

Table 1-1 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Clinical signs (Administration period)

Sex	Dose mg/kg	Findings	Day of administration													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14
Male	0	No. of animals	12	12	12	12	12	12	12	12	12	12	12	12	12	12
		No abnormality	12	12	12	12	12	12	12	12	12	12	12	12	12	12
	15	No. of animals	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		No abnormality	6	6	6	6	6	6	6	6	6	6	6	6	6	6
60	No. of animals	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
	No abnormality	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
250	No. of animals	12	12	12	12	12	12	12	12	12	12	12	12	12	12	
	No abnormality	12	12	12	12	12	12	12	12	12	12	12	12	12	12	
Female	0	No. of animals	12	12	12	12	12	12	12	12	12	12	12	12	12	12
		No abnormality	12	12	12	12	12	12	12	12	12	12	12	12	12	12
	15	No. of animals	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		No abnormality	6	6	6	6	6	6	6	6	6	6	6	6	6	6
60	No. of animals	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
	No abnormality	6	6	6	6	6	6	6	6	6	6	6	6	6	6	
250	No. of animals	12	12	12	12	12	12	12	12	12	12	12	12	12	12	
	No abnormality	12	12	12	12	12	12	12	12	12	12	12	12	12	12	

Table 1-2 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Clinical signs (Administration period)

Sex	Dose mg/kg	Findings	Day of administration																											
			15	16	17	18	19	20	21	22	23	24	25	26	27	28	15	16	17	18	19	20	21	22	23	24	25	26	27	28
Male	0	No. of animals	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	
		No abnormality	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
	15	No. of animals	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		No abnormality	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	60	No. of animals	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		No abnormality	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	250	No. of animals	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
		No abnormality	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
Female	0	No. of animals	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
		No abnormality	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
	15	No. of animals	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		No abnormality	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
60	No. of animals	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	No abnormality	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
250	No. of animals	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
	No abnormality	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12

Table 1-3 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Clinical signs (Recovery period)

Sex	Dose mg/kg	Findings	Day of recovery													
			1	2	3	4	5	6	7	8	9	10	11	12	13	14
Male	0	No. of animals	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		No abnormality	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	250	No. of animals	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		No abnormality	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Female	0	No. of animals	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		No abnormality	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	250	No. of animals	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		No abnormality	6	6	6	6	6	6	6	6	6	6	6	6	6	6

Table 2-1 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Detailed clinical signs : home cage observations (Week 1)

Sex	Male			Female					
	Dose (mg/kg)	15	60	250	0	15	60	250	
Parameter	No. of animals	12	6	6	12	12	6	6	12
Posture	Normal	12	6	6	12	12	6	6	12
Convulsion	None	12	6	6	12	12	6	6	12
Abnormal behavior	None	12	6	6	12	12	6	6	12

No significant difference in any treated groups from control group.

Table 2-2 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Detailed clinical signs : home cage observations (Week 2)

Sex	Male			Female					
	Dose (mg/kg)	No. of animals	250	60	15	0	15	60	250
Parameter		12	12	6	6	12	6	6	12
Posture		12	6	6	6	12	6	6	12
Normal									
Convulsion		12	6	6	6	12	6	6	12
None									
Abnormal behavior		12	6	6	6	12	6	6	12
None									

No significant difference in any treated groups from control group.

Table 2-3 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Detailed clinical signs : home cage observations (Week 3)

Sex	Male			Female				
	Dose (mg/kg)	15	60	250	0	15	60	250
Parameter	No. of animals	12	6	6	12	12	6	6
Posture	Normal	12	6	6	12	12	6	6
Convulsion	None	12	6	6	12	12	6	6
Abnormal behavior	None	12	6	6	12	12	6	6

No significant difference in any treated groups from control group.

Table 2-4 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Detailed clinical signs : home cage observations (Week 4)

Sex	Male			Female		
	Dose (mg/kg)	No. of animals		Dose (mg/kg)	No. of animals	
	0	12	15	0	12	15
			60			60
			250			250
Parameter	No. of animals	12	6	12	6	6
Posture		12	6	12	6	12
Normal						
Convulsion		12	6	12	6	12
None						
Abnormal behavior		12	6	12	6	12
None						

No significant difference in any treated groups from control group.

