Naphthalene (ナフタレン)

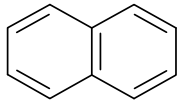
Experimental Data (Short treatments)-1

Chemical Name ; Naphthalene

Synoym ; Naphthalin
Naphthene

Molecular Weight ; 128.17
Melting Point ; 80.3℃ [CHCD]
Boiling Point ; 217.9℃ [Merck]
Flashing Point ; 88 ℃(c.c.)[Merck]
Molecular Formula ; $C_{10}H_8$

Chemical Structure ;



CAS No. ; 91-20-3
MITI No. ; (4)-311
ML No. ; −
Specified Chemical Substances ; −

Source of Substance ; Wako Pure Chemical Industries Ltd.
Lot No. ; WTF1348
Purity ; 99.3%

Vehicle ; Dehydrated DMSO

Treatment Time (h)	S9 mix	Concentration (mg/ml)	Cell with Structural Chromosome Aberration (%)							Gap (%)	Cell Growth Rate (%)	Cell with Numerical Chromosome Aberration(%)			
			No. of Metaphase	Chromatid		Chromosome		Others	Total			No. of Metaphase	Poly-ploid	Others	Total
				ctb	cte	csb	cse								
6-18	−	[DMSO] (1%)	200	2.5	1	0	0	0	3	0	100	201	0.5	0.0	0.5
		0.03	200	0.5	1	0	0	0	1.5	0	102	205	2.4	0.0	2.4
		0.06	200	1	0	0	0	0	1	0	106	205	2.4	0.0	2.4
		0.09	200	1.5	1	0	0	0	2.5	1	103	204	2.0	0.0	2.0
		0.12	200	1	0	0	0	0	1	0	67	203	1.0	0.5	1.5
		0.15†	154	3.9	1.3	0	0	0	4.5	0	18	156	1.3	0.0	1.3
		[MMC] (0.0001)	200	17.5	52	0	0	0	57	0.5	−	201	0.5	0.0	0.5
6-18	+	[DMSO] (1%)	200	0	0.5	0	0	0	0.5	0	100	202	1.0	0.0	1.0
		0.006	200	0	0.5	0	0	0	0.5	0	99	204	2.0	0.0	2.0
		0.009	200	0.5	1.5	0	0	0	2	0.5	94	202	1.0	0.0	1.0
		0.012	200	0	0.5	0	0	0	0.5	0	90	200	0.0	0.0	0.0
		0.015	200	3	3.5	0	0	0	6	0	84	203	1.5	0.0	1.5
		0.018	200	1	5.5	0	0	0	6.5	1	48	200	0.0	0.0	0.0
		[B[a]P] (0.01)	200	10	51.5	0	0	0	53.5	0	−	203	1.5	0.0	1.5

Judgement for
Chromosomal Aberration in CHL ; Positive

IARC Evaluation ; Group 2B

※ Test conditions: S9mix ; 5%, Treatment time ; 6h, Recovery time ; 18h
† The precipitation of test chemical was observed in the culture medium.

Experimental Data (Short treatments)-2

Treat-ment Time (h)	S9 mix	Concent-ration (mg/ml)	Cell with Structural Chromosome Aberration (%)							Gap (%)	Cell Growth Rate (%)	Cell with Numerical Chromosome Aberration(%)			
			No. of Metaphase	Chromatid		Chromosome		Others	Total			No. of Metaphase	Poly-ploid	Others	Total
				ctb	cte	csb	cse								
6-18	+	[DMSO] (1%)	200	1	1	0	0	0	2	0	100	201	0.5	0.0	0.5
		0.012	200	0	0	0	0	0	0	0	92	201	0.5	0.0	0.5
		0.015	200	1	1.5	0	0	0	2.5	0	93	200	0.0	0.0	0.0
		0.018	200	0	0.5	0	0	0	0.5	0	87	201	0.5	0.0	0.5
		0.021	200	0	0.5	0	0	0	0.5	0	83	200	0.0	0.0	0.0
		0.024	200	0.5	1.5	0	0	0	2	0	77	201	0.5	0.0	0.5
		0.027	200	1.5	2.5	0	0	0	4	0	70	201	0.5	0.0	0.5
		0.03	200	2	10.5	0	0	0	11.5	1	47	200	0.0	0.0	0.0
		[B[a]P] (0.01)	200	5	32.5	0	0	0	35	0	−	203	1.5	0.0	1.5

※ Test conditions: S9mix ; 5%, Treatment time ; 6h, Recovery time ; 18h

Experimental Data without Metabolic Activation (Continuous treatments)

Treat-ment Time (h)	Concent-ration (mg/ml)	Cell with Structural Chromosome Aberration (%)							Gap (%)	Cell Growth Rate (%)	Cell with Numerical Chromosome Aberration(%)			
		No. of Metaphase	Chromatid		Chromosome		Others	Total			No. of Metaphase	Poly-ploid	Others	Total
			ctb	cte	csb	cse								
24-0	[DMSO] (1%)	200	0.5	1.5	0	0	0	2	0.5	100	202	1.0	0.0	1.0
	0.06	200	1.5	0	0	0	0	1.5	0	96	201	0.5	0.0	0.5
	0.08	200	1	0.5	0	0	0	1.5	0.5	90	204	1.5	0.5	2.0
	0.10	200	0.5	1.5	0	0	0	2	0	81	200	0.0	0.0	0.0
	0.12	200	1	2.5	0	0	0	3.5	1	37	202	1.0	0.0	1.0
	0.14†	TOX								19	TOX			
	[MMC] (0.00004)	200	10	31	0	0	0	38.5	0	—	203	1.5	0.0	1.5
48-0	[DMSO] (1%)	200	0	0.5	0	0	0	0.5	0.5	100	200	0.0	0.0	0.0
	0.06	200	0	0	0	0	0	0	0	101	201	0.5	0.0	0.5
	0.08	200	1	0	0	0	0	1	1.5	87	204	2.0	0.0	2.0
	0.10	200	0.5	1	0	0	0	1	0	77	202	1.0	0.0	1.0
	0.12	200	0	1	0	0	0	1	0	42	203	1.5	0.0	1.5
	0.14†	TOX								6	TOX			
	[MMC] (0.00004)	200	18	58	0	0	0	62	1.5	—	200	0.0	0.0	0.0

※ Test conditions: Treatment time ; 24h or 48h, Recovery time ; 0h
† The precipitation of test chemical was observed in the culture medium.
TOX: Metaphase cell division was not observed.