

Table 33 General appearance in F1 and F2 male rat pups and weanlings during postnatal days 0-26 treated with N,N-Dicyclohexyl-2-benzothiazolesulfenamide (DCBS) in the two-generation reproductive toxicity study (SR05241)

Generation	Item	Postnatal day 0		
		Control	80	DCBS (ppm) 600 4500
F1	Number of litters examined	22	24	24
	Number of pups examined	149	175	167
	Number of pups with abnormal findings	2 (0.98)	2 (1.46)	1 (0.42)
	Findings ^a			1 (1.39)
	Found dead	2 (0.98)	2 (1.46)	1 (0.42)
				1 (1.39)
F2	Number of litters examined	23	22	21
	Number of pups examined	143	143	147
	Number of pups with abnormal findings	0 (0.00)	1 (0.65)	2 (1.55)
	Findings ^a			8 (4.67)*
	Found dead	0 (0.00)	1 (0.65)	2 (1.55)
				8 (4.67)*

Values in parentheses represent the means of incidences of pups with abnormal findings (%), the litter is the unit evaluated.

a: Values represent the number of pups that showed abnormal findings.

*: Significantly different from the control at $p \leq 0.05$ by Wilcoxon rank-sum test.

(to be continued)

Table 33 (continued-1) General appearance in F1 and F2 male rat pups and weanlings during postnatal days 0-26 treated with N,N-Dicyclohexyl-2-benzothiazolesulfenamide (DCBS) in the two-generation reproductive toxicity study (SR05241)

Generation	Item	Postnatal days 1-4			
		Control	80	600	4500
F1	Number of litters examined	22	24	24	24
	Number of pups examined	147	173	166	157
	Number of pups with abnormal findings	1 (0.91)	3 (1.40)	8 (4.73)	3 (1.74)
	Findings ^a				
	Found dead/lost	1 (0.91)	3 (1.40)	8 (4.73)	3 (1.74)
F2	Number of litters examined	23	22	21	24
	Number of pups examined	143	142	145	155
	Number of pups with abnormal findings	6 (4.09)	9 (4.55)	11 (7.80)	18 (12.56)
	Findings ^a				
	Scab on auricle	0 (0.00)	0 (0.00)	1 (0.68)	0 (0.00)
	Found dead/lost	6 (4.09)	9 (4.55)	10 (7.12)	18 (12.56)

(to be continued)

Values in parentheses represent the means of incidences of pups with abnormal findings (%), the litter is the unit evaluated).

a: Values represent the number of pups that showed abnormal findings.

Table 33 (continued-2) General appearance in F1 and F2 male rat pups and weanlings during postnatal days 0-26 treated with N,N-Dicyclohexyl-2-benzothiazolesulfenamide (DCBS) in the two-generation reproductive toxicity study (SR05241)

Generation	Item	Postnatal days 5-21			
		Control	80	600	4500
F1	Number of litters examined	22	24	24	24
	Number of pups examined	86	98	95	97
	Number of pups with abnormal findings	0 (0.00)	1 (1.04)	1 (1.39)	0 (0.00)
Findings ^a					
Found dead/lost		0 (0.00)	1 (1.04)	1 (1.39)	0 (0.00)
F2	Number of litters examined	23	22	21	23
	Number of pups examined	87	81	81	92
	Number of pups with abnormal findings	0 (0.00)	1 (1.14)	2 (2.38)	2 (2.17)
Findings ^a					
Microphthalmia		0 (0.00)	1 (1.14)	0 (0.00)	0 (0.00)
Lost		0 (0.00)	0 (0.00)	2 (2.38)	2 (2.17)

(to be continued)

Values in parentheses represent the means of incidences of pups with abnormal findings (%), the litter is the unit evaluated).

a: Values represent the number of pups that showed abnormal findings.

Table 33 (continued-3) General appearance in F1 and F2 male rat pups and weanlings during postnatal days 0-26 treated with N,N-Dicyclohexyl-2-benzothiazoleulfenamide (DCBS) in the two-generation reproductive toxicity study (SR05241)

Generation	Item	Postnatal days 22-26			
		Control	80	DCBS (ppm) 600	4500
F1	Number of litters examined	22	24	24	24
	Number of weanlings examined	86	97	94	97
	Number of weanlings with abnormal findings	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
F2	Number of litters examined	22	22	21	23
	Number of weanlings examined	83	81	79	90
	Number of weanlings with abnormal findings	0 (0.00)	1 (1.14)	0 (0.00)	0 (0.00)
Findings ^a					
Microphthalmia		0 (0.00)	1 (1.14)	0 (0.00)	0 (0.00)

Values in parentheses represent the means of incidences of weanlings with abnormal findings (% the litter is the unit evaluated).

a. Values represent the number of weanlings that showed abnormal findings.