Table 2-5 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
 Detailed clinical signs : home cage observations (Week 1 of recovery)

Parameter	Sex		Dose (mg/kg)	Sex				
	Male	Female		Male	Female			
No. of animals	6	6	0	250	0	250	6	6
Posture	6	6	6	6	6	6	6	
Normal								
Convulsion	6	6	6	6	6	6	6	
None								
Abnormal behavior	6	6	6	6	6	6	6	
None								

No significant difference between treated group and control group.

Table 2-6 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Detailed clinical signs : home cage observations (Week 2 of recovery)

Parameter	Sex		No. of animals
	Male	Female	
Dose (mg/kg)	0	250	250
Posture	6	6	6
Normal	6	6	6
Convulsion	6	6	6
None	6	6	6
Abnormal behavior	6	6	6
None	6	6	6

No significant difference between treated group and control group.

Table 2-7 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Detailed clinical signs: in-the-hand observations (Week 1)

Parameter	Sex		Male						Female							
	Dose (mg/kg)		15		60		250		0		15		60		250	
	No. of animals		12	6	6	6	12	12	12	12	12	6	6	6	6	12
Ease of removal from cage			12	6	6	6	12	12	12	12	6	6	6	6	12	12
Easy																
Fur condition			12	6	6	6	12	12	12	12	6	6	6	6	12	12
Normal																
Skin			12	6	6	6	12	12	12	12	6	6	6	6	12	12
Normal																
Secretions-Eye, Nose			12	6	6	6	12	12	12	12	6	6	6	6	12	12
Absent																
Exophthalmos			12	6	6	6	12	12	12	12	6	6	6	6	12	12
Absent																
Palpebral closure			12	6	6	6	12	12	12	12	6	6	6	6	12	12
Normal																
Mucosal membranes			12	6	6	6	12	12	12	12	6	6	6	6	12	12
Normal																
Lacrimation			12	6	6	6	12	12	12	12	6	6	6	6	12	12
Normal																
Piloerection			12	6	6	6	12	12	12	12	6	6	6	6	12	12
Absent																
Pupil size			12	6	6	6	12	12	12	12	6	6	6	6	12	12
Normal																
Salivation			12	6	6	6	12	12	12	12	6	6	6	6	12	12
None																
Abnormal respiration			12	6	6	6	12	12	12	12	6	6	6	6	12	12
Absent																
Reactivity to handling			12	6	6	6	12	12	12	12	6	6	6	6	12	12
Easy																

No significant difference in any treated groups from control group.

Table 2-8 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Detailed clinical signs : in-the-hand observations (Week 2)

Parameter	Sex							
	Male			Female				
	Dose (mg/kg)	No. of animals		Dose (mg/kg)	No. of animals			
	0	15	60	250	0	15	60	250
	12	6	6	12	12	6	6	12
Ease of removal from cage	12	6	6	12	11	6	6	12
Easy	0	0	0	0	1	0	0	0
Some resistance/avoidance								
Fur condition	12	6	6	12	12	6	6	12
Normal								
Skin	12	6	6	12	12	6	6	12
Normal								
Secretions-Eye, Nose	12	6	6	12	12	6	6	12
Absent								
Exophthalmos	12	6	6	12	12	6	6	12
Absent								
Palpebral closure	12	6	6	12	12	6	6	12
Normal								
Mucosal membranes	12	6	6	12	12	6	6	12
Normal								
Lacrimation	12	6	6	12	12	6	6	12
Normal								
Piloerection	12	6	6	12	12	6	6	12
Absent								
Pupil size	12	6	6	12	12	6	6	12
Normal								
Salivation	12	6	6	12	12	6	6	12
None								
Abnormal respiration	12	6	6	12	12	6	6	12
Absent								
Reactivity to handling	12	6	6	12	12	6	6	12
Easy								

No significant difference in any treated groups from control group.

