



Product Information

1-Fluoro-2,4-dinitrobenzene

Product Number **D 1529**
Store at Room Temperature

Product Description

Molecular Formula: $C_6H_3FN_2O_4$
Molecular Weight: 186.1
CAS Number: 70-34-8
Melting point: 26 °C¹
Density: 1.48 g/ml
Refractive Index: 1.5690 (20 °C)²
Molarity: 7.95 M
Synonyms: 2,4-Dinitrobenzene Fluoride, 2,4-DNFB, 1,2,4-Fluorodinitrobenzene, Fluoro-1,3-dinitrobenzene, DNFB, Sanger's reagent

The effect of 2,4-dinitrofluorobenzene (DNFB) on the enzymatic properties of mitochondrial b-c1 complex isolated from beef heart mitochondria indicated that the chemical modification by DNFB strongly inhibits the reductase activity of the complex.³

This compound has been reported to inactivate fructose diphosphatase by reacting with a cysteine residue.⁴ It can also cause reversible dinitrophenylation of thiols in muscle glyceraldehyde 3-phosphate dehydrogenase.⁵

In the Sanger procedure, DNFB is used to form dinitrophenyl derivatives,⁶ for end group determination of proteins,⁷ and to derivatize primary amines.⁸

Precautions and Disclaimer

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

Preparation Instructions

DNFB is soluble in chloroform (100 mg/ml). It is also soluble in benzene, ether, and propylene glycol.

A saturated solution at 15 °C in water is 0.0086 M and in 8 M urea is 0.062 M.⁹ The concentration of dinitrofluorobenzene at saturation was determined spectrophotometrically as dinitrophenol after basic hydrolysis.

Storage/Stability

The half-life at 15 °C in a Tris buffer is 56.7 hours (pH 8.03) and 6.5 hours (pH 9.53).⁹

References

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8. Fariss, M. W., and Reed, D. J., High-performance liquid chromatography of thiols and disulfides: Dinitrophenol derivatives. *Methods in Enzymol.*, **143**, 101-109 (1987).
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