Table 34 General appearance in F1 and F2 female rat pups and weanlings during postnatal days 0-26 treated with N,N-Dicyclohexyl-2-benzothiazolesulfenamide (DCBS) in the two-generation reproductive toxicity study (SR05241)

Generation Item	Postnatal day 0				
	Control	80	600	4500	
F1	Number of litters examined	22	24	24	24
	Number of pups examined	133	141	163	143
	Number of pups with abnormal findings ^a	1 (0.45)	0 (0.00)	0 (0.00)	2 (1.22)
Found dead	1 (0.45)	0 (0.00)	0 (0.00)	2 (1.22)	
F2	Number of litters examined	23	22	20	24
	Number of pups examined	150	134	117	149
	Number of pups with abnormal findings ^a	4 (2.42)	0 (0.00)*	2 (1.83)	4 (2.43)
Found dead	4 (2.42)	0 (0.00)*	2 (1.83)	4 (2.43)	

(to be continued)

Values in parentheses represent the means of incidences of pups with abnormal findings (% the litter is the unit evaluated).
^a: Values represent the number of pups that showed abnormal findings.
 *: Significantly different from the control at $p \leq 0.05$ by Wilcoxon rank-sum test

Table 34 (continued-1) General appearance in F1 and F2 female rat pups and weanlings during postnatal days 0-26 treated with N,N-Dicyclohexyl-2-benzothiazolesulfenamide (DCBS) in the two-generation reproductive toxicity study (SR05241)

Generation	Item	Postnatal days 1-4		
		Control	80	DCBS (ppm) 600
F1	Number of litters examined	22	24	24
	Number of pups examined	132	141	163
	Number of pups with abnormal findings	4 (3.05)	3 (1.81)	3 (1.88)
	Findings ^a			4 (2.22)
F1	Trauma and scab on forelimb	1 (0.76)	0 (0.00)	0 (0.00)
	Found dead/lost	3 (2.29)	3 (1.81)	3 (1.88)
				4 (2.22)
F2	Number of litters examined	23	22	20
	Number of pups examined	146	134	115
F2	Number of pups with abnormal findings	8 (3.98)	10 (7.05)	5 (4.43)
	Findings ^a			16 (10.68)
	Scab on hindlimb	0 (0.00)	1 (0.76)	0 (0.00)
	Found dead/lost	8 (3.98)	9 (6.29)	5 (4.43)
				16 (10.68)

(to be continued)

Values in parentheses represent the means of incidences of pups with abnormal findings (%), the litter is the unit evaluated).

a: Values represent the number of pups that showed abnormal findings.

Table 34 (continued-2) General appearance in F1 and F2 female rat pups and weanlings during postnatal days 0-26 treated with N,N-Dicyclohexyl-2-benzothiazolesulfenamide (DCBS) in the two-generation reproductive toxicity study (SR05241)

Generation	Item	Postnatal days 5-21		
		Control	80	DCBS (ppm) 600 4500
F1	Number of litters examined	22	24	24
	Number of pups examined	88	94	95
	Number of pups with abnormal findings	0 (0.00)	1 (1.04)	0 (0.00)
	Findings ^a Found dead/lost		1 (1.04)	0 (0.00)
F2	Number of litters examined	23	22	20
	Number of pups examined	90	80	77
	Number of pups with abnormal findings	0 (0.00)	0 (0.00)	3 (4.17)
	Findings ^a Found dead/lost		0 (0.00)	3 (4.17)

(to be continued)

Values in parentheses represent the means of incidences of pups with abnormal findings (%), the litter is the unit evaluated).

a: Values represent the number of pups that showed abnormal findings.

Table 34 (continued-3) General appearance in F1 and F2 female rat pups and weanlings during postnatal days 0-26 treated with N,N-Dicyclohexyl-2-benzothiazolesulfenamide (DCBS) in the two-generation reproductive toxicity study (SR05241)

Generation	Item	Postnatal days 22-26		
		Control	80	DCBS (ppm) 600
F1	Number of litters examined	22	24	24
	Number of weanlings examined	88	93	97
	Number of weanlings with abnormal findings	0 (0.00)	2 (2.08)	0 (0.00)
Findings ^a				
Found dead				
		0 (0.00)	2 (2.08)	0 (0.00)
F2	Number of litters examined	22	22	20
	Number of weanlings examined	86	80	74
	Number of weanlings with abnormal findings	0 (0.00)	0 (0.00)	0 (0.00)

Values in parentheses represent the means of incidences of weanlings with abnormal findings (% the litter is the unit evaluated).

a: Values represent the number of weanlings that showed abnormal findings.

Table 35 Body weights of F1 and F2 rat pups treated with N,N-Dicyclohexyl-2-benzothiazolesulfenamide (DCBS) in the two-generation reproductive toxicity study (SR05241)

