Chemical Name;1,4-Dibromobutane
Synonym ;Tetramethylene dibromide
ﾃﾄﾗﾒﾁﾚﾝｼﾞﾌﾞﾛﾐﾄﾞ

Molecular Weight ; 215.8
Melting Point ; - 20 ℃ [Aldrich]
Boiling Point ; 197-198 ℃,76 ℃(11mmHg) [CHCD]
63 -65 ℃(6mmHg) [Aldrich]
Flashing Point ; > 107 ℃ [CHCD]
> 110 ℃ [Aldrich]
Molecular Formula; $C_4H_8Br_2$

Chemical Structure

$BrCH_2CH_2CH_2CH_2Br$

CAS No. ; 110-52-1
MITI No. ; (2)-59 , (9)-2008
ML No. ; —
Specified Chemical Substances; —

Source of Substance; Wako Junyaku Kogyo Co.,Ltd.
Lot No. ; PTR4938
Purity ; 99.2 %

Vehicle ; DMSO

Judgement for
Chromosomal Aberration in CHL ; **Positive**

IARC Evaluation ; not yet cited

Exprimental Data without Metabolic Activation

Treatment						Cell with Structural Chromosome Aberration (%)							
Substance	Time (h)	Concent-ration (mg/ml)	No. of Metaphase	Polyploid (%)	**Judge-ment**		Chromatid		Chromosome		Total		**Judge-ment**
						Gap	CTB	CTE	CSB	CSE	−G	+G	
DMSO	24		200	0.0	−	0.0	0.0	0.5	0.0	0.0	0.5	0.5	−
	48		200	0.0	−	0.0	0.0	0.0	0.0	0.0	0.0	0.0	−
Test Chemical	24	0.025	200	0.0	−	0.0	0.5	2.5	0.0	0.0	3.0	3.0	−
		0.05	200	0.5	−	0.0	0.0	1.5	0.0	0.0	1.5	1.5	−
		0.1	200	0.5	−	1.5	9.5	35.0	0.0	0.0	39.0	39.0	+
		0.2	200	0.0	−	3.0	18.5	97.0	0.0	0.0	98.5	98.5	+
		0.4				No observation for metaphase							
	48	0.025	200	0.0	−	0.0	0.0	1.0	0.0	0.0	1.0	1.0	−
		0.05	200	1.0	−	0.0	0.5	1.0	0.0	0.0	1.5	1.5	−
		0.1	200	2.0	−	0.0	2.5	10.0	0.0	0.0	12.0	12.0	+
		0.2	200	10.0	+	2.5	13.0	77.0	0.0	1.0	77.5	77.5	+
		0.4				No observation for metaphase							
Positive Control [MMC]	24	0.00004	200	0.0	−	0.0	11.0	57.0	0.0	0.5	60.5	60.0	+
	48	0.00004	200	1.0	−	2.0	11.5	82.5	0.0	1.0	83.5	83.5	+

Exprimental Data with Metabolic Activation

Treatment			No. of Metaphase	Polyploid (%)	Judge-ment	Cell with Structural Chromosome Aberration (%)							
							Chromatid		Chromosome		Total		
Substance	S9 mix	Concent-ration (mg/ml)				Gap	CTB	CTE	CSB	CSE	−G	+G	Judge-ment
DMSO	−		200	1.0	−	0.5	0.0	0.0	0.0	0.0	0.0	0.5	−
	+		200	1.5	−	0.0	0.0	1.0	0.0	0.0	1.0	1.0	−
Test Chemical	−	0.05	200	2.5	−	0.0	0.0	2.0	0.0	0.0	2.0	2.0	−
		0.10	200	2.0	−	0.0	2.0	3.5	0.0	0.0	5.5	5.5	±
		0.15	200	1.5	−	0.0	4.5	12.0	0.0	0.0	15.0	15.0	+
		0.20	200	1.0	−	1.5	10.0	50.0	0.0	0.0	53.0	53.5	+
		0.25	200	1.0	−	2.5	16.5	73.0	0.0	0.0	77.5	78.0	+
	+	0.05	200	1.0	−	0.0	0.0	0.5	0.0	0.0	0.5	0.5	−
		0.10	200	5.5	±	0.5	4.5	6.0	0.0	0.5	10.5	10.5	+
		0.15	200	6.5	±	0.5	5.5	21.5	0.0	1.0	26.0	26.5	+
		0.20	200	4.0	−	1.0	11.0	60.5	0.0	0.5	63.5	63.5	+
		0.25				No observation for metaphase							
Positive Control [B(a)P]	−	0.01	200	1.0	−	0.5	0.5	1.0	0.0	0.5	2.0	2.5	−
	+	0.01	200	1.5	−	0.5	2.5	38.5	0.0	0.0	39.0	39.0	+