Table 2-9 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Detailed clinical signs : in-the-hand observations (Week 3)

Parameter	Sex							
	Male			Female				
	Dose (mg/kg)	No. of animals		Dose (mg/kg)	No. of animals			
	0	15	60	250	0	15	60	250
	12	6	6	12	12	6	6	12
Ease of removal from cage	12	6	6	12	11	6	5	12
Easy	0	0	0	0	1	0	1	0
Some resistance/avoidance	12	6	6	12	12	6	6	12
Fur condition								
Normal	12	6	6	12	12	6	6	12
Skin								
Normal	12	6	6	12	12	6	6	12
Secretions-Eye, Nose								
Absent	12	6	6	12	12	6	6	12
Exophthalmos								
Absent	12	6	6	12	12	6	6	12
Palpebral closure								
Normal	12	6	6	12	12	6	6	12
Mucosal membranes								
Normal	12	6	6	12	12	6	6	12
Lacrimation								
Normal	12	6	6	12	12	6	6	12
Piloerection								
Absent	12	6	6	12	12	6	6	12
Pupil size								
Normal	12	6	6	12	12	6	6	12
Salivation								
None	12	6	6	12	12	6	6	12
Abnormal respiration								
Absent	12	6	6	12	12	6	6	12
Reactivity to handling								
Easy	12	6	6	12	11	6	5	12
Slightly awkward	0	0	0	0	1	0	1	0

No significant difference in any treated groups from control group.

Table 2-10 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Detailed clinical signs : in-the-hand observations (Week 4)

Parameter	Sex								
	Male			Female					
	Dose (mg/kg)	0	15	60	250	0	15	60	250
	No. of animals	12	6	6	12	12	6	6	12
Ease of removal from cage									
Easy		11	6	6	12	12	5	6	12
Some resistance/avoidance		1	0	0	0	0	1	0	0
Fur condition									
Normal		12	6	6	12	12	6	6	12
Skin									
Normal		12	6	6	12	12	6	6	12
Secretions-Eye, Nose									
Absent		12	6	6	12	12	6	6	12
Exophthalmos									
Absent		12	6	6	12	12	6	6	12
Palpebral closure									
Normal		12	6	6	12	12	6	6	12
Mucosal membranes									
Normal		12	6	6	12	12	6	6	12
Lacrimation									
Normal		12	6	6	12	12	6	6	12
Piloerection									
Absent		12	6	6	12	12	6	6	12
Pupil size									
Normal		12	6	6	12	12	6	6	12
Salivation									
None		12	6	6	12	12	6	6	12
Abnormal respiration									
Absent		12	6	6	12	12	6	6	12
Reactivity to handling									
Easy		12	6	6	12	12	6	6	11
Slightly awkward		0	0	0	0	1	0	0	1

No significant difference in any treated groups from control group.

Table 2-11 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Detailed clinical signs : in-the-hand observations (Week 1 of recovery)

Parameter	Sex		Male		Female	
	Dose (mg/kg)	No. of animals	0	250	0	250
Ease of removal from cage						
Easy		5	6	6	6	6
Some resistance/avoidance		1	0	0	0	0
Fur condition						
Normal		6	6	6	6	6
Skin						
Normal		6	6	6	6	6
Absent		6	6	6	6	6
Secretions-Eye, Nose						
Absent		6	6	6	6	6
Exophthalmos						
Absent		6	6	6	6	6
Palpebral closure						
Normal		6	6	6	6	6
Mucosal membranes						
Normal		6	6	6	6	6
Lacrimation						
Normal		6	6	6	6	6
Piloerection						
Absent		6	6	6	6	6
Pupil size						
Normal		6	6	6	6	6
Salivation						
None		6	6	6	6	6
Abnormal respiration						
Absent		6	6	6	6	6
Reactivity to handling						
Easy		6	6	6	6	6

No significant difference between treated group and control group.

Table 2-12 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Detailed clinical signs : in-the-hand observations (Week 2 of recovery)

Parameter	Sex		Male		Female	
	Dose (mg/kg)	No. of animals	0	250	0	250
Ease of removal from cage						
Easy resistance/avoidance		5	4	6	6	6
Difficult		1	0	0	0	0
		0	2	0	0	0
Fur condition						
Normal		6	6	6	6	6
Skin						
Normal		6	6	6	6	6
Secretions-Eye, Nose						
Absent		6	6	6	6	6
Exophthalmos						
Absent		6	6	6	6	6
Palpebral closure						
Normal		6	6	6	6	6
Mucosal membranes						
Normal		6	6	6	6	6
Lacrimation						
Normal		6	6	6	6	6
Piloerection						
Absent		6	6	6	6	6
Pupil size						
Normal		6	6	6	6	6
Salivation						
None		6	6	6	6	6
Abnormal respiration						
Absent		6	6	6	6	6
Reactivity to handling						
Easy		5	3	6	6	6
Slightly awkward		0	3	0	0	0
Difficult		1	0	0	0	0

No significant difference between treated group and control group.