Generation	Group	Number of litters	Male						Female					
			Body weight (g) on postnatal day			Body weight (g) on postnatal day			Body weight (g) on postnatal day			Body weight (g) on postnatal day		
			0	4	7	14	21	28	0	4	7	14	21	28
F1	Control	Mean	6.9	11.2	18.6	37.2	62.3	6.5	10.9	18.1	36.3	60.7		
		S.D.	0.5	1.1	1.8	3.6	5.6	0.5	1.3	1.9	3.5	5.2		
	DCBS 80 ppm	Mean	6.7	10.5	18.1	36.8	62.2	6.3	10.1	17.1	34.8	58.5		
		S.D.	0.6	1.2	1.7	2.4	3.7	0.5	1.4	2.3	3.6	6.0		
DCBS 600 ppm	Mean	6.7	10.5	17.7	36.0	60.2	6.3	10.0	17.2	35.0	58.2			
	S.D.	0.6	1.4	2.5	4.0	6.3	0.5	1.2	2.3	4.0	6.5			
DCBS 4500 ppm	Mean	6.6	10.3 *	16.7 **	33.6 **	55.3 **	6.3	9.9 *	16.2 **	32.8 **	53.7 **			
	S.D.	0.7	1.0	1.6	2.5	4.8	0.6	1.0	1.4	2.6	4.5			
F2	Control	Mean	6.8	11.0	18.5	37.1	62.5	6.5	10.5	17.6	35.9	59.6		
		S.D.	0.9	2.3	2.7	4.0	7.0	1.0	2.3	2.9	4.1	6.6		
	DCBS 80 ppm	Mean	6.7	11.1	18.4	37.8	63.4	6.3	10.5	17.7	36.6	60.7		
		S.D.	0.8	2.6	3.8	6.3	9.4	0.7	2.5	3.8	5.7	8.5		
DCBS 600 ppm	Mean	6.7	10.0	17.1	35.5	60.6	6.3	9.7	16.3	33.5	56.3			
	S.D.	0.5	2.1	2.8	3.8	5.6	0.4	2.0	2.8	4.9	7.0			
DCBS 4500 ppm	Mean	6.7	10.0	15.9 *	32.3 **	53.5 **	6.3	9.5	15.5	31.7 *	52.0 **			
	S.D.	0.6	1.4	2.3	4.1	5.9	0.7	1.5	2.2	3.9	5.7			

Values in parentheses are the number of litters examined.

*: Significantly different from the control at $p \leq 0.05$ by Dunnett's test.

** : Significantly different from the control at $p \leq 0.01$ by Dunnett's test.

***: Significantly different from the control at $p \leq 0.001$ by Mann-Whitney U-test.

Table 36 Anogenital distance of F1 and F2 rat pups on postnatal day 4 treated with N,N-Dicyclohexyl-2-benzothiazolesulfenamide (DCBS) in the two-generation reproductive toxicity study (SR05241)

Generation	Group	Number of litters	Male			Female		
			AGD (mm)	AGD/(BW) ^{1/3}	AGD (mm)	AGD (mm)	AGD/(BW) ^{1/3}	
F1	Control	22	Mean	2.51	3.02	1.36		
			S.D.	0.09	0.11	0.05		
		24	Mean	2.52	2.95	1.37		
DCBS 80 ppm	24	S.D.	0.08	0.14	0.06			
		24	Mean	2.52	2.99	1.39		
	DCBS 600 ppm	24	S.D.	0.41	0.14	0.04		
24			Mean	2.55	2.96	1.38		
DCBS 4500 ppm		24	S.D.	0.28	0.14	0.04		
	23		Mean	2.50	2.93	1.34		
	F2	Control	S.D.	0.51	0.19	0.04		
22			Mean	2.53	2.91	1.34		
DCBS 80 ppm		22	S.D.	0.55	0.22	0.06		
	21		Mean	2.51	(20)	1.35		
	DCBS 600 ppm	21	S.D.	0.56	0.19	0.03		
23			Mean	2.55	2.85	1.35		
DCBS 4500 ppm		23	S.D.	0.38	0.18	0.05		

Values in parentheses are the number of litters examined.

AGD: Anogenital distance.

BW: Body weight.

Table 37 Physical development in F1 and F2 rat pups treated with N,N-Dicyclohexyl-2-benzothiazolesulfenamide (DCBS) in the two-generation reproductive toxicity study (SR05241)

