1,1,1-Trichloroethane (1,1,1-トリクロロエタン)

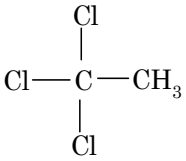
Experimental Data (Short treatments)

Chemical Name ; 1,1,1-Trichloroethane

Synoym ; Methyl chloroform

Molecular Weight ; 133.40
Melting Point ; -32.5℃[CHCD]
Boiling Point ; 74.1℃[CHCD]
Flashing Point ; −
Molecular Formula ; $C_2H_3Cl_3$

Chemical Structure ;



CAS No. ; 71-55-6
METI No. ; (2)-55
MHLW No. ; −
Specified Chemical Substances ; −

Source of Substance; Wako Pure Chemical Industries, Ltd.
Lot No. ; DWP3913
Purity ; 99.4%

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	0.5	0	0	0	0	0.5	0.5	100	200	0	0	0
		0.60†	200	0.5	0	0	0	0	0.5	0	57	205	2.0	0.5	2.4
		0.65†	200	0.5	0.5	0	0	0	1.0	0	37	208	3.8	0	3.8
		0.70†	200	0	1.5	0	0	0	1.5	0.5	29	208	3.8	0	3.8
		0.75†	114	0.9	1.8	0	0	0	2.6	0	17	117	2.6	0	2.6
		0.80†	TOX								10	TOX			
		[MMC] (0.00012)	200	17.0	62.5	0	0	0	70.0	0.5	−	200	0	0	0
6-18	+	[DMSO] (1%)	200	0.5	0.5	0	0	0	0.5	0	100	203	1.5	0	1.5
		0.55†	200	0	0.5	0	0	0	0.5	0.5	54	206	2.9	0	2.9
		0.60†	200	0.5	2.0	0	0.5	0	3.0	1.0	41	209	4.3	0	4.3
		0.65†	200	0	0	0	0.5	0	0.5	0	31	209	4.3	0	4.3
		0.70†	118	0.9	0.9	0	0	0	1.7	0	11	123	4.1	0	4.1
		0.75†	TOX								2	TOX			
		[B[a]P] (0.015)	200	6.5	57.5	0	0	0	58.0	0.5	−	203	1.0	0.5	1.5

Judgement for
Chromosomal Aberration in CHL/IU ; Equivocal

IARC Evaluation ; Group 3

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

Experimental Data without Metabolic Activation (Continuous treatments)-1

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	0.5	0	0	0	0.5	0	100	202	1.0	0	1.0
	0.30	200	0	1.0	0	0	0	1.0	0	107	205	2.4	0	2.4
	0.40	200	0.5	0.5	0	0	0	1.0	0	105	210	4.8	0	4.8
	0.50†	200	0	0.5	0	0	0	0.5	0	105	211	5.2	0	5.2
	0.60†	200	0	0.5	0	0	0	0.5	0	59	213	6.1	0	6.1
	0.70†	104	1.9	1.0	0	0	0	2.9	1.0	21	104	0	0	0
	[MMC] (0.00004)	200	7.0	35.0	0	0	0	38.5	0.5	−	200	0	0	0
48-0	[DMSO] (1%)	200	0	0.5	0	0	0	0.5	0	100	200	0	0	0
	0.20	200	0.5	0	0	0	0	0.5	0	111	200	0	0	0
	0.30	200	0	0	0	0	0	0	0	90	201	0.5	0	0.5
	0.40	200	0	0	0	0	0	0	0	64	204	2.0	0	2.0
	0.50†	200	0.5	0	0	0	0	0.5	0	42	207	3.4	0	3.4
	0.60†	200	0.5	0	0	0	0	0.5	0	38	201	0.5	0	0.5
	[MMC] (0.00004)	200	9.0	45.0	0	0.5	0	48.0	1.0	−	201	0.5	0	0.5

※ Test conditions: Treatment time ; 24h or 48h, Recovery time ; 0h
The culture vessel was sealed and cultured rotating after adding the test chemical.

† The precipitation of test chemical was observed in the culture medium.

Experimental Data without Metabolic Activation (Continuous treatments)-2

Treatment Time (h)	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	Polyploid	Others	Total
			ctb	cte	csb	cse								
24-0	[DMSO] (1%)	200	1.0	0	0	0	0	1.0	0.5	100	200	0	0	0
	0.50†	200	0.5	0	0	0	0	0.5	0.5	53	209	4.3	0	4.3
	0.55†	125	0	0	0	0	0	0	0	22	127	1.6	0	1.6
	0.60†	22	0	0	0	0	0	0	0	4	22	0	0	0
	0.65†	TOX								1	TOX			
	0.70†	TOX								0	TOX			
	[MMC] (0.00004)	200	6.5	26.5	0	0	0	31.5	1.0	−	200	0	0	0
48-0	[DMSO] (1%)	200	1.0	0.5	0	0	0	1.5	0	100	200	0	0	0
	0.50†	200	0	0	0	0	0	0	0	56	205	2.4	0	2.4
	0.55†	116	0	0.9	0	0	0	0.9	0	12	123	5.7	0	5.7
	0.60†	TOX								2	TOX			
	0.65†	TOX								0	TOX			
	0.70†	TOX								0	TOX			
	[MMC] (0.00004)	200	9.0	46.5	0	0	0	49.0	0.5	−	201	0.5	0	0.5

※ Test conditions: Treatment time ; 24h or 48h, Recovery time ; 0h
The culture vessel was sealed and cultured rotating after adding the test chemical.

† The precipitation of test chemical was observed in the culture medium.