

Table 6 Body weight gains of F0 and F1 parental female rats treated with 1,2,5,6,9,10-hexabromocyclododecane (HBCD) in the two-generation reproductive toxicity study (SR04222)

Gener- ation	Group	Number of animals	Pre-mating period										Breeding period									
			Body weight gain (g)										Gestation days			Lactation days				0-Autopsy day		
			Treatment weeks										0-7	0-14	0-20	0-4	0-7	0-14	0-21			
0-1	0-2	0-3	0-4	0-5	0-6	0-7	0-8	0-9	0-10	0-7	0-14	0-20	0-4	0-7	0-14	0-21	day					
F0	Control	24	Mean	41.5	64.9	88.3	105.0	117.2	132.3	144.8	156.5	157.7	162.6	34.3	67.3	133.0	9.2	17.4	26.0	3.1	191.7	
			S.D.	7.2	9.8	13.8	17.0	19.3	18.2	17.9	20.7	22.5	20.2	6.5	8.5	14.0	13.1	12.3	15.4	15.0	17.3	
	HBCD 150 ppm	24	Mean	41.4	64.6	86.2	105.8	120.6	134.6	142.9	156.2	159.7	165.2	(22)	(22)	(22)	(21)	(21)	(21)	(21)	(21)	
			S.D.	8.7	10.7	13.6	16.9	21.6	22.8	21.2	23.7	26.3	25.4	8.1	11.7	21.8	11.2	15.7	18.3	18.3	21.5	
	HBCD 1500 ppm	24	Mean	40.9	66.0	89.2	104.7	118.9	131.0	144.8	152.5	155.5	161.4	(20)	(20)	(20)	(20)	(20)	(20)	(20)	(20)	
			S.D.	6.2	12.4	15.0	19.6	23.3	26.3	28.0	29.5	32.0	37.1	7.4	9.7	17.8	13.2	10.2	12.7	15.2	22.7	
	HBCD 15000 ppm	24	Mean	45.9 ^{ss}	73.4 [*]	95.8 ^s	112.1	125.5	139.1	149.5	158.9	159.8	164.2	(19)	(19)	(19)	(18)	(17)	(17)	(17)	(17)	
			S.D.	4.7	7.0	8.2	12.2	14.7	18.1	17.7	19.4	19.8	19.3	5.3	7.0	13.1	11.6	10.9	14.9	16.2	20.8	
	F1	Control	24	Mean	39.0	81.3	113.8	141.0	165.5	184.3	202.3	212.9	223.8	234.6	(23)	(23)	(23)	(23)	(22)	(22)	(22)	(22)
				S.D.	3.7	8.0	12.6	14.7	20.0	23.6	25.9	27.3	27.5	30.5	6.1	9.5	18.7	13.8	15.8	13.4	16.6	27.1
		HBCD 150 ppm	24	Mean	38.8	81.0	115.0	140.4	165.0	186.1	201.7	214.0	223.6	233.2	(23)	(23)	(23)	(22)	(22)	(22)	(22)	(22)
				S.D.	5.3	8.9	9.0	13.1	15.4	19.6	20.6	20.2	22.3	24.5	8.7	11.2	16.4	13.8	16.0	19.3	18.2	25.1
HBCD 1500 ppm		24	Mean	37.5	80.3	111.4	138.7	162.4	178.1	194.2	205.3	215.7	225.5	(21)	(21)	(21)	(20)	(20)	(20)	(20)	(20)	
			S.D.	4.9	8.0	11.3	13.5	17.0	17.7	21.6	21.6	22.5	20.7	7.3	9.4	24.8	11.3	9.7	15.1	16.0	22.0	
HBCD 15000 ppm		24	Mean	36.0	76.7	105.8 [*]	134.9	156.8	172.3	188.7	198.7	207.8	212.9 ^{**}	(21)	(21)	(21)	(21)	(19)	(14)	(13)	(13)	
			S.D.	5.4	6.7	9.9	14.2	15.8	18.4	20.7	21.2	24.1	21.6	9.0	11.6	17.9	8.2	8.2	11.2	20.4	30.0	

Values in parentheses are the number of animals 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.