Generation	Group	Number of litters	Male										Female																					
			Pinna detachment					Incisor eruption					Eye opening					Pinna detachment					Incisor eruption					Eye opening						
			Completion rate (%) on postnatal day		Age at completion (days)			Completion rate (%) on postnatal day		Age at completion (days)			Completion rate (%) on postnatal day		Age at completion (days)			Completion rate (%) on postnatal day		Age at completion (days)			Completion rate (%) on postnatal day		Age at completion (days)									
F1	Control	22	Mean	6.3	25.5	95.9	100.0	10.2	14.5	6.4	33.9	97.2	100.0	10.1	14.4	6.4	33.9	97.2	100.0	10.1	14.4	6.4	33.9	97.2	100.0	10.1	14.4	6.4	33.9	97.2	100.0	10.1	14.4	
			S.D.	18.3	35.3	11.3	0.0	0.6	21.0	38.9	7.6	0.0	0.6	21.0	38.9	7.6	0.0	0.6	21.0	38.9	7.6	0.0	0.6	21.0	38.9	7.6	0.0	0.6	21.0	38.9	7.6	0.0	0.6	
	DCBS 80 ppm	24	Mean	1.2	31.2	93.8	100.0	10.8**	14.5	3.5	39.3	93.4	99.4	10.7**	14.5	3.5	39.3	93.4	99.4	10.7**	14.5	3.5	39.3	93.4	99.4	10.7**	14.5	3.5	39.3	93.4	99.4	10.7**	14.5	
			S.D.	4.0	41.7	15.1	0.0	0.6	8.6	43.4	15.7	2.9	0.7	8.6	43.4	15.7	2.9	0.7	8.6	43.4	15.7	2.9	0.7	8.6	43.4	15.7	2.9	0.7	8.6	43.4	15.7	2.9	0.7	
	DCBS 600 ppm	24	Mean	0.0	15.2	94.4	100.0	10.3	14.7	0.0	20.0	93.3	100.0	10.2	14.4	0.0	20.0	93.3	100.0	10.2	14.4	0.0	20.0	93.3	100.0	10.2	14.4	0.0	20.0	93.3	100.0	10.2	14.4	
			S.D.	0.0	22.8	20.7	0.0	0.6	0.5	0.5	0.0	32.4	21.1	0.0	0.7	0.4	0.5	0.5	0.0	32.4	21.1	0.0	0.7	0.4	0.5	0.5	0.0	32.4	21.1	0.0	0.7	0.4		
	DCBS 4500 ppm	24	Mean	5.0	23.6	99.3	100.0	10.5	14.6	4.2	27.1	99.5	100.0	10.2	14.5	20.4	34.4	2.3	0.0	0.6	10.2	14.5	20.4	34.4	2.3	0.0	0.6	10.2	14.5	20.4	34.4	2.3	0.0	
			S.D.	16.9	33.7	3.4	0.0	0.4	0.5	0.5	20.4	34.4	2.3	0.0	0.6	10.2	14.5	20.4	34.4	2.3	0.0	0.6	10.2	14.5	20.4	34.4	2.3	0.0	0.6	10.2	14.5	20.4	34.4	2.3
	F2	Control	23	Mean	13.8	30.0	87.2	100.0	9.7	14.4	10.3	30.2	88.0	99.1	9.8	14.3	10.3	30.2	88.0	99.1	9.8	14.3	10.3	30.2	88.0	99.1	9.8	14.3	10.3	30.2	88.0	99.1	9.8	14.3
				S.D.	32.0	44.2	29.1	0.0	0.7	0.7	0.7	28.4	40.0	29.2	4.2	0.7	28.4	40.0	29.2	4.2	0.7	28.4	40.0	29.2	4.2	0.7	28.4	40.0	29.2	4.2	0.7	28.4	40.0	29.2
		DCBS 80 ppm	22	Mean	9.1	28.6	91.5	100.0	10.6**	14.6	7.6	30.8	91.7	97.7	10.4*	14.4	7.6	30.8	91.7	97.7	10.4*	14.4	7.6	30.8	91.7	97.7	10.4*	14.4	7.6	30.8	91.7	97.7	10.4*	14.4
				S.D.	29.4	41.1	23.1	0.0	0.9	0.8	0.8	25.1	43.8	22.4	10.7	0.8	25.1	43.8	22.4	10.7	0.8	25.1	43.8	22.4	10.7	0.8	25.1	43.8	22.4	10.7	0.8	25.1	43.8	22.4
DCBS 600 ppm		21	Mean	3.1	26.1	86.6	100.0	9.9	14.3	0.7	26.1	91.7	100.0	10.0	14.4	0.7	26.1	91.7	100.0	10.0	14.4	0.7	26.1	91.7	100.0	10.0	14.4	0.7	26.1	91.7	100.0	10.0	14.4	
			S.D.	11.2	40.5	23.2	0.0	0.6	0.7	0.7	3.2	37.8	15.0	0.0	0.6	3.2	37.8	15.0	0.0	0.6	3.2	37.8	15.0	0.0	0.6	3.2	37.8	15.0	0.0	0.6	3.2	37.8	15.0	0.0
DCBS 4500 ppm		24	Mean	1.7	31.7	92.4	100.0	10.3*	14.6	3.6	40.2	92.6	100.0	10.4*	14.5	15.4	40.0	18.3	0.0	0.6	10.4*	14.5	15.4	40.0	18.3	0.0	0.6	10.4*	14.5	15.4	40.0	18.3	0.0	
			S.D.	8.2	38.8	18.0	0.0	0.8	0.6	0.6	15.4	40.0	18.3	0.0	0.6	15.4	40.0	18.3	0.0	0.6	15.4	40.0	18.3	0.0	0.6	15.4	40.0	18.3	0.0	0.6	15.4	40.0	18.3	0.0

Values in parentheses are the number of litters examined.
 *: Significantly different from the control at $p \leq 0.05$ by Dunnett's test.
 **: Significantly different from the control at $p \leq 0.01$ by Dunnett's test.

Table 38 Reflex response tests in F1 and F2 rat pups treated with N,N-Dicyclohexyl-2-benzothiazolesulfenamide (DCBS) in the two-generation reproductive toxicity study (SR05241)

