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ProductInformation

N,N-Dimethylformamide

Product Number **D 4551**
Store at Room Temperature

Product Description

Molecular Formula: C_3H_7NO
Molecular Weight: 73.10
CAS Number: 68-12-2
Melting Point: -61 °C[1]
Boiling Point: 153 °C[1]
Density: 0.9445 g/ml (25 °C)[1]
Synonyms: DMF, DMFA[1]

This product is designated as molecular biology grade. It has been tested to be suitable as a solvent for chromogenic substrates (X-Gal) in molecular biology applications.

DMF is a polar organic solvent that is widely used in the synthesis of organic compounds. The high solvent power and stability of DMF at elevated temperatures contribute to its utility. DMF is a solvent for vinyl resins, acetylene, butadiene, and polyacrylic fibers. It is also a catalyst in carboxylation reactions.[1,2]

DMF is also utilized in chromatographic applications such as HPLC, capillary electrochromatography, and capillary electrophoresis.[3,4,5] A capillary electrophoresis study has been published on the mobility of large organic cations in such non-aqueous solvents as DMF.[6] DMF has been used for the separation of aliphatic amines in microfabricated capillary electrophoresis devices.[7]

CNBr-activated diol-silica supports for high-performance affinity chromatography have been prepared with DMF.[8] DMF has also been used for peptide and protein crystallization.[9,10]

Precautions and Disclaimer

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

Preparation Instructions

This product is freely miscible with water and with most common organic solvents, including alcohols, esters, ethers, ketones, and chlorinated and aromatic hydrocarbons. The pH of a 0.5 M DMF aqueous solution is 6.7.[1]

References

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8. Jurado, L. A., et al., Cyanogen bromide activation and coupling of ligands to diol-containing silica for high-performance affinity chromatography optimization of conditions. J. Chromatogr. A, **971(1-2)**, 95-104 (2002).
9. Doi, M., et al., Amphipathic structure of theonellapeptolide-Id, a hydrophobic tridecapeptide lactone from the Okinawa marine sponge *Theonella swinhoei*. Biopolymers, **54(1)**, 27-34 (2000).
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