^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 7 Food consumption of F0 and F1 parental male rats treated with 1,2,5,6,9,10-hexabromocyclododecane (HBCD) in the two-generation reproductive toxicity study (SR04222)

Gener- ation	Group	Number of animals	Pre-mating period										Breeding period					
			Food consumption (g/day) in treatment week										12	13	14			
			1	2	3	4	5	6	7	8	9	10						
F0	Control	24	Mean	21.3	25.0	26.4	27.1	27.6	27.5	27.2	26.9	26.8	26.5	(22)	(22)			
			S.D.	1.2	1.8	2.0	2.6	2.9	2.9	2.9	2.8	3.0	2.9	2.9	2.1	2.1		
	HBCD 150 ppm	24	Mean	22.0	26.4 *	28.0 *	28.4	28.7	28.8	28.0	28.3	27.9	27.9	(23)	28.0	27.4		
			S.D.	1.0	1.4	2.1	2.3	2.6	2.6	2.6	2.4	2.7	2.9	2.4	2.8	2.6		
	HBCD 1500 ppm	24	Mean	22.1	26.9 **	28.2 **	29.0 *	29.2	29.3 *	29.3 *	29.5 **	28.6	28.0	(22)	(22)	(22)		
			S.D.	1.6	1.9	2.2	2.3	2.3	2.2	2.4	3.0	2.9	3.3	2.9	2.9	3.6		
	HBCD 15000 ppm	24	Mean	22.2	26.7 **	27.9 *	28.5	28.3	28.2	28.0	28.2	27.6	27.1	(23)	(20)	(20)		
			S.D.	1.3	1.9	1.7	1.6	1.9	2.3	2.4	2.7	2.9	3.3	2.6	2.4	2.4		
	F1	Control	24	Mean	14.4	20.6	24.6	27.7	29.6	30.7	31.5	30.7	30.2	30.4	(23)	29.6	30.2	29.0
				S.D.	1.2	1.8	2.0	2.0	1.9	2.2	2.3	2.2	1.9	2.3	2.1	2.6	2.1	
		HBCD 150 ppm	24	Mean	14.2	21.0	24.5	27.1	29.2	29.5	29.8 *	30.2	29.9	30.0	(22)	(23)	28.1	
				S.D.	1.0	1.7	2.1	2.4	2.6	2.5	2.7	3.3	3.3	3.2	3.0	2.9	2.9	
HBCD 1500 ppm		24	Mean	13.8	20.7	25.3	28.5	31.1	31.6	31.4	31.1	31.1	31.1	(23)	(23)	(22)		
			S.D.	1.4	1.8	1.6	2.1	2.7	2.5	2.3	2.3	2.3	2.1	2.4	3.4	5.2		
HBCD 15000 ppm		24	Mean	13.2 **	19.5	23.2 *	25.8 *	27.9	29.2	30.1	30.2	30.1	29.8	(19)	(21)	(22)		
			S.D.	1.5	2.1	2.2	2.7	2.7	2.8	2.6	2.7	2.8	2.9	3.6	2.9	3.3		

Values in parentheses are the number of animals 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 8 Food consumption of F0 and F1 parental female rats treated with 1,2,5,6,9,10-hexabromocyclododecane (HBCD) in the two-generation reproductive toxicity study (SR04222)