Generation	Group	Number of animals	Male						Female													
			Surface			Negative			Air			Surface			Negative			Air				
			righting reflex Success rate (%)	Response time (sec)	Completion ratio (%)	geotaxis reflex Completion ratio (%)	Response time (sec)	Success rate (%)	righting reflex Success rate (%)	Response time (sec)	Completion ratio (%)	geotaxis reflex Completion ratio (%)	Response time (sec)	Success rate (%)	righting reflex Success rate (%)	Response time (sec)	Completion ratio (%)	geotaxis reflex Completion ratio (%)	Response time (sec)	Success rate (%)		
F1	Control	Mean	100.0	2.1	22/22	14.5	100.0	100.0	2.8	22/22	15.3	100.0	100.0	2.8	22/22	15.3	100.0	100.0	2.8	22/22	15.3	100.0
		S.D.	0.0	1.6	(100.0)	8.0	0.0	0.0	0.0	3.4	(100.0)	6.8	0.0	0.0	0.0	(100.0)	6.8	0.0	0.0	0.0	(100.0)	6.8
	DCBS 80 ppm	Mean	100.0	1.5	24/24	15.4	100.0	100.0	1.6	24/24	14.1	100.0	100.0	1.6	24/24	14.1	100.0	100.0	1.6	24/24	14.1	100.0
		S.D.	0.0	0.5	(100.0)	8.2	0.0	0.0	0.0	0.6	(100.0)	6.0	0.0	0.0	0.0	(100.0)	6.0	0.0	0.0	0.0	(100.0)	6.0
DCBS 600 ppm	Mean	100.0	2.4	24/24	13.8	100.0	100.0	1.9	24/24	15.4	100.0	100.0	1.9	24/24	15.4	100.0	100.0	1.9	24/24	15.4	100.0	
	S.D.	0.0	2.3	(100.0)	6.4	0.0	0.0	0.0	0.9	(100.0)	6.2	0.0	0.0	0.0	(100.0)	6.2	0.0	0.0	0.0	(100.0)	6.2	0.0
DCBS 4500 ppm	Mean	100.0	1.8	24/24	16.0	100.0	100.0	3.4	24/24	18.3	100.0	100.0	3.4	24/24	18.3	100.0	100.0	3.4	24/24	18.3	100.0	
	S.D.	0.0	1.2	(100.0)	7.5	0.0	0.0	0.0	3.9	(100.0)	7.6	0.0	0.0	0.0	(100.0)	7.6	0.0	0.0	0.0	(100.0)	7.6	0.0
F2	Control	Mean	100.0	2.5	22/22	15.3	100.0	100.0	2.6	22/22	16.9	100.0	100.0	2.6	22/22	16.9	100.0	100.0	2.6	22/22	16.9	100.0
		S.D.	0.0	1.6	(100.0)	6.3	0.0	0.0	0.0	1.8	(100.0)	7.2	0.0	0.0	0.0	(100.0)	7.2	0.0	0.0	0.0	(100.0)	7.2
	DCBS 80 ppm	Mean	100.0	2.2	22/22	17.2	98.5	97.0	2.4	22/22	14.0	100.0	97.0	2.4	22/22	14.0	100.0	97.0	2.4	22/22	14.0	100.0
		S.D.	0.0	1.8	(100.0)	7.4	7.1	14.2	2.0	(21)	6.5	0.0	0.0	2.0	(100.0)	6.5	0.0	0.0	2.0	(100.0)	6.5	0.0
DCBS 600 ppm	Mean	100.0	1.7	21/21	14.4	100.0	100.0	2.5	20/20	12.6	100.0	100.0	2.5	20/20	12.6	100.0	98.3	2.5	20/20	12.6	98.3	
	S.D.	0.0	0.5	(100.0)	5.7	0.0	0.0	1.7	(20)	8.1	0.0	0.0	1.7	(100.0)	8.1	0.0	7.4	1.7	(100.0)	8.1	7.4	
DCBS 4500 ppm	Mean	100.0	2.1	23/23	16.1	100.0	100.0	3.2	22/23	16.0	100.0	100.0	3.2	22/23	16.0	100.0	100.0	3.2	22/23	16.0	100.0	
	S.D.	0.0	1.9	(100.0)	4.9	0.0	0.0	4.5	(95.7)	6.2	0.0	0.0	4.5	(95.7)	6.2	0.0	0.0	4.5	(95.7)	6.2	0.0	

Surface righting reflex, negative geotaxis reflex and air righting reflex were examined on postnatal day 5, 8 and 18, respectively. Completion ratio (%) = (number of animals showing positive response/number of animals examined) x 100. Values in parentheses are the number of animals examined.

Table 39 Autopsy findings in F1 and F2 male rat pups euthanized on postnatal day 4 or found dead on postnatal days 0-4 treated with N,N-Dicyclohexyl-2-benzothiazolesulfenamide (DCBS) in the two-generation reproductive toxicity study (SR05241)

Generation	Item	Control		DCBS (ppm)	
		80	4500	600	4500
F1	Number of litters examined	17	23	21	21
	Number of pups examined	62	77	67	61
	Number of pups with abnormal findings	0 (0.00)	1 (1.09)	0 (0.00)	0 (0.00)
Findings ^a					
Liver: Yellowish white discoloration					
		0 (0.00)	1 (1.09)	0 (0.00)	0 (0.00)
F2	Number of litters examined	17	17	15	19
	Number of pups examined	52	58	57	59
	Number of pups with abnormal findings	2 (1.96)	1 (1.47)	1 (2.22)	1 (2.63)
Findings ^a					
Auricle: Scab					
		0 (0.00)	0 (0.00)	1 (2.22)	0 (0.00)
Digestive tract: Retention, gas					
		2 (1.96)	1 (1.47)	0 (0.00)	0 (0.00)
Kidney: Dilatation, renal pelvis					
		0 (0.00)	0 (0.00)	0 (0.00)	1 (2.63)

Values in parentheses represent the means of incidences of pups with abnormal findings (%), the litter is the unit evaluated).

a: Values represent the number of pups that showed abnormal findings.

