2-Hydroxyethyl acrylate (アクリル酸=2-ヒドロキシエチル)

Chemical Name ; 2-Hydroxyethyl acrylate
Synoym ; 2-Hydroxyethyl 2-propenoate
Acrylic acid 2-hydroxyethyl ester

Molecular Weight ; 116.12
Melting Point ;
Boiling Point ; 191℃[CHCD]
Flashing Point ; 68℃[CHCD]
Molecular Formular; $C_5H_8O_3$

Chemical Structure;

$$H_2C{=}CH{-}\underset{\underset{O}{\|}}{C}{-}O{-}CH_2{-}CH_2{-}OH$$

CAS No. ; 818-61-1
METI No. ; (2)-995
MHLW No. ; −
Specified Chemical Substances;−

Source of Substance; Tokyo Kasei Koguo Co., Ltd.
Lot No. ; GG02
Purity ; 96.00%

Vehicle ; $H_2O$

Mutagenicity in Bacterial Test; Positive

IARC Evaluation ; not yet cited

| Conc. μg/plate | Number of Revertants/plate | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Base-substitution | | | | | | Frame-shift | | | |
| | TA100 | | TA1535 | | WP2*uvrA*/pKM101 | | TA98 | | TA1537 | |
| | S9− | S9+ | S9− | S9+ | S9− | S9+ | S9− | S9+ | S9− | S9+ |
| $H_2O$ | ( 118 ) | ( 131 ) | ( 13 ) | ( 12 ) | ( 84 ) | ( 101 ) | ( 22 ) | ( 27 ) | ( 8 ) | ( 12 ) |
| | 121 | 120 | 20 | 17 | 79 | 104 | 29 | 39 | 6 | 8 |
| | 104 | 138 | 20 | 7 | 104 | 135 | 23 | 16 | 9 | 6 |
| 1 .22 | ( 113 ) | ( 129 ) | ( 20 ) | ( 12 ) | ( 92 ) | ( 120 ) | ( 26 ) | ( 28 ) | ( 8 ) | ( 7 ) |
| | 109 | 149 | 14 | 16 | 94 | 115 | 33 | 31 | 6 | 9 |
| | 122 | 136 | 13 | 14 | 85 | 120 | 24 | 25 | 3 | 11 |
| 4 .88 | ( 116 ) | ( 143 ) | ( 14 ) | ( 15 ) | ( 90 ) | ( 118 ) | ( 29 ) | ( 28 ) | ( 5 ) | ( 10 ) |
| | 114 | 131 | 14 | 15 | 71 | 96 | 28 | 28 | 3 | 9 |
| | 135 | 121 | 13 | 15 | 93 | 117 | 25 | 28 | 11 | 11 |
| 19 .5 | ( 125 ) | ( 126 ) | ( 14 ) | ( 15 ) | ( 82 ) | ( 107 ) | ( 27 ) | ( 28 ) | ( 7 ) | ( 10 ) |
| | 129 | 117 | 18 | 15 | 71 | 112 | 23 | 17 | 3 | 9 |
| | 98 | 116 | 18 | 15 | 93 | 131 | 22 | 28 | 5 | 5 |
| 78 .1 | ( 114 ) | ( 117 ) | ( 18 ) | ( 15 ) | ( 82 ) | ( 122 ) | ( 23 ) | ( 23 ) | ( 7 ) | ( 7 ) |
| | 93 | 108 | 17 | 17 | 99 | 115 | 18 | 25 | 8 | 7 |
| | 109 | 139 | 11 | 17 | 92 | 142 | 22 | 28 | 5 | 9 |
| 313 | ( 101 ) | ( 124 ) | ( 14 ) | ( 17 ) | ( 96 ) | ( 129 ) | ( 20 ) | ( 27 ) | ( 7 ) | ( 8 ) |
| | 75 * | 94 | 11 * | 13 | 194 | 263 | 22 * | 25 | 9 * | 5 |
| | 86 * | 92 | 16 * | 11 | 179 | 220 | 14 * | 14 | 8 * | 2 |
| 1250 | ( 81 *) | ( 93 ) | ( 14 *) | ( 12 ) | ( 187 ) | ( 242 ) | ( 18 *) | ( 20 ) | ( 9 *) | ( 4 ) |
| | 0 * | 0 * | 0 * | 0 * | 0 * | 250 | 0 * | 0 * | 0 * | 0 * |
| | 0 * | 0 * | 0 * | 0 * | 0 * | 286 | 0 * | 0 * | 0 * | 0 * |
| 5000 | ( 0 *) | ( 0 *) | ( 0 *) | ( 0 *) | ( 0 *) | ( 268 ) | ( 0 *) | ( 0 *) | ( 0 *) | ( 0 *) |
| Judgement | − | − | − | − | + | + | − | − | − | − |
| Specific Mutagenicity | | | | | 82.4 | 113 | | | | |
| Positive Control | AF-2 ( 661 ) | 2-AA ( 1392 ) | $NaN_3$ ( 380 ) | 2-AA ( 248 ) | AF-2 ( 1255 ) | 2-AA ( 969 ) | AF-2 ( 515 ) | 2-AA ( 502 ) | 9-AA ( 229 ) | 2-AA ( 186 ) |

* Growth inhibition was observed.