Gener- ation	Group	Number of animals		Pre-mating period										Breeding period						
				Food consumption (g/day)										Gestation days			Lactation days			
				Treatment week										0-7	7-14	14-20	0-7	7-14	14-21	
				1	2	3	4	5	6	7	8	9	10							
F0	Control	24	Mean	17.4	19.6	19.6	19.7	19.6	20.1	19.9	19.9	18.7	19.0	22.2	23.9	22.8	32.5	51.0	66.8	
			S.D.	1.3	1.7	2.1	1.9	1.8	2.2	1.8	1.9	2.0	2.3	(22)	(22)	(22)	(21)	(21)	(21)	
	HBCD 150 ppm	24	Mean	17.5	19.1	19.2	19.4	19.5	19.9	19.2	20.0	18.9	18.7	22.3	23.7	23.0	34.3	52.5	70.1	
			S.D.	1.7	1.7	2.0	2.2	2.4	2.8	2.8	3.2	3.0	2.4	(23)	(20)	(20)	(20)	(20)	(20)	
	HBCD 1500 ppm	24	Mean	17.5	19.8	19.6	19.6	19.5	19.6	19.3	19.4	18.1	18.3	20.8	23.2	23.0	34.5	53.4	71.0	
			S.D.	1.3	2.0	2.2	2.2	2.4	2.3	2.2	2.6	3.4	2.6	(19)	(19)	(19)	(17)	(17)	(17)	
	HBCD 15000 ppm	24	Mean	18.1	20.4	20.3	19.9	19.8	19.9	19.4	19.4	18.0	18.1	21.2	23.0	22.8	31.2	51.1	66.5	
			S.D.	1.3	1.6	1.9	1.9	2.1	2.1	2.0	2.3	2.1	3.5	(23)	(23)	(23)	(22)	(22)	(22)	
	F1	Control	24	Mean	13.0	17.6	19.2	20.4	21.2	21.2	21.5	21.2	21.0	20.8	22.1	24.6	23.7	29.1	44.8	52.7
				S.D.	1.0	1.1	1.5	1.6	2.2	2.0	2.2	2.1	2.3	2.2	(23)	(23)	(23)	(22)	(22)	(22)
		HBCD 150 ppm	24	Mean	12.9	17.7	19.4	20.2	21.7	22.3	22.0	21.7	21.0	21.4	22.7	25.0	24.6	31.7	47.8	56.7
				S.D.	1.0	1.5	1.6	1.8	2.4	2.5	2.1	2.1	2.3	2.4	(21)	(21)	(21)	(20)	(20)	(20)
HBCD 1500 ppm		24	Mean	12.4	17.0	19.1	20.1	20.4	20.7	20.8	20.8	20.5	20.6	23.0	24.9	24.6	30.5	42.0	51.3	
			S.D.	1.4	1.4	1.3	1.6	1.7	1.8	3.1	1.8	2.0	1.5	(21)	(21)	(21)	(19)	(14)	(13)	
HBCD 15000 ppm		24	Mean	11.8 **	16.1 **	18.0 *	19.1 *	19.4 **	20.0	20.0	20.1	20.0	19.6	21.2	23.5	23.3	26.6	37.7 *	46.6	
			S.D.	1.1	1.2	1.4	1.8	1.8	2.4	2.4	2.0	2.4	2.3	(21)	(21)	(21)	(19)	(14)	(13)	

Values in parentheses are the number of animals 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 9 Test substance intake of F0 and F1 parental male rats treated with 1,2,5,6,9,10-hexabromocyclododecane (HBCD) in the two-generation reproductive toxicity study (SR04222)