Table 40 Autopsy findings in F1 and F2 female rat pups euthanized on postnatal day 4 or found dead on postnatal days 0-4 treated with N,N-Dicyclohexyl-2-benzothiazolesulfenamide (DCBS) in the two-generation reproductive toxicity study (SR05241)

Generation	Item	Control		DCBS (ppm)	
		80	4500	600	4500
F1	Number of litters examined	17	17	21	17
	Number of pups examined	44	46	64	46
	Number of pups with abnormal findings	3 (7.06)	0 (0.00)	0 (0.00)	0 (0.00)
	Findings ^a				
	Liver: Yellowish white discoloration	1 (2.94)	0 (0.00)	0 (0.00)	0 (0.00)
	Kidney: Dilatation, renal pelvis	1 (1.18)	0 (0.00)	0 (0.00)	0 (0.00)
	Ureter: Dilatation	1 (1.18)	0 (0.00)	0 (0.00)	0 (0.00)
	Forelimb: Scab	1 (2.94)	0 (0.00)	0 (0.00)	0 (0.00)
F2	Number of litters examined	18	14	15	19
	Number of pups examined	53	49	37	51
	Number of pups with abnormal findings	2 (11.11)	1 (3.57)	1 (3.33)	1 (2.63)
	Findings ^a				
	Digestive tract: Retention, gas	1 (5.56)	0 (0.00)	0 (0.00)	1 (2.63)
	Digestive tract: Dark red contents	0 (0.00)	0 (0.00)	1 (3.33)	0 (0.00)
	Forelimb: Oligodactyly	1 (5.56)	0 (0.00)	0 (0.00)	0 (0.00)
	Hindlimb: Scab	0 (0.00)	1 (3.57)	0 (0.00)	0 (0.00)

Values in parentheses represent the means of incidences of pups with abnormal findings (%), the litter is the unit evaluated.
a: Values represent the number of pups that showed abnormal findings.

Table 41 Autopsy findings in F1 and F2 male rat weanlings euthanized on postnatal day 26 or animals found dead on postnatal days 5-26 treated with N,N-Dicyclohexyl-2-benzothiazolesulfenamide (DCBS) in the two-generation reproductive toxicity study (SR05241)

Generation	Control		DCBS (ppm)	
	80	600	80	4500
F1				
Number of litters examined	22	24	24	24
Number of animals examined	62	73	71	73
Number of animals with abnormal findings	0 (0.00)	1 (1.39)	3 (4.17)	1 (1.39)
Findings ^a				
Ileum: Diverticulum	0 (0.00)	1 (1.39)	0 (0.00)	0 (0.00)
Kidney: Dilatation, renal pelvis	0 (0.00)	0 (0.00)	3 (4.17)	1 (1.39)
F2				
Number of litters examined	23	22	21	23
Number of animals examined	87 ^b	81	79	90
Number of animals with abnormal findings	2 (2.90)	6 (6.59)	6 (7.86)	4 (4.35)
Findings ^a				
Eyeball: Microphthalmia	0 (0.00)	1 (1.14)	0 (0.00)	0 (0.00)
Kidney: Dilatation, renal pelvis	1 (1.45)	5 (5.45)	6 (7.86)*	3 (3.26)
Testis: Small size	1 (1.45)	0 (0.00)	0 (0.00)	1 (1.09)
Epididymis: Small size	1 (1.45)	0 (0.00)	0 (0.00)	1 (1.09)

Values in parentheses represent the means of incidences of animals with abnormal findings (%), the litter is the unit evaluated).

a: Values represent the number of animals that showed abnormal findings.

b: Including pups that were euthanized on postnatal day 5 because of maternal death.

*: Significantly different from the control at $p \leq 0.05$ by Wilcoxon rank-sum test.

Table 42 Autopsy findings in F1 and F2 female rat weanlings euthanized on postnatal day 26 or animals found dead on postnatal days 5-26 treated with N,N-Dicyclohexyl-2-benzothiazol-sulfenamide (DCBS) in the two-generation reproductive toxicity study (SR05241)

Generation	Item	DCBS (ppm)		
		Control	80	600
F1	Number of litters examined	22	24	24
	Number of animals examined	64	70	73
	Number of animals with abnormal findings	5 (9.09)	3 (4.51)	0 (0.00)
	Findings ^a			
	Cerebrum: Dilatation, ventricle	0 (0.00)	0 (0.00)	0 (0.00)
	Glandular stomach: Fine dark red patch, mucosa, multifocal	0 (0.00)	1 (1.39)	0 (0.00)
	Ileum: Diverticulum	1 (1.52)	0 (0.00)	0 (0.00)
	Kidney: Dilatation, renal pelvis	4 (7.58)	2 (3.13)	0 (0.00)
	Urinary bladder: Dark red contents	0 (0.00)	1 (1.39)	0 (0.00)
F2	Number of litters examined	23	22	20
	Number of animals examined	90 ^b	80	74
	Number of animals with abnormal findings	0 (0.00)	1 (1.14)	6 (7.50)*
	Findings ^a			
	Ileum: Diverticulum	0 (0.00)	0 (0.00)	2 (2.50)
	Digestive tract: Retention, gas	0 (0.00)	0 (0.00)	0 (0.00)
	Kidney: Dilatation, renal pelvis	0 (0.00)	1 (1.14)	4 (5.00)

Values in parentheses represent the means of incidences of animals with abnormal findings (%), the litter is the unit evaluated.

a: Values represent the number of animals that showed abnormal findings.

b: Including pups that were euthanized on postnatal day 5 because of maternal death.

*: Significantly different from the control at $p \leq 0.05$ by Wilcoxon rank-sum test.

