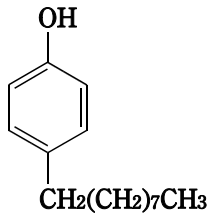
Chemical Name; *p*-Nonylphenol
Synonym ; 4-Nonylphenol
4-ノニルフェノール

Molecular Weight ; 220.35
Melting Point ; 41 - 42.5 ℃ [CHCD]
Boiling Point ; 180 - 181 ℃ (10mmHg) [CHCD]
140 - 142 ℃ (1.3mmHg) [CHCD]
Flashing Point ; — ℃
Molecular Formula; $C_{15}H_{24}O$

Chemical Structure



CAS No. ; 104-40-5
MITI No. ; (3)-503
ML No. ; —
Specified Chemical Substances; —

Source of Substance; Tokyo Kasei Kogyo Co.,Ltd.
Lot No. ; GA01
Purity ; 88.8 %

Vehicle ; DMSO

Mutagenicity in Bacterial Test ; **Negative**

IARC Evaluation ; not yet cited

Conc. μg/plate	Number of Revertants/plate									
	Base-substitution						Frame-shift			
	TA100		TA1535		WP2*uvrA*		TA98		TA1537	
	S9−	S9+	S9−	S9+	S9−	S9+	S9−	S9+	S9−	S9+
DMSO	(118)	(143)	(11)	(13)	(15)	(23)	(18)	(31)	(6)	(8)
	120	166	10	10	10	25	23	31	3	9
	116	108	15	8	9	29	24	32	11	5
0.0763	(118)	(137)	(13)	(9)	(10)	(27)	(24)	(32)	(7)	(7)
	122	131	9	5	11	20	20	33	5	2
	119	142	8	6	16	20	20	32	5	5
0.305	(121)	(137)	(9)	(6)	(14)	(20)	(20)	(33)	(5)	(4)
	113	149	6	13	14	13	21	41	3	8
	122	139	5	7	16	28	24	31	2	7
1.22	(118)	(144)	(6)	(10)	(15)	(21)	(23)	(36)	(3)	(8)
	105*	156	3*	14	9	24	24*	36	3*	6
	97*	157	8*	13	10	23	18*	24	2*	8
4.88	(101*)	(157)	(6*)	(14)	(10)	(24)	(21*)	(30)	(3*)	(7)
	0*	159	0*	13	15*	25	0*	45	0*	7
	0*	187	0*	20	11*	28	0*	44	0*	3
19.5	(0*)	(173)	(0*)	(17)	(13*)	(27)	(0*)	(45)	(0*)	(5)
	0*	127	0*	8*	7*	24*	0*	23	0*	6*
	0*	156	0*	6*	6*	15*	0*	37	0*	6*
78.1	(0*)	(142)	(0*)	(7*)	(7*)	(20*)	(0*)	(30)	(0*)	(6*)
	0*	46*	0*	2*	0*	2*	0*	10*	0*	0*
	0*	40*	0*	0*	0*	11*	0*	14*	0*	0*
313	(0*)	(43*)	(0*)	(1*)	(0*)	(7*)	(0*)	(12*)	(0*)	(0*)
	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*
	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*
1250 †	(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*	0*	0*	0*	0*
5000 †	(0*)	(0*)	(0*)	(0*)	(0*)	(0*)	(0*)	(0*)	(0*)	(0*)
Judgement	—	—	—	—	—	—	—	—	—	—
Specific Mutagenicity										
Positive Control	AF-2 (746)	2-AA (1091)	NaN_3 (349)	2-AA (291)	AF-2 (247)	2-AA (1003)	AF-2 (538)	2-AA (309)	9-AA (693)	2-AA (191)

† Test chemical was precipitated.