Table 2-13 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Detailed clinical signs : open field observation (Week 1)

Sex	Male				Female				
	0	15	60	250	0	15	60	250	
Parameter	No. of animals	12	6	6	12	12	6	6	12
Arousal	Normal	12	6	6	12	12	6	6	12
Convulsion	None	12	6	6	12	12	6	6	12
Abnormal behavior	None	12	6	6	12	12	6	6	12
Stereotypy	None	12	6	6	12	12	6	6	12
Gait	No/minimal location	0	0	0	1	0	0	0	0
	Normal	12	6	6	11	12	6	6	12
Posture	Normal	12	6	6	12	12	6	6	12
Grooming	None	12	6	6	12	12	6	6	12
Rearing count (Mean±S.D.)		5±3	5±2	4±3	4±3	7±2	4±2	7±2	6±3
Defecation count (Mean±S.D.)		0±1	0±1	0±1	1±1	0±0	0±0	0±0	0±1
Urination	None	9	3	5	10	12	6	4	11
	Small amount	3	3	1	2	0	0	2	1

No significant difference in any treated groups from control group.

Table 2-14 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Detailed clinical signs : open field observation (Week 2)

Parameter	Sex							
	Male			Female				
	0	15	60	250	0	15	60	250
Dose (mg/kg)								
No. of animals	12	6	6	12	12	6	6	12
Arousal	12	6	6	12	12	6	6	12
Normal								
Convulsion	12	6	6	12	12	6	6	12
None								
Abnormal behavior	12	6	6	12	11 ^{a)}	6	6	12
None	0	0	0	0	1	0	0	0
Minor								
Stereotypy	12	6	6	12	12	6	6	12
None								
Gait	0	0	1	2	0	0	0	0
NO/minimal location	12	6	5	10	12	6	6	12
Normal								
Posture	12	6	6	12	12	6	6	12
Normal								
Grooming	12	6	6	12	12	6	6	12
None								
Rearing count (Mean±S.D.)	5±3	4±2	4±3	2±2*D	7±4	6±4	9±4	6±3
Defecation count (Mean±S.D.)	0±0	0±0	0±0	1±1**DT	0±0	0±0	1±1	0±1
Urination	10	6	6	10	12	6	6	9
None	2	0	0	1	0	0	0	3
Small amount	0	0	0	1	0	0	0	0
Moderate amount								

a) Career
* : p<0.05 ; ** : p<0.01 (Significant difference from control group)
D : Dunnett's test
DT : Dunnett-type rank test

Table 2-15 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Detailed clinical signs : open field observation (Week 3)

Parameter	Sex							
	Male			Female				
	Dose (mg/kg)	No. of animals		Dose (mg/kg)	No. of animals			
	0	15	60	250	0	15	60	250
	12	6	6	12	12	6	6	12
Arousal								
Normal	12	6	6	12	12	5	6	12
Increased alertness	0	0	0	0	0	1	0	0
Convulsion								
None	12	6	6	12	12	6	6	12
Abnormal behavior								
None	12	6	6	12	12	6	5	11
Minor	0	0	0	0	0	0	1	1
Stereotypy								
None	12	6	6	12	12	6	6	12
Gait								
No/minimal location	1	1	0	1	0	0	0	0
Normal	11	5	6	11	12	6	6	12
Posture								
Normal	12	6	6	12	12	6	6	12
Grooming								
None	12	6	6	12	12	6	6	12
Rearing count (Mean±S.D.)	4±3	2±2	3±3	3±4	7±3	5±3	10±5	6±4
Defecation count (Mean±S.D.)	1±2	1±1	0±0	2±2	0±1	0±0	0±0	0±0
Urination								
None	10	4	5	8	12	6	6	10
Small amount	2	2	1	4	0	0	0	2

No significant difference in any treated groups from control group.

