

Butyraldehyde (ブチルアルデヒド)

Experimental Data (Short treatments)

Chemical Name : <u>Butyraldehyde</u> Synonym : <u>Butanal</u> Molecular Weight : 72.11 Melting Point : -99 °C[Merck] Boiling Point : 74.8 °C[Merck] Flashing Point : -6.67°C[Merck] Molecular Formula : C ₄ H ₈ O Chemical Structure ; CH ₃ -CH ₂ -CH ₂ -CHO CAS No. : 123-72-8 METI No. : (2)-494 MHLW No. : - Specified Chemical Substances ; - Source of Substance; Wako Pure Chemical Industries, Ltd. Lot No. : SEL5723 Purity : 99.9% 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	0	0	0	0	0	0	100	203	1.5	0	1.5
			0.10	200	0	2	0	0	0	2	0	81	207	3.4	0	3.4
			0.20	200	4.5	24	0	0	0	26.5	1	69	209	4.3	0	4.3
			0.30	200	7.5	46.5	0	0	0	48	0	47	201	0.5	0	0.5
			0.40	200	5.5	60	0	0	0	61.5	1.5	40	203	1.5	0	1.5
			[MMC] (0.00012)	200	4.5	45	0	0	0	47.5	0.5	-	200	0	0	0
	6-18	+	[DMSO] (1%)	200	0	0	0	0	0	0	0	100	203	1.5	0	1.5
			0.30	200	0	0	0	0	0	0	0	97	200	0	0	0
			0.60	200	0	1.5	0	0	0	1.5	0.5	87	202	1	0	1
			0.90	200	0	9.5	0	0	0	9.5	0	62	205	2.4	0	2.4
			1.2	200	23.5	61	0	0	0	66.5	0	27	200	0	0	0
			[B[a]P] (0.015)	200	2.5	29.5	0	0	0	30	0	-	200	0	0	0

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

The culture vessel was sealed and cultured rotating after adding the test chemical.

Judgement for
Chromosomal Aberration in CHL/IU ; Positive

IARC Evaluation : not yet cited

Experimental Data without Metabolic Activation (Continuous treatments)

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	Poly-ploid	Others	Total
			ctb	cte	csb	cse								
24-0	[DMSO] (1%)	200	0	0	0	0	0	0	0	100	201	0.5	0	0.5
	0.012	200	0	2	0	0	0	2	0	86	204	2	0	2
	0.028	200	2	7.5	0	0	0	9	0.5	32	213	6.1	0	6.1
	0.044	200	3.5	14	0	0	0	17	0	31	203	1.5	0	1.5
	0.060	200	5.5	26	0	0	0	30	0	26	202	1	0	1
	[MMC] (0.00004)	200	3.5	29	0	0	0	31.5	1.5	—	200	0	0	0
48-0	[DMSO] (1%)	200	0	0	0	0	0	0	0	100	201	0.5	0	0.5
	0.008	200	0	1	0	0	0	1	0	101	204	2	0	2
	0.012	200	0.5	1.5	0	0.5	0	2.5	0	100	207	3.4	0	3.4
	0.016	200	0.5	2	0	0	0	2.5	0	76	222	9.9	0	9.9
	0.020	200	0.5	5.5	0	0	0	6	0	47	276	27.5	0	27.5
	[MMC] (0.00004)	200	6.5	31	0	0.5	0	36	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.