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Product Information

4-Vinylpyridine

Product Code **V320-4**

Storage Temperature -0 °C

Replacement for Product Number **V 3877**

Product Description

Molecular Formula: C₇H₇N

Molecular Weight: 105.1

CAS Number: 100-43-6

Density: 0.975 g/ml

The effective molarity of the neat liquid is 9.28 M, based on the density and molecular weight. This product contains approximately 1.5% isopropenylpyridine, a by-product of the reaction, trace amounts of pyridine, ethanol, and 100 ppm of hydroquinone to prevent polymerization.

A review article on the use of 4-vinylpyridine in protein analysis has been published.¹ This compound has been used in the determination of the structure of human interleukin-6 receptor² and protease inhibitor found in potatoes.³

This compound has been described as an alkylating reagent to prepare proteins isolated from PAGE gels for peptide mapping by ESI-MS or MALDI-MS⁴ and MALDI-TOF analysis.⁵

This compound has also been used to prepare co-polymers (4-vinylpyridine co-polymerized with ethyleneglycol dimethacrylate) that can be imprinted with an analyte. Imprinting such a polymer with 2,4-dichlorophenoxyacetic acid has been described.⁶

Precautions and Disclaimer

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

Preparation Instructions

This compound is miscible with ethanol (1 part in 20 parts ethanol), yielding a clear, colorless solution.

Procedure

An experimental procedure for the use of this compound to alkylate proteins has been published.⁷

1. One g of protein is dissolved in 100 ml of 8 M urea, pH 7.5, with Tris buffer.
2. One ml of β-mercaptoethanol, approximately a 100 molar excess over the total disulfides, is added under nitrogen and the mixture is stirred for 16 hours at room temperature.
3. The free sulfhydryl groups are then exposed to 1.5 ml of 4-vinylpyridine (1:1 ratio with respect to all sulfhydryl groups) and the solution is stirred for 90-120 minutes.
4. The reaction is stopped by lowering the pH of the solution to pH 3 with glacial acetic acid.
5. The solution is dialyzed against 0.01 N acetic acid.
6. The solution is lyophilized.

References

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