Table 43 Absolute and relative organ weights in F1 and F2 male rat weanlings treated with N,N-Dicyclohexyl-2-benzothiazolesulfenamide (DCBS) in the two-generation reproductive toxicity study (SR05241)

Generation Group	Number of animals	Body weight		Brain		Thymus		Liver		Kidney ^a		Spleen	
		g	%	mg	10 ⁻³ %	g	%	mg	10 ⁻³ %	g	%	mg	10 ⁻³ %
F1 Control	22	Mean	1.69	1.84	359	388	4.16	4.51	1.023	1.110	394	425	
		S.D.	0.07	0.13	68	52	0.49	0.26	0.111	0.073	68	52	
DCBS 80 ppm	24	Mean	88.9	1.69	1.91	350	393	4.09	4.60	1.040	1.171 *	352	395
		S.D.	6.2	0.05	0.13	53	50	0.37	0.25	0.079	0.064	68	63
DCBS 600 ppm	24	Mean	88.1	1.70	1.94	365	416	4.09	4.64 [§]	1.003	1.137	356	405
		S.D.	9.1	0.08	0.15	52	61	0.44	0.15	0.135	0.079	61	59
DCBS 4500 ppm	24	Mean	78.2 **	1.63 **	2.09 **	278 ^{§§}	357	3.83 *	4.89 ^{§§}	0.894 ^{§§}	1.146	278 **	357 **
		S.D.	7.2	0.07	0.17	37	48	0.51	0.28	0.069	0.073	41	48
F2 Control	22	Mean	90.8	1.67	1.85	355	392	4.08	4.49	1.006	1.109	383	422
		S.D.	8.7	0.08	0.14	56	58	0.47	0.23	0.102	0.037	61	49
DCBS 80 ppm	22	Mean	91.4	1.69	1.87	325	355	4.12	4.50	1.009	1.105	350 [§]	381 *
		S.D.	13.1	0.09	0.22	64	47	0.66	0.26	0.147	0.066	83	53
DCBS 600 ppm	21	Mean	89.1	1.70	1.92	361	406	4.21	4.72 ^{§§}	1.022	1.146 [§]	356	400
		S.D.	6.5	0.08	0.13	47	48	0.44	0.27	0.089	0.049	46	50
DCBS 4500 ppm	23	Mean	80.0 ^{§§}	1.63	2.05 **	283 **	354 *	3.74	4.66 ^{§§}	0.923	1.152 [§]	286 ^{§§}	357 **
		S.D.	7.8	0.09	0.18	52	55	0.54	0.42	0.133	0.117	52	54

(to be continued)

a: Values represent the total weights of the organs of both sides.
 *: Significantly different from the control at $p \leq 0.05$ by Dunnett's test.
 **: Significantly different from the control at $p \leq 0.01$ by Dunnett's test.
 §: Significantly different from the control at $p \leq 0.05$ by Mann-Whitney U-test.
 §§: Significantly different from the control at $p \leq 0.01$ by Mann-Whitney U-test.

Table 43 (continued) Absolute and relative organ weights in F1 and F2 male rat weanlings treated with N,N-Dicyclohexyl-2-benzothiazolesulfenamide (DCBS) in the two-generation reproductive toxicity study (SR05241)

Generation	Group	Number of animals	Adrenal ^a		Testis ^a		Epididymis ^a		Prostate	
			mg	10 ⁻³ %	mg	10 ⁻³ %	mg	10 ⁻³ %	mg	10 ⁻³ %
F1	Control	Mean	25.5	27.8	561	608	78.6	85.5	49.2	53.3
		S.D.	2.6	2.9	77	61	9.4	9.8	9.8	9.1
	DCBS 80 ppm	Mean	25.5	28.7	542	610	77.3	86.9	47.5	53.4
		S.D.	3.3	3.0	64	55	9.5	8.4	7.8	7.8
DCBS 600 ppm	Mean	25.0	28.4	541	612	75.9	86.4	43.7	49.6	
	S.D.	3.3	3.1	88	58	11.6	11.3	10.1	10.7	
DCBS 4500 ppm	Mean	22.4 **	28.8	529	677 ^{ss}	71.3 *	91.3	42.3 *	54.0	
	S.D.	2.9	4.0	88	95	10.2	11.7	8.9	9.5	
F2	Control	Mean	25.5	28.1	548	602	79.5	87.6	50.9	55.6
		S.D.	2.8	2.8	106	89	12.5	10.6	16.6	15.0
	DCBS 80 ppm	Mean	24.1	26.5	516	563	72.9	80.4	44.6	48.9
		S.D.	3.4	2.6	103	69	12.3	12.6	10.4	9.9
DCBS 600 ppm	Mean	24.2	27.2	528	590	72.7	81.7	47.0	52.7	
	S.D.	3.8	4.3	82	65	10.0	10.6	10.3	10.1	
DCBS 4500 ppm	Mean	22.7 *	28.5	525	653	71.3	89.0	42.6	52.9	
	S.D.	3.4	4.2	98	91	11.2	10.0	12.2	13.1	

a: Values represent the total weights of the organs of both sides.

*: Significantly different from the control at $p \leq 0.05$ by Dunnett's test.

** : Significantly different from the control at $p \leq 0.01$ by Dunnett's test.

^{ss}: Significantly different from the control at $p \leq 0.01$ by Mann-Whitney U-test.