Gener- ation	Group	Number of animals	Pre-mating period										Breeding period			All the periods			
			Test substance intake (mg/kg/day) in treatment week													Min	-	Max	Mean
			1	2	3	4	5	6	7	8	9	10	12	13	14				
F0	HBCD 150 ppm	24	15.6	14.6	13.0	11.5	10.6	9.9	9.1	8.8	8.3	8.1	8.0	7.5	7.2	7.2	-	15.6	10.2
	HBCD 1500 ppm	24	155	146	127	115	105	98	92	88	82	79	80	74	70	70	-	155	101
	HBCD 15000 ppm	24	1561	1459	1272	1138	1037	967	906	871	824	790	798	752	723	723	-	1561	1008
F1	HBCD 150 ppm	24	17.8	17.3	15.1	13.3	12.2	11.1	10.3	9.8	9.1	8.8	8.4	7.9	7.5	7.5	-	17.8	11.4
	HBCD 1500 ppm	24	175	171	155	137	126	115	104	96	91	87	83	78	72	72	-	175	115
	HBCD 15000 ppm	24	1744	1681	1514	1336	1219	1132	1061	989	930	880	832	781	743	743	-	1744	1142

Table 10 Test substance intake of F0 and F1 parental female rats treated with 1,2,5,6,9,10-hexabromocyclododecane (HBCD) in the two-generation reproductive toxicity study (SR04222)

Gener- ation	Group	Number of animals	Pre-mating period										Breeding period						All the periods			
			Test substance intake (mg/kg/day)										Gestation days			Lactation days			Min	-	Max	Mean
			Treatment week										0-7	7-14	14-20	0-7	7-14	14-21				
			1	2	3	4	5	6	7	8	9	10										
F0	HBCD 150 ppm	24	16.4	15.6	14.0	12.9	12.2	11.8	11.0	10.9	10.2	9.9	10.4	10.1	8.3	14.9	22.7	32.6	8.3	-	32.6	14.0
	HBCD 1500 ppm	24	164	161	141	132	123	118	110	107	99	98	102	103	84	155	233	331	84	-	331	141
	HBCD 15000 ppm	24	1648	1591	1419	1292	1216	1157	1085	1048	969	959	999	997	826	1378	2206	3016	826	-	3016	1363
F1	HBCD 150 ppm	24	18.5	18.1	16.1	14.7	14.1	13.3	12.3	11.6	10.9	10.7	10.3	10.3	8.5	13.6	20.0	25.3	8.5	-	25.3	14.3
	HBCD 1500 ppm	24	180	175	162	148	134	127	120	115	109	106	107	105	87	133	177	227	87	-	227	138
	HBCD 15000 ppm	24	1781	1725	1597	1445	1322	1273	1190	1151	1106	1064	1051	1057	876	1249	1714	2209	876	-	2209	1363

Table 11 Vaginal estrous cycles in F0 and F1 parental female rats treated with 1,2,5,6,9,10-hexabromocyclododecane (HBCD) in the two-generation reproductive toxicity study (SR04222)

Gener- ation	Group	Number of animals	Estrous cyclicity	
			Normality Incidence (%) ^a	Length (days)
F0	Control	24	22/24 (91.7)	Mean 4.24 S.D. 0.83
	HBCD 150 ppm	24	23/24 (95.8)	Mean 4.17 S.D. 0.62
	HBCD 1500 ppm	24	21/24 (87.5)	Mean 4.10 S.D. 0.26
	HBCD 15000 ppm	23	20/23 (87.0)	Mean 4.58 S.D. 1.17
F1	Control	24	23/24 (95.8)	Mean 4.11 S.D. 0.25
	HBCD 150 ppm	24	22/24 (91.7)	Mean 4.35 S.D. 0.88
	HBCD 1500 ppm	24	22/24 (91.7)	Mean 4.43 S.D. 0.76
	HBCD 15000 ppm	24	22/24 (91.7)	Mean 4.22 S.D. 0.64

Values in parentheses are the number of animals examined.

a: Incidence of females with the normal estrous cycle (%) = (number of females cycling normally/number of females examined) x 100.

The normal estrous cycle is defined as having a mean cycle length between 4.0 and 6.0 days.

