

# 2-Amino-5-Nitrophenol

## PRODUCT IN FOCUS



## 2-Amino-5-Nitrophenol

### INTRODUCTION

2-Amino-5-Nitrophenol (5-NAP) is an organic compound with the molecular formula  $C_6H_6N_2O_3$ . It is a substituted phenol with both an amino group ( $-NH_2$ ) and a nitro group ( $-NO_2$ ) attached to a benzene ring, along with a hydroxyl group ( $-OH$ ). It is most commonly used as a precursor or intermediate in the synthesis of dyes, pigments, and pharmaceuticals.

### Manufacture

5-NAP is commonly manufactured through the nitration of 2-aminophenol by reaction with acetic anhydride to form 2-methylbenzoxazole, which is nitrated and hydrolyzed to form 2-amino-5-nitrophenol.

### Applications

5-NAP has various industrial and laboratory applications due to its dual functional groups ( $-OH$ ,  $-NH_2$ , and  $-NO_2$ ) on the aromatic ring.

#### ☒ Dye and Pigment Manufacturing

- Precursor for azo dyes, disperse dyes, and acid dyes.
- Used in textile dyeing for wool, silk, and synthetic fibers.

#### ☒ In Cosmetics

- Used as a hair dye intermediate in oxidative hair coloring systems. It provides reddish to brown shades.
- Reacts with couplers and oxidizing agents like hydrogen peroxide.

#### ☒ Pharmaceutical Intermediates

- Used in the synthesis of active pharmaceutical ingredients (APIs).
- Acts as a building block in heterocyclic and nitroaromatic drug synthesis.

#### ☒ Organic Synthesis Intermediate

- Serves as an intermediate for reduction to 2,5-diaminophenol.
- Formation of benzoxazoles, quinazolines, and other heterocycles.

#### ☒ Corrosion Inhibitors and Coatings

- Derivatives may be used in corrosion inhibitor formulations due to their electron-donating and electron-withdrawing groups.

#### Synonyms

2-Hydroxy-4-nitroaniline

#### CAS no.

121-88-0

#### EINECS no.

204-503-8

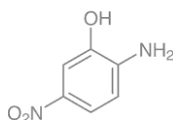
#### Molecular formula

$C_6H_6N_2O_3$

#### Molecular weight

154.12

#### Structure



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### SPECIFICATIONS

Test	Unit	Specification
Appearance	-	Dry brown crystals
Solubility	-	Soluble in dil. Acid and Alkali
Moisture Content	%	Max 0.5
Insolubles	%	Max 0.1
Melting Point	°C	198.0 – 202.0
Assay (By Nitrite Value)	%	Min 99.0
Purity (By HPLC)	%	Min 99.0
Impurity (By HPLC) (Total Others)	%	Max 1.0

### STORAGE & PRECAUTION

Store in a cool, dry place. Keep container closed when not in use.

### PACKING

25 kg HDPE Drum.

### REACH Status

Not registered.

ExSyn offers 2-Amino-5-Nitrophenol on commercial scales and welcomes enquiries. No matter the quantity you need, our exceptional quality and service will make ExSyn your supplier of choice! If you need any additional information or SDS, please contact us.