Experimental Data - 2

Conc. μg/plate	Number of Revertants/plate							
	Base-substitution				Frame-shift			
	TA100		TA1535		TA98		TA1537	
	S9−	S9+	S9−	S9+	S9−	S9+	S9−	S9+
DMSO	(111)	(118)	(10)	(8)	(19)	(28)	(6)	(10)
	130		7		21		7	
	92		6		13		3	
0.0763	(111)		(7)		(17)		(5)	
	120		10		21		3	
	111		7		21		5	
0.153	(116)		(9)		(21)		(4)	
	123		5		17		8	
	78		6		20		3	
0.305	(101)		(6)		(19)		(6)	
	96		3		18		2	
	113		3		25		3	
0.610	(105)		(3)		(22)		(3)	
	109		5	11	21		5	9
	114		5	11	22		3	9
1.22	(112)		(5)	(11)	(22)		(4)	(9)
	74*		6*	14	9*		6*	9
	90*		5*	6	20*		5*	7
2.44	(82*)		(6*)	(10)	(15*)		(6*)	(8)
	67*	135	3*	13	9*	32	0*	7
	64*	145	2*	15	15*	30	0*	11
4.88	(66*)	(140)	(3*)	(14)	(12*)	(31)	(0*)	(9)
		144		7		38		8
		137		8		24		6
9.77		(141)		(8)		(31)		(7)
		127		10		38		2
		145		14		34		14
19.5		(136)		(12)		(36)		(8)
		98		3*		20		7*
		114		14*		30		6*
39.1		(106)		(9*)		(25)		(7*)
		94		7*		13		0*
		81		3*		23		0*
78.1		(88)		(5*)		(18)		(0*)
		29*				11*		
		40*				11*		
156		(35*)				(11*)		
		0*				0*		
		0*				0*		
313		(0*)				(0*)		
Judgement	−	−	−	−	−	−	−	−
Specific Mutagenicity								
Positive Control	AF-2 (731)	2-AA (1043)	NaN_3 (342)	2-AA (300)	AF-2 (516)	2-AA (265)	9-AA (790)	2-AA (170)

Conc. μg/plate	Number of Revertants/plate									
	Base-substitution						Frame-shift			
	TA100		TA1535		WP2*uvrA*		TA98		TA1537	
	S9−	S9+	S9−	S9+	S9−	S9+	S9−	S9+	S9−	S9+
DMSO	(113)	(125)	(9)	(9)	(24)	(32)	(12)	(22)	(4)	(8)
	101		13				14		5	
	120		8				10		7	
0.0763	(111)		(11)				(12)		(6)	
	141		10				13		6	
	105		11				20		3	
0.156	(123)		(11)				(17)		(5)	
	123		7				21		9	
	97		13				16		2	
0.305	(110)		(10)				(19)		(6)	
	119		9		36		13		2	
	119		7		26		15		2	
0.610	(119)		(8)		(31)		(14)		(2)	
	98		3	11	29		16		7	7
	113		9	9	30		11		2	5
1.22	(106)		(6)	(10)	(30)		(14)		(5)	(6)
	96*		11*	7	29	31	14*		7*	11
	114*		7*	8	30	33	15*		1*	6
2.44	(105*)		(9*)	(8)	(30)	(32)	(15*)		(4*)	(9)
		139		11	28	29		26		5
		167		9	31	30		20		2
4.88		(153)		(10)	(30)	(30)		(23)		(4)
		166		9	21	33		28		2
		148		9	26	37		25		3
9.77		(157)		(9)	(24)	(35)		(27)		(3)
		160		11	20*	43		26		7
		153		7	15*	40		18		11
19.5		(157)		(9)	(18*)	(42)		(22)		(9)
		135		9*		49		29		6*
		135		8*		38		34		6*
39.1		(135)		(9*)		(44)		(32)		(6*)
		97				29*		20		
		119				23*		15		
78.1		(108)				(26*)		(18)		
		90*						6*		
		70*						18*		
156		(80*)						(12*)		
Judgement	−	−	−	−	−	−	−	−	−	−
Specific Mutagenicity										
Positive Control	AF-2 (710)	2-AA (1008)	NaN_3 (351)	2-AA (300)	AF-2 (259)	2-AA (1140)	AF-2 (539)	2-AA (283)	9-AA (595)	2-AA (175)