Table 2-16 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Detailed clinical signs : open field observation (Week 4)

Parameter	Sex							
	Male			Female				
	0	15	60	250	0	15	60	250
No. of animals	12	6	6	12	12	6	6	12
Arousal	12	6	6	12	12	6	6	12
Normal								
Convulsion	12	6	6	12	12	6	6	12
None								
Abnormal behavior	12	6	6	12	12	6	6	12
None								
Stereotypy	12	6	6	12	12	6	6	12
None								
Gait	2	1	1	0	0	0	0	0
No/minimal location	10	5	5	12	12	6	6	12
Normal								
Posture	12	6	6	12	12	6	6	12
Normal								
Grooming	12	6	6	12	12	6	6	12
None								
Rearing count (Mean±S.D.)	5±3	4±2	4±3	5±2	10±3	8±3	10±4	7±3*D
Defecation count (Mean±S.D.)	0±0	0±0	0±0	1±1**DT	0±0	0±0	0±0	0±0
Urination	11	6	6	9	12	6	6	12
None	1	0	0	3	0	0	0	0
Small amount								

* : p<0.05 ; ** : p<0.01 (Significant difference from control group)

D : Dunnett's test

DT : Dunnett-type rank test

Table 2-17 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Detailed clinical signs : open field observation (Week 1 of recovery)

Parameter	Sex		Male		Female	
	Dose (mg/kg)	No. of animals	0	250	0	250
Arousal						
Normal		6	6	6	6	6
Convulsion						
None		6	6	6	6	6
Abnormal behavior						
None		6	6	6	6	6
Stereotypy						
None		6	6	6	6	6
Gait						
Normal		6	6	6	6	6
Posture						
Normal		6	6	6	6	6
Grooming						
None		6	6	6	6	6
Rearing count (Mean±S.D.)		6±2	4±2	8±2	7±3	
Defecation count (Mean±S.D.)		0±0	0±0	0±0	0±0	0±0
Urination						
None		5	5	6	6	6
Small amount		0	1	0	0	0
Moderate amount		1	0	0	0	0

No significant difference between treated group and control group.

Table 2-18 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Detailed clinical signs : open field observation (Week 2 of recovery)

Parameter	Sex		No. of animals	Dose (mg/kg)		No. of animals	
	Male	Female		0	250	0	250
Arousal Normal	6	6	6	6	6	6	6
Convulsion None	6	6	6	6	6	6	6
Abnormal behavior None	6	6	6	6	6	6	6
Stereotypy None	6	6	6	6	6	6	6
Gait Normal	6	6	6	6	6	6	6
Posture Normal	6	6	6	6	6	6	6
Grooming None	6	6	6	6	6	6	6
Rearing count (Mean±S.D.)	5±2	5±2	6	5±2	8±3	6	7±2
Defecation count (Mean±S.D.)	0±0	0±0	6	0±0	0±0	6	0±0
Urination							
None	4	4	6	6	6	6	6
Small amount	1	0	6	0	0	6	0
Moderate amount	1	0	6	0	0	6	0

No significant difference between treated group and control group.

Table 2-19 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks.
Manipulative test (Week 4)

Parameter	Sex			Male			Female				
	Dose (mg/kg)	No. of animals		0	15	60	250	0	15	60	250
Auditory response Normal		12		12	6	6	12	12	6	6	12
Approach response Normal		12		12	6	6	12	12	6	6	12
Touch response Normal		12		12	6	6	12	12	6	6	12
Tail pinch response Normal		12		12	6	6	12	12	6	6	12
Pupillary reflex Pass, both		12		12	6	6	12	12	6	6	12
Aerial righting reflex (Total score: Mean±S.D.)		0±0		0±0	0±0	0±0	0±0	0±0	0±0	0±0	0±0
Landing foot splay (mm: Mean±S.D.)		78±16		89±15	91±16	91±16	89±17	62±13	61±19	64±28	68±14

No significant difference in any treated groups from control group.

Table 2-20 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Manipulative test (Week 2 of recovery)

Parameter	Sex		Male		Female	
	Dose (mg/kg)	No. of animals	0	250	0	250
Auditory response						
Weak			0	1	0	1
Normal			6	5	6	5
Approach response						
Normal			6	6	6	6
Touch response						
Normal			6	6	6	6
Tail pinch response						
Normal			6	6	6	6
Pupillary reflex						
Pass, both			6	6	6	6
Aerial righting reflex (Total score: Mean±S.D.)			0±0	0±0	0±0	0±0
Landing foot splay (mm: Mean±S.D.)			72±14	91±13*†	52±9	65±18

* : p<0.05 (Significant difference from control group)

† : Student's t-test

Table 2-21. A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Grip strength (Week 4)

