1,3-Dibromopropane (1,3-ジブロモプロパン)

Chemical Name: 1,3-Dibromopropane
Synonym Trimethylene dibromide
Molecular weight: 201.9
Melting point: -34.2℃
Boiling point: 167℃
Flashing point: 54℃

Chemical Structure

$CH_2BrCH_2CH_2Br$

CAS No : 109-64-8
MITI No : (2)-59
Source of Substance: Tokyo Kasei Kogyo Co., Ltd.
Lot.No. : AY01
Purity: >99.0%
Vehicle: DMSO

Judgement for
Chromosomal Aberration in CHL: Positive

IARC Evaluation : not yet cited

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 | − | 0.5 | 0 | 0.5 | 0 | 0 | 0.5 | 1.0 | − |
| | 48 | | 200 | 0.5 | − | 0.5 | 0 | 0 | 0 | 0 | 0 | 0.5 | − |
| Test Chemical | | | | | | | | | | | | | |
| | 24 | 0.1 | 200 | 0.5 | − | 0 | 1.5 | 2.0 | 0 | 0 | 3.5 | 3.5 | − |
| | | 0.2 | 200 | 1.5 | − | 0.5 | 1.0 | 1.5 | 0 | 0 | 2.5 | 3.0 | − |
| | | 0.3 | 200 | 6.5 | ± | 0 | 3.0 | 6.0 | 0 | 0 | 7.5 | 7.5 | ± |
| | | 0.4 | 200 | 7.5 | ± | 2.0 | 5.0 | 17.5 | 0 | 0 | 20.0 | 21.0 | + |
| | | 0.5 | | | | No observation for metaphase | | | | | | | |
| | 48 | 0.1 | 200 | 0 | − | 0.5 | 0.5 | 0 | 0 | 0 | 0.5 | 1.0 | − |
| | | 0.2 | 200 | 1.0 | − | 0 | 0 | 0.5 | 0 | 0 | 0.5 | 0.5 | − |
| | | 0.3 | 200 | 4.0 | − | 2.5 | 0.5 | 1.0 | 0 | 0 | 1.5 | 4.0 | − |
| | | 0.4 | 200 | 5.0 | ± | 1.0 | 1.5 | 8.0 | 0 | 0 | 9.0 | 9.5 | ± |
| | | 0.5 | 200 | 15.0 | + | 1.0 | 4.0 | 9.5 | 0 | 0 | 12.0 | 13.0 | + |
| Positive Control (MMC) | 24 | | 200 | 0 | − | 2.5 | 10.0 | 45.5 | 0 | 0 | 50.0 | 50.0 | + |
| | 48 | | 200 | 0 | − | 7.0 | 36.0 | 88.0 | 0 | 0 | 89.5 | 89.5 | + |

Metaphase was not observed at the concentration of 0.6 mg/ml.

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 | 2.5 | − | 0.5 | 0 | 0.5 | 0 | 0 | 0.5 | 1.0 | − |
| | + | | 200 | 1.0 | − | 0.5 | 1.0 | 0.5 | 0 | 0 | 1.5 | 1.5 | − |
| Test Chemical | | | | | | | | | | | | | |
| | − | 0.04 | 200 | 4.0 | − | 0 | 0 | 0 | 0 | 0 | 0 | 0 | − |
| | | 0.08 | 200 | 2.0 | − | 0.5 | 0 | 0.5 | 0 | 0 | 0.5 | 1.0 | − |
| | | 0.12 | 200 | 2.0 | − | 0.5 | 0.5 | 1.0 | 0 | 0 | 1.5 | 2.0 | − |
| | | 0.16 | 200 | 0.5 | − | 0.5 | 0.5 | 0 | 0 | 0 | 0.5 | 1.0 | − |
| | | 0.2 | 200 | 2.5 | − | 0.5 | 0 | 0 | 0 | 0 | 0 | 0.5 | − |
| | + | 0.04 | 200 | 0 | − | 0 | 0.5 | 0.5 | 0 | 0 | 1.0 | 1.0 | − |
| | | 0.08 | 200 | 2.5 | − | 0 | 0 | 0 | 0 | 0 | 0 | 0 | − |
| | | 0.12 | 200 | 4.5 | − | 0 | 0 | 2.5 | 0 | 0 | 2.5 | 2.5 | − |
| | | 0.16 | 200 | 5.0 | ± | 0.5 | 2.5 | 13.0 | 0 | 0 | 14.5 | 14.5 | + |
| | | 0.2 | 200 | | | No observation for metaphase | | | | | | | |
| Positive Control (CP) | − | | 200 | 1.5 | − | 0 | 0.5 | 1.0 | 0 | 0 | 1.5 | 1.5 | − |
| | + | | 200 | 1.0 | − | 2.5 | 12.0 | 60.5 | 0 | 0.5 | 63.0 | 63.0 | + |