

Product Information

Imidazole, ACS reagent

Catalog Number **I2399**
Store at Room Temperature

CAS RN: 288-32-4

Molecular Formula: C₃H₄N₂
Molecular Weight: 68.08
pK_a: 7.1
Melting Point: 90-91 °C²

Product Description

Imidazole can be used to prepare buffers in the pH range of 6.2-7.8 at 25 °C. It is also a chelator for the binding of various divalent cations. The logs of the binding constants for various divalent cations are below:

Divalent Cation	Log binding constant
Ca ²⁺	0.1
Mn ²⁺	1.6
Fe ²⁺	3.3
Co ²⁺	2.4
Ni ²⁺	2.9
Cu ²⁺	4.2
Zn ²⁺	2.0

These values compare to an EDTA affinity constant log of 10.6 for Ca²⁺.³

Imidazole can be used for the elution of histidine containing proteins from divalent cation resins (Catalog No. P6611, His-Select[®]-HC Nickel affinity gel) and can also be used in reverse staining of SDS-PAGE gels for detection of proteins.⁴

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Imidazole is soluble in water (approximately 500 mg/ml), yielding a clear solution.

Storage/Stability

Solutions can be successfully sterilized by autoclaving, and are stable for at least 2 years at 2-8 °C, protected from light.

References

1. Data for Biochemical Research, 3rd ed., Dawson, R. M. C., et al., Oxford University Press (New York, NY: 1986), p. 324-325.
2. The Merck Index, 13th ed., Entry# 4935.
3. Data for Biochemical Research, 3rd ed., Dawson, R. M. C., et al., Oxford University Press (New York, NY: 1986), p. 433, 409, 404-405.
4. Fernandez-Patron, C., et al., Reverse staining of sodium dodecyl sulfate polyacrylamide gels by imidazole-zinc salts: sensitive detection of unmodified proteins. *Biotechniques*, **12(4)**, 564-573 (1992).

HIS-Select is a registered trademark of Sigma-Aldrich Biotechnology LP and Sigma-Aldrich Co.

PHC 11/10-1

Sigma brand products are sold through Sigma-Aldrich, Inc.

Sigma-Aldrich, Inc. warrants that its products conform to the information contained in this and other Sigma-Aldrich publications. Purchaser must determine the suitability of the product(s) for their particular use. Additional terms and conditions may apply. Please see reverse side of the invoice or packing slip.