**Product Information**

4-Nitroaniline

**Product Description**

Molecular Formula: \( \text{C}_6\text{H}_6\text{N}_2\text{O}_2 \)

Molecular Weight: 138.1

CAS Number: 100-01-6

Melting Point: 146°C

Synonyms: p-nitroaniline, p-nitroaniline

p-Nitroaniline is a chromogenic molecule that is used as a dyestuff intermediate in industrial applications. 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. Measurements are commonly performed at 410 nm (\( E_{\text{M}}^{\text{ml}} = 8.80 \)), 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. A kinetic analysis of the \( \alpha \)-chymotrypsin catalyzed hydrolysis of aminoacyl and peptidyl p-nitroanilides in vesicles has been reported. Computational studies on the crystal charge density of p-nitroaniline have been published.

**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).

**References**

1. The Merck Index, 12th ed., Entry# 6681.

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