Table 12 Reproductive findings in F0 and F1 parental rats treated with 1,2,5,6,9,10-hexabromocyclododecane (HBCD) in the two-generation reproductive toxicity study (SR04222)

Gener- ation	Group	Copulation index		Fertility index		Gestation index (Inci- dence, %)	Pre- coital interval (days)	Gesta- tion length (days)	Number of implanta- tions	Delivery index (%) ^a	Number of pups delivered	Sex ratio	Viability index (%) ^b on postnatal day			
		Male (Inci- dence, %)	Female (Inci- dence, %)	Male (Inci- dence, %)	Female (Inci- dence, %)								0	4	21	
F0	Control	24/24 (100)	24/24 (100)	24/24 (100)	24/24 (100)	24/24 (100)	Mean S.D.	3.4 3.9	22.1 0.3	14.2 2.1 (22)	92.0 7.7 (22)	13.0 2.3	F1 pup data			
	HBCD 150 ppm	24/24 (100)	24/24 (100)	22/24 (91.7)	22/24 (91.7)	21/22 (95.5)	Mean S.D.	3.1 3.3	22.3 0.5	13.7 3.3 (22)	89.3 20.9 (22)	13.3 1.7	0.471	97.5 8.5	98.7 2.8	99.4 2.7
	HBCD 1500 ppm	22/24 (91.7)	22/24 (91.7)	20/22 (90.9)	20/22 (90.9)	20/20 (100)	Mean S.D.	2.7 1.4	22.6 ^{ss} 0.5	14.5 1.4 (19)	90.7 13.8 (19)	13.3 2.6	0.426 *	98.8 2.8	98.7 4.4	98.1 4.6
	HBCD 15000 ppm	21/23 (91.3)	22/23 (95.7)	18/21 (85.7)	19/22 (86.4)	18/19 (94.7)	Mean S.D.	3.5 4.3	22.2 0.4	14.5 2.7 (19)	93.6 7.3 (19)	13.5 2.8	0.572	99.2 2.5	95.8 10.3	93.8 23.6
F1	Control	24/24 (100)	24/24 (100)	23/24 (95.8)	23/24 (95.8)	23/23 (100)	Mean S.D.	2.6 1.6	22.5 0.5	14.3 2.5 (22)	91.4 12.3 (22)	13.2 3.4	0.523	98.6 5.3	86.9 24.8	85.0 22.0 (22)
	HBCD 150 ppm	24/24 (100)	24/24 (100)	23/24 (95.8)	23/24 (95.8)	23/23 (100)	Mean S.D.	3.4 4.1	22.4 0.6	14.7 3.4 (21)	94.8 6.0 (21)	13.9 3.3	0.492	97.7 4.9	87.3 21.1	89.6 13.9
	HBCD 1500 ppm	23/23 (100)	24/24 (100)	20/23 (87.0)	21/24 (87.5)	20/21 (95.2)	Mean S.D.	3.3 3.7	22.4 0.5	14.0 3.2 (21)	88.1 22.7 (21)	13.4 2.4	0.517	96.0 9.5	92.1 12.8	71.3 26.9
	HBCD 15000 ppm	24/24 (100)	24/24 (100)	21/24 (87.5)	21/24 (87.5)	21/21 (100)	Mean S.D.	2.3 1.3	22.4 0.5	14.3 2.8 (20)	92.6 8.0 (20)	13.1 2.4	0.486	97.8 5.1	68.4 ^s 33.5	49.7 ^{ss} 41.1

Copulation index (%) = (number of animals with successful copulation/number of animals paired) x 100.

Fertility index (%) = (number of animals that impregnated a female or were pregnant/number of animals with successful copulation) x 100.

Gestation index (%) = (number of females that delivered live pups/number of pregnant females) x 100.

Delivery index (%) = (number of pups delivered/number of implantations) x 100.

Sex ratio = total number of male pups/total number of pups.

Viability index on postnatal day 0 (%) = (number of live pups on postnatal day 0/number of pups delivered) x 100.

Viability index on postnatal day 4 (%) = (number of live pups on postnatal day 4/number of live pups on postnatal day 0) x 100.