Sex	Dose mg/kg	Fore limb		Hind limb	
		g		g	
Male	0	No.	12	12	12
		Mean	906	534	534
		S.D.	95	71	71
Male	15	No.	6	6	6
		Mean	965	620	620
		S.D.	199	98	98
Male	60	No.	6	6	6
		Mean	912	583	583
		S.D.	164	89	89
Male	250	No.	12	12	12
		Mean	1021	533	533
		S.D.	252	139	139
Female	0	No.	12	12	12
		Mean	902	426	426
		S.D.	114	72	72
Female	15	No.	6	6	6
		Mean	808	472	472
		S.D.	138	94	94
Female	60	No.	6	6	6
		Mean	857	390	390
		S.D.	190	57	57
Female	250	No.	12	12	12
		Mean	925	455	455
		S.D.	189	89	89

No significant difference in any treated groups from control group.

Table 2-22 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Grip strength (Week 2 of recovery)

Sex	Dose mg/kg	Grip strength (g)	
		Fore limb	Hind limb
Male	0	No.	6
		Mean	653
	250	S.D.	135
		No.	6
0	Mean	665	
	S.D.	108	
Female	0	No.	6
		Mean	540
	250	S.D.	99
		No.	6
0	Mean	571	
	S.D.	75	

No significant difference between treated group and control group.

Table 2-23 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Motor activity (Week 4)

Sex	Dose mg/kg	Interval (minutes)							Total(0-60)
		0-10	10-20	20-30	30-40	40-50	50-60		
Male	0	No. 415	12 361	12 335	12 355	12 308	12 317	12 2090	12 339
		Mean	46	70	67	101	148		
		S.D.							
Male	15	No. 421	6 373	6 318	6 232*	6 1832	6 252	6 1832	6 622
		Mean	35	80	131D	171	193		
		S.D.							
Male	60	No. 438	6 396	6 372	6 348	6 314	6 261	6 2128	6 201
		Mean	26	47	54	100	147		
		S.D.							
Male	250	No. 422	12 366	12 371	12 385	12 266	12 260	12 2019	12 384
		Mean	27	30	91	134	158		
		S.D.							
Female	0	No. 398	12 324	12 262	12 282	12 231	12 199	12 1695	12 337
		Mean	48	84	73	100	124		
		S.D.							
Female	15	No. 409	6 328	6 282	6 277	6 253	6 199	6 1748	6 367
		Mean	34	50	84	126	99		
		S.D.							
Female	60	No. 427	6 341	6 281	6 270	6 227	6 207	6 1753	6 283
		Mean	48	30	49	51	105		
		S.D.							
Female	250	No. 396	12 382	12 274	12 275	12 208	12 152	12 1637	12 442
		Mean	47	42	83	127	129		
		S.D.							

* : p<0.05 (Significant difference from control group)

D : Dunnett's test

Table 2-24. A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Motor activity (Week 2 of recovery)

Sex	Dose mg/kg		Interval (minutes)							Total(0-60)
			0-10	10-20	20-30	30-40	40-50	50-60		
Male	0	No.	6	6	6	6	6	6	6	6
		Mean	381	276	272	307	287	226	1747	
	S.D.	62	82	76	61	106	136	394		
	250	No.	6	6	6	6	6	6	6	
Mean		364	304	311	284	282	229	1732		
S.D.	56	62	39	57	100	108	276			
Female	0	No.	6	6	6	6	6	6	6	
		Mean	359	321	252	286	206	118	1492	
	S.D.	64	20	79	50	149	108	380		
	250	No.	6	6	6	6	6	6	6	
Mean		398	299	270	289	194	161	1561		
S.D.	50	127	69	127	127	129	418			

No significant difference between treated group and control group.

Table 3-1 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Body weight (Administration period)

