	5/5	—	—	0/5	—	—	0/5	—	—	0/5
2-3	18.9	(5) 5/5	19.7	(5) 104	5/5	—	—	0/5	—	—	0/5	—	—	0/5
2-4	—	5/5	—	—	5/5	—	—	0/5	—	—	0/5	—	—	0/5
2-5	—	5/5	—	—	5/5	—	—	0/5	—	—	0/5	—	—	0/5
2-6	—	5/5	—	—	5/5	—	—	0/5	—	—	0/5	—	—	0/5
2-7	20.2	(5) 5/5	18.3	(5) 91	5/5	—	—	0/5	—	—	0/5	—	—	0/5

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

TABLE 4 CLINICAL OBSERVATION FIRST DAY DURING EXPOSURE OF MALE MICE IN THE 2-WEEK INHALATION STUDY OF CYCLOHEXENE

Group name	First day during exposure			
	0.5hour	1.5hour	3.5hour	5.5hour
9600ppm	Locomotor movement decreased Ataxic gait Tachypnea	Locomotor movement decreased Lateral Tachypnea	Death	Death
4800ppm	Non remarkable	Non remarkable	Ataxic gait Convulsion	Locomotor movement decreased Lateral Deep breathing
2400ppm	Non remarkable	Non remarkable	Non remarkable	Locomotor movement decreased Ataxic gait Convulsion
1200ppm ~ 0ppm	Non remarkable	Non remarkable	Non remarkable	Non remarkable

TABLE 5 CLINICAL OBSERVATION FIRST DAY DURING EXPOSURE OF FEMALE MICE IN THE 2-WEEK INHALATION STUDY OF CYCLOHEXENE

Group name	First day during exposure			
	0.5hour	1.5hour	3.5hour	5.5hour
9600ppm	Locomotor movement decreased Ataxic gait Tachypnea	Locomotor movement decreased Lateral Tachypnea	Death	Death
4800ppm	Non remarkable	Non remarkable	Ataxic gait Convulsion	Locomotor movement decreased Lateral Convulsion
2400ppm ~ 0ppm	Non remarkable	Non remarkable	Non remarkable	Non remarkable

TABLE 6 FOOD CONSUMPTION CHANGES OF MALE MICE IN THE 2-WEEK INHALATION STUDY OF CYCLOHEXENE

Week-Day on Study	0ppm		600ppm			1200ppm			2400ppm			4800ppm			9600ppm		
	Av.FC.	No.of Surviv. <5>	Av.FC.	% of cont. <5>	No.of Surviv.	Av.FC.	% of cont. <5>	No.of Surviv.	Av.FC.	% of cont. <5>	No.of Surviv.	Av.FC.	% of cont. <5>	No.of Surviv.	Av.FC.	% of cont. <5>	No.of Surviv.
1-7	4.5 (5)	5/5	3.5 (4)	78	4/5	- (-)	-	0/5	- (-)	-	0/5	- (-)	-	0/5	- (-)	-	0/5
2-7	4.4 (5)	5/5	3.2 (2)	73	2/5	- (-)	-	0/5	- (-)	-	0/5	- (-)	-	0/5	- (-)	-	0/5

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

TABLE 7 FOOD CONSUMPTION CHANGES OF FEMALE MICE IN THE 2-WEEK INHALATION STUDY OF CYCLOHEXENE

Week-Day on Study	0ppm		600ppm			1200ppm			2400ppm			4800ppm			9600ppm		
	Av.FC.	No.of Surviv. <5>	Av.FC.	% of cont. <5>	No.of Surviv.	Av.FC.	% of cont. <5>	No.of Surviv.	Av.FC.	% of cont. <5>	No.of Surviv.	Av.FC.	% of cont. <5>	No.of Surviv.	Av.FC.	% of cont. <5>	No.of Surviv.
1-7	3.5 (5)	5/5	3.7 (5)	106	5/5	- (-)	-	0/5	- (-)	-	0/5	- (-)	-	0/5	- (-)	-	0/5
2-7	3.7 (5)	5/5	3.4 (5)	92	5/5	- (-)	-	0/5	- (-)	-	0/5	- (-)	-	0/5	- (-)	-	0/5

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