



Product Information

Acetyl chloride

Product Number **A 0772**
Store at Room Temperature

Product Description

Molecular Formula: C_2H_3OCl
Molecular Weight: 78.50
CAS Number: 75-36-5
Melting Point: $-112\text{ }^\circ\text{C}^1$
Boiling Point: $52\text{ }^\circ\text{C}^1$
Density: 1.104 g/ml¹

Acetyl chloride is a commonly used acetylation agent for the preparation of fine chemicals, agrochemicals, and pharmaceuticals. In amino acid synthesis, acetyl chloride can be used to protect amine groups. Acetyl chloride is also used in the production of dyes, the determination of water in organic liquids, and in analysis of cholesterol, lipids, and fatty acids.^{1,2,3,4}

A procedure for the C-terminal sequence analysis of proteins via the derivatization of amino acids to their corresponding thiohydantoin that incorporates acetyl chloride has been published.⁵ The use of acetyl chloride in the synthesis of cladribine (2-chloro-2'-deoxyadenosine) from 2'-deoxyguanosine has been reported.⁶

Acetyl chloride can induce activation of a reporter gene which codes for a green fluorescent protein (GFP)-luciferase fusion protein in a stable transformed fish cell line.⁷

Precautions and Disclaimer

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

Preparation Instructions

This product is miscible in chloroform (0.1 ml/ml, v/v), yielding a clear, colorless solution. It is also miscible with benzene, ether, glacial acetic acid, and petroleum ether. It is necessary to protect acetyl chloride from water, as water will cause violent decomposition of this reagent.¹

References

1. The Merck Index, 12th ed., Entry# 86.
2. Rodriguez-Palmero, M., et al., Comparison of two methods for the determination of fatty acid profiles in plasma and erythrocytes. *J. Chromatogr. A.*, **793(2)**, 435-440 (1998).
3. Cardenas, M. S., et al., Sequential determination of triglycerides and free fatty acids in biological fluids by use of a continuous pretreatment module coupled to a gas chromatograph. *Anal. Biochem.*, **222(2)**, 332-341 (1994).
4. Lepage, G., and Roy, C. C., Direct transesterification of all classes of lipids in a one-step reaction. *J. Lipid Res.*, **27(1)**, 114-120 (1986).
5. Hardeman, K., et al., An improved chemical approach toward the C-terminal sequence analysis of proteins containing all natural amino acids. *Protein Sci.*, **7(7)**, 1593-1602 (1998).
6. Janeba, Z., et al., Efficient Syntheses of 2-Chloro-2'-deoxyadenosine (Cladribine) from 2'-Deoxyguanosine(1). *J. Org. Chem.*, **68(3)**, 989-992 (2003).
7. Molina, A., et al., A transformed fish cell line expressing a green fluorescent protein-luciferase fusion gene responding to cellular stress. *Toxicol. In Vitro*, **16(2)**, 201-207 (2002).

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