Experimental Data - 4

Conc. μg/plate	Number of Revertants/plate					
	Base-substitution					
	TA102		TA104		WP2*uvrA*/pKM101	
	S9−	S9+	S9−	S9+	S9−	S9+
DMSO	(246)	(311)	(315)	(328)	(50)	(86)
	221	352	287	374	45	84
	236	307	247	374	66	64
0.0763	(229)	(330)	(267)	(374)	(56)	(74)
	207	325	306	370	53	72
	248	304	288	402	46	68
0.305	(228)	(315)	(297)	(386)	(50)	(70)
	236	292	300	413	46	82
	223	306	284	413	69	72
1.22	(230)	(299)	(292)	(413)	(58)	(77)
	205*	348	310	419	59	81
	228*	343	290	404	45	76
4.88	(217*)	(346)	(300)	(412)	(52)	(79)
	127*	337	274*	424	41*	84
	138*	373	292*	419	33*	82
19.5	(133*)	(355)	(283*)	(422)	(37*)	(83)
	79*	329	186*	390	0*	39*
	120*	337	208*	391	0*	45*
78.1	(100*)	(333)	(197*)	(391)	(0*)	(42*)
	0*	164*	0*	223	0*	0*
	0*	151*	0*	252	0*	0*
313	(0*)	(158*)	(0*)	(238)	(0*)	(0*)
	0*	22*	0*	56*	0*	0*
	0*	25*	0*	43*	0*	0*
1250	(0*)	(24*)	(0*)	(50*)	(0*)	(0*)
	0*	16*	0*	84*	0*	0*
	0*	38*	0*	41*	0*	0*
5000	(0*)	(27*)	(0*)	(63*)	(0*)	(0*)
Judgement	−	−	−	−	−	−
Specific Mutagenicity						
Positive Control	BLM (885)	2-AA (1026)	PA (1565)	2-AA (1200)	AF-2 (1337)	2-AA (953)

Experimental Data - 5 (B9510-4/5)

Conc. μg/plate	Number of Revertants/plate	
	Base-substitution	
	TA102	
	S9−	S9+
DMSO	(231)	(275)
	216	
	236	
0.00119	(226)	
	225	
	227	
0.00477	(226)	
	207	
	216	
0.0191	(212)	
	226	247
	236	305
0.0763	(231)	(276)
	200	288
	220	316
0.305	(210)	(302)
	233	287
	227	303
1.22	(230)	(295)
	219*	320
	204*	325
4.88	(212*)	(323)
		307
		318
19.5		(313)
		253
		235
78.1		(244)
		93*
		81*
313		(87*)
Judgement	−	−
Specific Mutagenicity		
Positive Control	BLM (764)	2-AA (1221)

Experimental Data - 6

Conc. μg/plate	Number of Revertants/plate Base-substitution					
	TA102		TA104		WP2*uvrA*/pKM101	
	S9−	S9+	S9−	S9+	S9−	S9+
DMSO	(244)	(301)	(304)	(369)	(45)	(62)
	242					
	245					
0.0763	(244)					
	228					
	262					
0.153	(245)					
	238		247		37	
	215		317		41	
0.305	(227)		(282)		(39)	
	269		309		48	
	248		305		56	
0.610	(259)		(307)		(52)	
	279		303		37	61
	234		316		46	79
1.22	(257)		(310)		(42)	(70)
	221		297		52	87
	250		304		51	75
2.44	(236)		(301)		(52)	(81)
	183*	332	306		46	71
	193*	370	265		47	70
4.88	(188*)	(351)	(286)		(47)	(71)
		359	282*		47*	66
		347	252*		29*	74
9.77		(353)	(267*)		(38*)	(70)
		361	297*	444	38*	84
		356	263*	419	26*	70
19.5		(359)	(280*)	(432)	(32*)	(77)
		324		450		66
		325		414		48
39.1		(325)		(432)		(57)
		311		361		52*
		319		368		40*
78.1		(315)		(365)		(46*)
		245		358		
		213		340		
156		(229)		(349)		
		146*		249		
		113*		280		
313		(130*)		(265)		
				108*		
				83*		
625				(96*)		
				45*		
				31*		
1250				(38*)		
Judgement	−	−	−	−	−	−
Specific Mutagenicity						
Positive Control	BLM (823)	2-AA (2236)	PA (2518)	2-AA (1123)	AF-2 (1269)	2-AA (1097)