Sex	Dose mg/kg	Day of administration														Gain 1-28
		1	4	7	10	14	17	21	24	28						
0	No.	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
	Mean	212	240	260	283	316	337	358	371	391	391	391	391	391	391	391
	S.D.	7	7	10	12	13	15	18	21	20	20	20	20	20	20	20
Male	15	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	Mean	212	240	265	286	322	346	369	384	398	398	398	398	398	398	398
	S.D.	5	7	10	13	17	21	25	25	28	28	28	28	28	28	28
60	60	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	Mean	213	242	265	284	316	338	357	373	391	391	391	391	391	391	391
	S.D.	7	11	16	21	30	36	41	46	53	53	53	53	53	53	53
250	250	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
	Mean	213	240	264	285	317	339	357	370	386	386	386	386	386	386	386
	S.D.	8	9	12	16	20	23	25	27	30	30	30	30	30	30	30
0	No.	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
	Mean	151	162	167	178	192	202	212	220	229	229	229	229	229	229	229
	S.D.	5	8	8	12	13	15	17	19	21	21	21	21	21	21	21
Female	15	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	Mean	150	162	167	177	190	198	207	216	224	224	224	224	224	224	224
	S.D.	8	7	6	7	9	12	13	13	14	14	14	14	14	14	14
60	60	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
	Mean	152	163	166	179	191	202	212	218	227	227	227	227	227	227	227
	S.D.	7	6	4	9	11	12	12	13	14	14	14	14	14	14	14
250	250	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
	Mean	152	163	168	179	193	205	214	221	227	227	227	227	227	227	227
	S.D.	3	3	4	7	10	11	11	11	12	12	12	12	12	12	12

Unit : g
No significant difference in any treated groups from control group.

Table 3-2 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Body weight (Recovery period)

Sex	Dose mg/kg	Day of recovery							Gain 1-14
		1	3	7	10	14			
Male	0	No.	6	6	6	6	6	6	6
		Mean	406	415	434	449	457	51	51
		S.D.	10	11	13	13	14	8	8
	250	No.	6	6	6	6	6	6	6
		Mean	380	388	408	422	430	50	50
		S.D.	33	31	37	40	40	11	11
Female	0	No.	6	6	6	6	6	6	6
		Mean	228	235	241	247	249	21	21
		S.D.	27	29	29	32	33	9	9
	250	No.	6	6	6	6	6	6	6
		Mean	230	233	235	241	243	13	13
		S.D.	11	9	11	14	11	3	3

Unit : g
NO significant difference between treated group and control group.

Table 4-1 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Food consumption (Administration period)

Sex	Dose mg/kg	Day of administration																	
		1	4	7	10	14	17	21	24	28	1	4	7	10	14	17	21	24	28
Male	0	No.	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
		Mean	23	24	25	27	27	26	27	26	27	26	27	25	27	26	27	25	27
		S.D.	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
15	6	No.	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		Mean	24	24	26	28	28	29	28	29	28	29	27	28	27	28	27	28	28
		S.D.	1	1	1	1	1	2	2	2	2	2	1	1	1	2	1	2	2
60	6	No.	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		Mean	24	25	26	28	27	27	27	27	27	26	27	26	27	26	27	26	28
		S.D.	2	2	3	3	4	4	4	4	4	4	4	4	4	4	4	4	5
250	12	No.	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
		Mean	24	24	26	28	27	28	27	28	27	28	27	28*	27	28	27	28*	28
		S.D.	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	3D	2
Female	0	No.	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
		Mean	17	17	17	18	18	18	18	18	18	18	19	18	19	18	19	18	20
		S.D.	2	2	1	2	2	2	2	2	2	2	2	2	3	2	2	2	2
15	6	No.	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		Mean	16	17	16	18	17	17	18	17	18	17	18	18	18	18	18	18	19
		S.D.	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
60	6	No.	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
		Mean	17	17	16	18	18	18	18	18	18	18	18	17	18	17	18	17	19
		S.D.	2	1	2	2	2	2	2	2	2	2	2	1	2	1	2	1	1
250	12	No.	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
		Mean	17	16	16	18	18	19	18	19	18	19	18	19	18	19	18	19	20
		S.D.	1	1	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Unit : g/rat/day
* : p<0.05 (Significant difference from control group)
D : Dunnett's test

Table 4-2 A 28-day oral toxicity study of 2,6-di-tert-butyl-4-ethylphenol in rats with a recovery period of 2 weeks
Food consumption (Recovery period)

Sex	Dose mg/kg	Day of recovery					
		3	7	10	14		
Male	0	No.	6	6	6	6	6
		Mean	29	28	28	27	27
	S.D.	1	2	2	2	2	
	250	No.	6	6	6	6	6
Mean		30	29	29	27	27	
S.D.	2	3	3	3	3		
Female	0	No.	6	6	6	6	6
		Mean	21	19	19	18	18
	S.D.	3	3	3	3	3	
	250	No.	6	6	6	6	6
Mean		21	19	20	19	19	
S.D.	2	2	2	2	1		

Unit : g/rat/day
NO significant difference between treated group and control group.