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ProductInformation

4-Nitroaniline

Product Number **N 2128**
Store at Room Temperature

Product Description

Molecular Formula: $C_6H_6N_2O_2$
Molecular Weight: 138.1
CAS Number: 100-01-6
Melting Point: 146 °C[1]
Synonyms: p-nitroaniline, p-nitraaniline[1]

p-Nitroaniline is a chromogenic molecule that is used as a dyestuff intermediate in industrial applications.[1] In biochemical research, enzyme assays utilize modified aminoacyl or peptidyl p-nitroanilines as substrates. The enzyme catalyzes the release of free p-nitroaniline, which is the basis of the colorimetric determination of the enzyme activity.[2,3,4] Measurements are commonly performed at 410 nm (E^{mM} = 8.80), because of the absorbance overlap of the substrate and product at lower wavelengths.

Applications of the colorimetric properties of p-nitroanilide include the design of biopolymer drug delivery systems and of solid supports for enzyme immobilization.[5,6,7] A kinetic analysis of the α-chymotrypsin catalyzed hydrolysis of aminoacyl and peptidyl p-nitroanilide substrates in vesicles has been reported.[8]

Computational studies on the crystal charge density of p-nitroaniline have been published.[9,10]

Precautions and Disclaimer

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

Preparation Instructions

This product is soluble in ethanol (50 mg/ml), with heat as needed, yielding a slightly hazy, yellow to orange solution. It is soluble in mineral acids such as HCl, and also in alcohol (40 mg/ml) and ether (33 mg/ml).[1]

References

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8. Blocher, M., et al., Modeling of enzymatic reactions in vesicles: the case of α-chymotrypsin. Biotechnol. Bioeng., **62(1)**, 36-43 (1999).
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