Viability index on postnatal day 21 (%) = (number of live pups on postnatal day 21/number of live pups selected for use on postnatal day 4) x 100.

a and b: The litter is the unit evaluated.

Values in parentheses are the number of animals examined.

*: Significantly different from the control at $p \leq 0.05$ by Fisher's exact probability 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 13 Sperm number and motility in F0 and F1 parental male rats treated with 1,2,5,6,9,10-hexabromocyclododecane (HBCD) in the two-generation reproductive toxicity study (SR04222)

Gener- ation	Group	Number of animals		Number of testis sperms		Number of epididymal sperms		% Motile	% Pro- gressive	Swimming speed			Swimming pattern				
				10 ⁶ /testis	10 ⁶ /g testis	10 ⁶ /cauda	10 ⁶ /g cauda			VAP	VSL	VCL	ALH	BCF	STR	LIN	
F0	Control	24	Mean	164.0	104.2	276.3	873.2	88.9	57.0	140.3	83.7	309.6	20.3	26.5	59.2	26.8	
			S.D.	23.0	14.9	56.0	133.6	5.7	15.7	11.8	14.1	34.2	0.8	2.1	6.4	2.3	
	HBCD 150 ppm	24	Mean	168.5	104.0	225.9	738.9 *	83.7	51.7	132.8	77.8	289.6	19.3	25.7	55.6	25.6	
			S.D.	48.5	26.1	82.9	212.9	20.8	21.8	32.4	23.3	73.9	4.3	6.1	13.3	5.9	
	HBCD 1500 ppm	24	Mean	171.1	105.2	259.0	873.8	91.2	57.9	139.6	82.1	307.8	20.4	25.7	58.3	26.5	
			S.D.	36.7	18.6	42.9	157.4	4.7	16.6	10.4	14.7	31.4	0.7	1.8	6.6	2.5	
	HBCD 15000 ppm	22	Mean	163.5	106.4	254.2	860.4	89.6	52.4	140.4	78.8	304.6	20.9 ^s	26.5	55.5	25.4	
			S.D.	37.5	19.8	51.3	162.5	6.4	16.2	12.4	14.5	33.1	1.0	2.5	6.0	2.4	
	F1	Control	24	Mean	200.2	118.4	274.0	857.9	87.3	64.1	149.8	97.2	344.4	20.3	27.6	64.4	28.1
				S.D.	29.6	20.7	49.8	98.0	6.5	12.8	12.6	13.2	31.3	0.9	1.7	4.8	1.9
		HBCD 150 ppm	24	Mean	187.0	114.3	273.5	876.7	86.2	64.7	152.2	100.1	347.6	20.7	26.7	65.6	28.8
				S.D.	28.0	15.9	75.4	213.0	8.4	11.9	12.8	13.6	34.5	1.3	1.6	5.3	2.3
HBCD 1500 ppm		22	Mean	183.7	113.3	251.1	859.3	86.2	64.3	151.1	100.2	349.1	20.3	27.8	65.6	28.6	
			S.D.	32.4	19.2	74.3	198.5	7.9	13.1	15.2	14.9	39.2	1.1	2.2	4.4	1.9	
HBCD 15000 ppm		24	Mean	191.1	119.3	257.6	836.7	87.5	64.9	150.0	97.4	347.0	20.1	27.2	64.5	27.9	
			S.D.	38.2	20.0	61.5	170.3	7.7	16.0	12.2	16.6	32.9	0.9	2.6	7.1	2.9	

VAP: Mean path velocity (µm/sec).

VSL: Straight line average velocity (µm/sec).

VCL: Mean curvilinear velocity (µm/sec).

ALH: Mean lateral head displacement (µm).

BCF: Mean beat cross frequency (Hz).

STR: Mean straightness (%) = VSL/VAP x 100.

LIN: Mean linearity (%) = VSL/VCL x 100.

*: 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.

