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Product Information

Ethyl methanesulfonate

Product Number **M0880**
Store at Room Temperature

Product Description

Molecular Formula: $C_3H_8O_3S$
Molecular Weight: 124.2
CAS Number: 62-50-0
Boiling Point: 213-213.5 °C¹
Molarity: 9.7 (neat liquid)
Density: 1.206 g/ml (20° C)
Synonym: EMS

Ethyl methanesulfonate has been used as a mutagen for both mammalian cells² and plants.³ The mutagenicity¹ and carcinogenicity of this product has been reviewed.^{4,5,6,7} A comparative study of mutagenicity with ethyl and methyl methanesulfonate was reviewed.⁸

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

EMS is miscible in chloroform (200 mg/ml).

EMS can be diluted to a concentration of 1% in water or serum-free medium and then added to a culture at a final concentration in the range of 200-300 µg/ml.⁷

Storage/Stability

Reaction rate constants and half-lives for aqueous solutions of this product were calculated at increasing temperatures and at several pH's. The rate of hydrolysis is unaffected by varying (acidic) pH.

Temperature (°C)	Half-life in hours ³
0	1716.0
5	796.6
10	378.7
15	185.7
20	93.2
25	48.5
30	7.8
45	4.6
50	2.7.

References

1. IARC Monographs, 7, 245-252 (1974).
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4. Merck Index, 11th ed., Entry# 3782.
5. Alderson, T., Chemically Induced Delayed Germinal Mutation in Drosophila. Nature, **207(993)**, 164-167 (1965).
6. Jenkins, J. B., The Induction of Mosaic and Complete Dumpy Mutants in Drosophila Melanogaster with Ethyl Methanesulfonate. Mutat. Res., **4(1)**, 90-92 (1967).
7. Schalet, A. P., Interspecific Comparison of Ethyl Methanesulfonate-induced Mutation Rates in Relation to Genome Size. Mutat. Res., **49(3)**, 313-340 (1978).
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