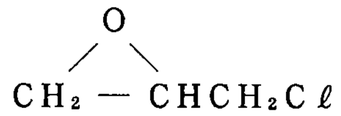
1-Chloro-2,3-epoxypropane (1-クロロ-2,3-エポキシプロパン)

Chemical Name: 1-Chloro-2,3-epoxypropane
Synonym: Epichlorohydrin
(Chloromethyl)oxirane
3-Chloropropylene oxide
Oxirane,(chloromethyl)-
Molecular weight: 92.5
Melting point: -25.6℃
Boiling point: 116.1℃, 42℃(10mmHg)
Flashing point: 40℃
Chemical Structure



CAS No: 106-89-8
MITI No: (2)-275
Source of Substance: Wako Pure Chem. Ind. Ltd.
Lot. No: LAN4207
Purity: %
Vehicle: DMSO

Judgement for
Chromosomal Aberration in CHL: Positive

IARC Evaluation: G 2A

Experimental Data

	Treated Time (Hr)	Concentration (mg/ml)	No. of Metaphase	Polyploid (%)	Judge	Cell with Structural Chromosome Aberration (%) Gap	CTB	CTE	CSB	CSE	Total -G	Total +G	Judge
DMSO	24		200	0	−	0	0	0.5	0	0	0.5	0.5	−
	48		200	0	−	0.5	0	0	0	0	0	0.5	−
Test Chemical													
	24	0.015	200	1.0	−	1.0	0.5	0	0	0	0.5	1.5	−
		0.03	200	0.5	−	1.0	1.5	2.5	0	0	3.5	4.5	−
		0.06	200	0	−	2.0	6.5	20.5	0	0	24.0	25.0	+
		0.09	200	0	−	6.5	11.0	55.5	0	0	61.5	64.0	+
		0.12				No observation for metaphase							
	48	0.015	200	0.5	−	0	0.5	0	0	0	0.5	0.5	−
		0.03	200	0.5	−	0	0	0	0	0	0	0	−
		0.06	200	0	−	1.0	0.5	2.5	0	0	3.0	4.0	−
		0.09	200	4.0	−	3.5	1.5	11.5	0	0.5	13.0	15.5	+
		0.12				No observation for metaphase							
Positive Control													
(MMC)	24	0.00008	200	0	−	4.5	7.5	21.0	0	0.5	27.5	30.5	+
	48	0.00008	200	1.5	−	3.0	7.0	29.5	0	0	32.0	33.5	+

Experimental Data

	S 9 with or without	Concentration (mg/ml)	No. of Metaphase	Polyploid (%)	Judge	Cell with Structural Chromosome Aberration (%) Gap	CTB	CTE	CSB	CSE	Total -G	Total +G	Judge
DMSO	−		200	0	−	0.5	0	0	0	0	0	0.5	−
	+		200	0	−	0.5	0	0.5	0	0	0.5	1.0	−
Test Chemical													
	−	0.05	200	0	−	0.54	1.0	1.0	0	0	2.0	2.5	−
		0.1	200	0	−	2.5	2.5	9.5	0	0	11.0	12.5	+
		0.2	114	0	−	57.0	72.8	80.7	0	0	100.0	100.0	+
		0.4				No observation for metaphase							
		0.6				No observation for metaphase							
	+	0.05	200	0	−	0	0	0.5	0	0	0.5	0.5	−
		0.1	200	0	−	1.0	0	0.5	0	0	0.5	1.5	−
		0.2	200	0.5	−	0.5	0	1.5	0	0	1.5	2.0	−
		0.4	200	1.5	−	2.0	6.0	28.5	0	0	31.0	32.0	+
		0.6	200	0	−	No observation for metaphase							
Positive Control (B(a)P)													
	−	0.016	200	0	−	0	0	0.5	0	0	0.5	0.5	−
	+	0.016	200	0	−	5.5	8.5	37.5	0	0	38.0	39.5	+