Table 44 Absolute and relative organ weights in F1 and F2 female rat weanlings treated with N,N-Dicyclohexyl-2-benzothiazolesulfenamide (DCBS) in the two-generation reproductive toxicity study (SR05241)

Generation	Group	Number of animals	Body weight		Brain		Thymus		Liver		Kidney ^a		Spleen	
			g	%	g	%	mg	10 ⁻³ %	g	%	g	%	mg	10 ⁻³ %
F1	Control	Mean	85.9	1.62	1.90	361	4.18	3.72	4.33	0.954	1.110	338	392	
		S.D.	7.8	0.07	0.14	77	65	0.44	0.34	0.108	0.068	58	43	
	DCBS 80 ppm	Mean	82.5	1.65	2.01	327	398	3.52	4.27	0.967	1.173 **	323	392	
		S.D.	6.4	0.05	0.17	49	60	0.35	-0.22	0.081	0.055	47	54	
DCBS 600 ppm	Mean	82.8	1.64	2.00	350	423	3.65	4.41	0.940	1.133	316	382		
	S.D.	7.2	0.05	0.16	60	63	0.40	0.29	0.114	0.065	53	55		
DCBS 4500 ppm	Mean	74.3 **	1.57 **	2.13 **	281 ^{§§}	379	3.43 *	4.62 **	0.850 **	1.148	249 ^{§§}	337 **		
	S.D.	6.7	0.05	0.16	43	56	0.40	0.31	0.082	0.088	32	49		
F2	Control	Mean	83.6	1.62	1.96	364	439	3.71	4.44	0.915	1.096	340	407	
		S.D.	9.5	0.08	0.20	50	63	0.47	0.18	0.093	0.046	63	58	
	DCBS 80 ppm	Mean	87.2	1.66	1.92	326	373 **	3.87	4.44	0.983	1.129	331	380	
		S.D.	10.8	0.07	0.19	66	56	0.50	0.23	0.137	0.085	55	46	
DCBS 600 ppm	Mean	82.4	1.66	2.03	348	424	3.80	4.61 *	0.960	1.164 ^{§§}	320	389		
	S.D.	6.5	0.05	0.16	68	80	0.37	0.19	0.111	0.083	46	56		
DCBS 4500 ppm	Mean	74.6 **	1.57 *	2.11 *	283 **	379 **	3.57	4.78 **	0.885	1.187 ^{§§}	274 **	370		
	S.D.	7.9	0.07	0.18	56	63	0.46	0.26	0.101	0.061	40	52		

(to be continued)

a: Values represent the total weights of the organs of both sides.

*: Significantly different from the control at $p \leq 0.05$ by Dunnett's test.

** : Significantly different from the control at $p \leq 0.01$ by Dunnett's test.

§§ : Significantly different from the control at $p \leq 0.01$ by Mann-Whitney U-test.

Table 44 (continued) Absolute and relative organ weights in F1 and F2 female rat weanlings treated with N,N-Dicyclohexyl-2-benzothiazolesulfenamide (DCBS) in the two-generation reproductive toxicity study (SR05241)

Generation	Group	Number of animals	Adrenal ^a		Ovary ^a		Uterus	
			mg	10 ⁻³ %	mg	10 ⁻³ %	mg	10 ⁻³ %
F1	Control	Mean	23.8	27.8	23.2	27.1	58.2	67.9
		S.D.	2.6	2.8	3.3	3.3	14.5	15.8
	DCBS 80 ppm	Mean	24.5	29.8	22.2	27.0	55.8	67.9
		S.D.	2.7	3.6	3.4	4.0	7.6	9.9
DCBS 600 ppm	Mean	23.1	27.9	20.5 *	24.8	62.1	75.2	
	S.D.	2.9	2.6	3.2	4.3	12.3	14.1	
DCBS 4500 ppm	Mean	21.5 *	29.1	20.3 *	27.5	48.4 ^s	65.0	
	S.D.	2.4	3.6	3.2	4.7	11.8	14.1	
F2	Control	Mean	23.6	28.4	22.0	26.6	61.8	73.3
		S.D.	2.9	3.3	3.9	5.2	18.9	17.2
	DCBS 80 ppm	Mean	23.3	26.7	22.5	26.0	58.1	67.0
		S.D.	4.0	3.3	2.8	3.0	11.9	13.5
DCBS 600 ppm	Mean	22.2	27.0	20.9	25.5	50.0 ^s	60.7 *	
	S.D.	3.3	4.0	3.1	4.4	10.0	11.5	
DCBS 4500 ppm	Mean	21.6	29.0	21.4	29.0	46.6 ^{ss}	62.3 *	
	S.D.	3.0	3.9	2.9	4.3	12.9	15.0	

a: Values represent the total weights of the organs of both sides.

*: Significantly different from the control at $p \leq 0.05$ by Dunnett's test.

^s: Significantly different from the control at $p \leq 0.05$ by Mann-Whitney U-test.

^{ss}: Significantly different from the control at $p \leq 0.01$ by Mann-Whitney U-test.

Table 45 Histopathological findings in F1 and F2 rat weanlings treated with N,N-Dicyclohexyl-2-benzothiazolesulfenamide (DCBS) in the two-generation reproductive toxicity study (SR05241)

Generation	Item	Male		Female	
		Control	DCBS 4500 ppm	Control	DCBS 4500 ppm
F1	Number of weanlings examined ^a	22	24	22	24
	Number of weanlings with abnormal findings	0	0	0	0
F2	Number of weanlings examined ^a	22	23	22	23
	Number of weanlings with abnormal findings	0	0	0	0

a: Weanlings were examined on the liver, spleen and thymus in the control and DCBS 4500 ppm groups.