

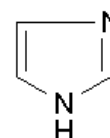
56749 / 56748 Imidazole

(Glyoxaline, 1,3-Diaza-2,4-cyclopentadiene)

CAS number: 288-32-4

Product Description:

Molecular Formula: C₃H₄N₂
Molecular Weight: 68.08 g/mol
pH: 9.5-11.0 (25°C, 0.1 M in H₂O)¹
pK_a: 6.95
Melting Point: 90-91°C²



56748 BioUltra for molecular biology
56749 BioUltra

BioUltra qualities are highly purified biochemicals for suitable for life science applications and other applications which require a tight control of elemental content. The molecular biology grade has specially been tested for the absence of DNase, RNase, and protease.

Applications:

Imidazole can be used to prepare buffers in the pH range of 6.2-7.8 at 25°C. It is e.g. recommended as a component of a buffer for assay of horseradish peroxidase.³ 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⁺.⁴

Imidazole can be used for the elution of histidine containing proteins from divalent cation resins (Sigma P6611, His-Select.-HC Nickel affinity gel) and can also be used in reverse staining of SDS-PAGE gels for detection of proteins.⁵

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. Sigma-Aldrich quality control
2. R. M. C., et al., Oxford University Press (New York, NY: 1986), p. 324-325
3. B. Storrie, E.A. Madden, Buffer for assay of horseradish peroxidase Meth. Enzymol. 182, 217 (1990)
4. The Merck Index, 13th ed., Entry# 4935.
5. Data for Biochemical Research, 3rd ed., Dawson,

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.

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