

Ethylene chlorohydrin

[エチレンクロロヒドリン]

Experimental Data - 1

(B9306-1/2)

Chemical Name; Ethylene chlorohydrin
 Synonym ; 2-Chloroethyl alcohol
 2-Chloroethanol
 Glycol chlorohydrin
 2-クロロエチルアルコール
 2-クロロエタノール
 グリコール クロロヒドリン

Molecular Weight ; 80.51
 Melting Point ; - 89 °C [Aldrich]
 - 67 °C [Merck]
 Boiling Point ; 128.6 °C [CHCD]
 129 °C [Aldrich]
 128 - 130 °C [Merck]
 Flashing Point ; 55 °C [CHCD]
 60 °C [Aldrich]
 40 °C (o. c.) [Merck]

Molecular Formula; C₂H₅ClO

Chemical Structure

ClCH₂CH₂OH

CAS No. ; 107-07-3
 MITI No. ; (2)-2002
 ML No. ; -
 Specified Chemical Substances; -

Source of Substance; Aldrich Chemical Co., Inc.
 Lot No. ; 16520PX
 Purity ; 98.0 %

Vehicle ; DMSO

| Conc. µg/plate | Number of Revertants/plate | | | | | | | | | |
|------------------------------|----------------------------|---------------|---------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | Base-substitution | | | | | | Frame-shift | | | |
| | TA100 | | TA1535 | | WP2uvrA | | TA98 | | TA1537 | |
| | S9- | S9+ | S9- | S9+ | S9- | S9+ | S9- | S9+ | S9- | S9+ |
| DMSO | (149) | (163) | (15) | (16) | (32) | (39) | (19) | (27) | (11) | (13) |
| | 150 | 180 | 14 | 20 | 29 | 31 | 29 | 23 | 8 | 11 |
| | 186 | 151 | 24 | 13 | 36 | 56 | 13 | 26 | 6 | 14 |
| 0.0763 | (168) | (166) | (19) | (17) | (33) | (44) | (21) | (25) | (7) | (13) |
| | 165 | 143 | 22 | 16 | 29 | 37 | 20 | 29 | 10 | 20 |
| | 156 | 170 | 15 | 11 | 39 | 38 | 21 | 21 | 13 | 14 |
| 0.305 | (161) | (157) | (19) | (14) | (34) | (38) | (21) | (25) | (12) | (17) |
| | 148 | 157 | 17 | 16 | 28 | 44 | 22 | 17 | 9 | 20 |
| | 149 | 139 | 13 | 22 | 36 | 28 | 17 | 18 | 10 | 8 |
| 1.22 | (149) | (148) | (15) | (19) | (32) | (36) | (20) | (18) | (10) | (14) |
| | 180 | 166 | 8 | 14 | 38 | 39 | 10 | 26 | 7 | 13 |
| | 170 | 171 | 16 | 16 | 18 | 31 | 14 | 29 | 10 | 10 |
| 4.88 | (175) | (169) | (12) | (15) | (28) | (35) | (12) | (28) | (9) | (12) |
| | 159 | 174 | 11 | 15 | 31 | 37 | 11 | 24 | 3 | 16 |
| | 169 | 176 | 22 | 15 | 25 | 41 | 15 | 28 | 9 | 13 |
| 19.5 | (164) | (175) | (17) | (15) | (28) | (39) | (13) | (26) | (6) | (15) |
| | 135 | 165 | 11 | 22 | 26 | 43 | 22 | 25 | 3 | 13 |
| | 184 | 176 | 20 | 10 | 25 | 45 | 16 | 25 | 14 | 18 |
| 78.1 | (160) | (171) | (16) | (16) | (26) | (44) | (19) | (25) | (9) | (16) |
| | 181 | 169 | 10 | 8 | 24 | 31 | 26 | 24 | 14 | 17 |
| | 185 | 166 | 13 | 18 | 37 | 47 | 17 | 22 | 14 | 11 |
| 313 | (183) | (168) | (12) | (13) | (31) | (39) | (22) | (23) | (14) | (14) |
| | 145 | 179 | 9 | 22 | 43 | 53 | 20 | 15 | 11 | 16 |
| | 184 | 191 | 18 | 25 | 33 | 32 | 17 | 17 | 7 | 11 |
| 1250 | (165) | (185) | (14) | (24) | (38) | (43) | (19) | (16) | (9) | (14) |
| | 206* | 164 | 25* | 36 | 57 | 62 | 24* | 20 | 11* | 11 |
| | 200* | 170 | 15* | 37 | 46 | 67 | 26* | 20 | 11* | 9 |
| 5000 | (203*) | (167) | (20*) | (37) | (52) | (65) | (25*) | (20) | (11*) | (10) |
| Judgement | - | - | - | + | - | - | - | - | - | - |
| Specific Mutagenicity | 4.20 | | | | | | | | | |
| Positive Control | AF-2 (765) | 2-AA (920) | NaN ₃ (362) | 2-AA (242) | AF-2 (177) | 2-AA (917) | AF-2 (510) | 2-AA (203) | 9-AA (471) | 2-AA (177) |