| Conc. μ g/plate | Number of Revertants/plate | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Base-substitution | | | | | | Frame-shift | | | |
| | TA100 | | TA1535 | | WP2*uvrA*/pKM101 | | TA98 | | TA1537 | |
| | S9− | S9+ | S9− | S9+ | S9− | S9+ | S9− | S9+ | S9− | S9+ |
| $H_2O$ | ( 123 ) | ( 122 ) | ( 24 ) | ( 22 ) | ( 71 ) | ( 97 ) | ( 21 ) | ( 22 ) | ( 8 ) | ( 11 ) |
| | 139 | | 28 | | | | 14 | | 3 | |
| | 137 | | 18 | | | | 18 | | 9 | |
| 39 .1 | ( 138 ) | ( ) | ( 23 ) | ( ) | ( ) | ( ) | ( 16 ) | ( ) | ( 6 ) | ( ) |
| | 124 | | 22 | | | | 11 | | 9 | |
| | 148 | | 17 | | | | 16 | | 7 | |
| 78 .1 | ( 136 ) | ( ) | ( 20 ) | ( ) | ( ) | ( ) | ( 14 ) | ( ) | ( 8 ) | ( ) |
| | 108 | 134 | 15 | 18 | 92 | 104 | 20 | 25 | 9 | 3 |
| | 111 | 155 | 25 | 24 | 82 | 113 | 25 | 18 | 3 | 5 |
| 156 | ( 110 ) | ( 145 ) | ( 20 ) | ( 21 ) | ( 87 ) | ( 109 ) | ( 23 ) | ( 22 ) | ( 6 ) | ( 4 ) |
| | 111 | 129 | 15 | 29 | 93 | 109 | 23 | 26 | 9 | 7 |
| | 100 | 102 | 14 | 16 | 94 | 120 | 16 | 20 | 7 | 9 |
| 313 | ( 106 ) | ( 116 ) | ( 15 ) | ( 23 ) | ( 94 ) | ( 115 ) | ( 20 ) | ( 23 ) | ( 8 ) | ( 8 ) |
| | 93 * | 89 | 14 * | 17 | 122 | 165 | 17 * | 11 | 3 * | 7 |
| | 87 * | 102 | 18 * | 22 | 105 | 148 | 16 * | 22 | 5 * | 3 |
| 625 | ( 90 *) | ( 96 ) | ( 16 *) | ( 20 ) | ( 114 ) | ( 157 ) | ( 17 *) | ( 17 ) | ( 4 *) | ( 5 ) |
| | 81 * | 113 | 18 * | 11 | 173 | 202 | 15 * | 17 | 0 * | 6 |
| | 71 * | 85 | 15 * | 22 | 222 | 235 | 17 * | 10 | 0 * | 5 |
| 1250 | ( 76 *) | ( 99 ) | ( 17 *) | ( 17 ) | ( 198 ) | ( 219 ) | ( 16 *) | ( 14 ) | ( 0 *) | ( 6 ) |
| | | 67 * | | 2 * | 225 | 319 | | 7 * | | 3 * |
| | | 89 * | | 3 * | 206 | 344 | | 9 * | | 0 * |
| 2500 | ( ) | ( 78 *) | ( ) | ( 3 *) | ( 216 ) | ( 332 ) | ( ) | ( 8 *) | ( ) | ( 2 *) |
| | | 0 * | | 0 * | 0 * | 129 | | 0 * | | 0 * |
| | | 0 * | | 0 * | 0 * | 98 | | 0 * | | 0 * |
| 5000 | ( ) | ( 0 *) | ( ) | ( 0 *) | ( 0 *) | ( 114 ) | ( ) | ( 0 *) | ( ) | ( 0 *) |
| Judgement | − | − | − | − | + | + | − | − | − | − |
| Specific Mutagenicity | | | | | 102 | 97.6 | | | | |
| Positive Control | AF-2 ( 664 ) | 2-AA ( 1406 ) | $NaN_3$ ( 387 ) | 2-AA ( 290 ) | AF-2 ( 857 ) | 2-AA ( 737 ) | AF-2 ( 468 ) | 2-AA ( 469 ) | 9-AA ( 220 ) | 2-AA ( 224 ) |

* Growth inhibition was observed.

| Conc. μ g/plate | Base-substitution | | |
|---|---|---|---|
| | TA1535 | | WP2*uvrA*/pKM101 |
| | S9− | S9+ | S9+ |
| $H_2O$ | ( 12 ) | ( 14 ) | ( 114 ) |
| | 15 | | |
| | 16 | | |
| 39 .1 | ( 16 ) | ( ) | ( ) |
| | 17 | | |
| | 14 | | |
| 78 .1 | ( 16 ) | ( ) | ( ) |
| | 20 | 8 | 100 |
| | 16 | 14 | 112 |
| 156 | ( 18 ) | ( 11 ) | ( 106 ) |
| | 6 | 14 | 150 |
| | 11 | 15 | 151 |
| 313 | ( 9 ) | ( 15 ) | ( 151 ) |
| | 14 | 9 | 160 |
| | 10 | 16 | 152 |
| 625 | ( 12 ) | ( 13 ) | ( 156 ) |
| | 9 * | 10 | 220 |
| | 6 * | 15 | 227 |
| 1250 | ( 8 *) | ( 13 ) | ( 224 ) |
| | | 3 * | 377 |
| | | 2 * | 364 |
| 2500 | ( ) | ( 3 *) | ( 371 ) |
| | | 0 * | 253 |
| | | 0 * | 233 |
| 5000 | ( ) | ( 0 *) | ( 243 ) |
| Judgement | − | − | + |
| Specific Mutagenicity | | | 103 |
| Positive Control | $NaN_3$ ( 335 ) | 2-AA ( 282 ) | 2-AA ( 1000 ) |

* Growth inhibition was observed.