Table 14 Abnormal sperm ratio in F0 and F1 parental male rats treated with 1,2,5,6,9,10-hexabromocyclododecane (HBCD) in the two-generation reproductive toxicity study (SR04222)

Gener- ation	Group	Number of animals	Abnormal sperm ratio (%)																	
			Total	Head					Neck and middle piece			Tail								
				Tailless sperm	Small sized	Banana shaped	Hooked shaped	Truncated shaped	Amorphous shaped	Two heads	Flexion	Two necks	Enlarge- ment	Fragmen- tation	Two tails					
F0	Control	24	Mean	1.6	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
			S.D.	1.1	1.0	0.0	0.1	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0		
	HBCD 150 ppm	23	Mean	4.9	4.5	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0		
			S.D.	16.5	15.3	0.0	0.1	0.0	0.2	0.1	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	
	HBCD 1500 ppm	24	Mean	1.6	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
			S.D.	0.9	0.9	0.0	0.1	0.0	0.1	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	
	HBCD 15000 ppm	22	Mean	2.3	1.9	0.0	0.1	0.0	0.1	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	
			S.D.	1.8	1.7	0.0	0.3	0.0	0.2	0.2	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	
	F1	Control	24	Mean	1.1	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
				S.D.	0.7	0.7	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		HBCD 150 ppm	24	Mean	1.3	1.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
				S.D.	0.8	0.7	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
HBCD 1500 ppm		22	Mean	2.1	1.9	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	
			S.D.	2.1	1.9	0.0	0.4	0.0	0.1	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	
HBCD 15000 ppm		24	Mean	1.7	1.4	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
			S.D.	1.1	1.1	0.1	0.3	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	

Table 15 Sexual development in F1 parental rats treated with 1,2,5,6,9,10-hexabromocyclododecane (HBCD) in the two-generation reproductive toxicity study (SR04222)

Gener- ation	Group	Male				Female			
		Number of animals	Age at preputial separation (days)	Body weight (g) on the day at preputial separation	Number of animals	Age at vaginal opening (days)	Body weight (g) on the day at vaginal opening		
F1	Control	24	Mean S.D.	42.8 1.7	225.6 17.1	24	Mean S.D.	30.9 2.0	106.0 13.8
	HBCD 150 ppm	24	Mean S.D.	41.7 1.8	219.6 20.0	24	Mean S.D.	30.3 2.6	102.9 13.8
	HBCD 1500 ppm	24	Mean S.D.	42.8 2.2	235.0 20.8	24	Mean S.D.	30.1 1.8	106.0 10.6
	HBCD 15000 ppm	24	Mean S.D.	43.7 1.5	226.5 16.2	24	Mean S.D.	30.8 2.2	100.7 13.0

Table 16 Locomotor activity count in F1 parental male rats treated with 1,2,5,6,9,10-hexabromocyclododecane (HBCD) in the two-generation reproductive toxicity study (SR04222)

Gener- ation	Group	Number of animals	Locomotor activity count							
			Determination time (minutes)							
			0-10	10-20	20-30	30-40	40-50	50-60	0-60	
F1	Control	10	Mean	141.9	86.1	39.9	15.6	13.8	4.8	302.1
			S.D.	63.5	59.3	49.4	19.1	21.5	15.2	170.7
	HBCD 150 ppm	10	Mean	240.9	116.8	58.2	29.5	5.7	0.8	451.9
			S.D.	116.7	86.3	66.8	45.0	18.0	2.5	276.1
	HBCD 1500 ppm	10	Mean	127.4	71.7	11.8	2.9	0.0	0.0	213.8
			S.D.	79.2	44.4	11.4	5.9	0.0	0.0	125.6
	HBCD 15000 ppm	10	Mean	162.4	53.3	8.8	7.1	1.0	5.7	238.3
			S.D.	124.9	53.7	13.9	11.9	2.5	18.0	186.5