Mutagenicity in Bacterial Test ; **Positive**

IARC Evaluation ; not yet cited

| Conc. µg/plate | Number of Revertants/plate | | | | | | | | | |
|------------------------------|----------------------------|---------------|---------------------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|
| | Base-substitution | | | | | | Frame-shift | | | |
| | TA100 | | TA1535 | | WP2uvrA | | TA98 | | TA1537 | |
| | S9- | S9+ | S9- | S9+ | S9- | S9+ | S9- | S9+ | S9- | S9+ |
| DMSO | (144) | (158) | (13) | (10) | (33) | (40) | (15) | (20) | (9) | (12) |
| | 133 | 159 | 11 | 14 | 34 | 48 | 16 | 22 | 8 | 10 |
| | 127 | 149 | 15 | 22 | 34 | 34 | 23 | 24 | 3 | 9 |
| 78.1 | (130) | (154) | (13) | (18) | (34) | (41) | (20) | (23) | (6) | (10) |
| | 138 | 164 | 3 | 14 | 37 | 53 | 16 | 17 | 8 | 9 |
| | 139 | 160 | 7 | 11 | 45 | 39 | 32 | 22 | 8 | 9 |
| 156 | (139) | (162) | (5) | (13) | (41) | (46) | (24) | (20) | (8) | (9) |
| | 156 | 153 | 10 | 11 | 37 | 55 | 18 | 28 | 5 | 8 |
| | 141 | 136 | 8 | 13 | 32 | 49 | 21 | 22 | 9 | 10 |
| 313 | (149) | (145) | (9) | (12) | (35) | (52) | (20) | (25) | (7) | (9) |
| | 176 | 171 | 9 | 8 | 41 | 48 | 20 | 20 | 8 | 10 |
| | 176 | 155 | 13 | 13 | 30 | 54 | 20 | 21 | 3 | 9 |
| 625 | (176) | (163) | (11) | (11) | (36) | (51) | (20) | (21) | (6) | (10) |
| | 144 | 186 | 13 | 20 | 39 | 47 | 17 | 21 | 7 | 7 |
| | 177 | 173 | 14 | 16 | 23 | 52 | 22 | 22 | 9 | 13 |
| 1250 | (161) | (180) | (14) | (18) | (31) | (50) | (20) | (22) | (8) | (10) |
| | 152* | 160 | 7* | 17 | 47 | 46 | 21* | 23 | 9* | 9 |
| | 159* | 170 | 21* | 21 | 52 | 77 | 17* | 28 | 7* | 15 |
| 2500 | (156*) | (165) | (14*) | (19) | (50) | (62) | (19*) | (26) | (8*) | (12) |
| | 170* | 177 | 20* | 26 | 60 | 59 | 18* | 21 | 10* | 9 |
| | 166* | 193 | 29* | 29 | 54 | 61 | 22* | 20 | 6* | 7 |
| 5000 | (168*) | (185) | (25*) | (28) | (57) | (60) | (20*) | (21) | (8*) | (8) |
| Judgement | - | - | - | + | - | - | - | - | - | - |
| Specific Mutagenicity | 3.60 | | | | | | | | | |
| Positive Control | AF-2 (765) | 2-AA (933) | NaN ₃ (308) | 2-AA (203) | AF-2 (163) | 2-AA (1055) | AF-2 (471) | 2-AA (273) | 9-AA (472) | 2-AA (146) |