

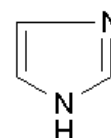
## 56749 / 56748 Imidazole

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

**CAS number:** 288-32-4

### Product Description:

Molecular Formula: C<sub>3</sub>H<sub>4</sub>N<sub>2</sub>  
Molecular Weight: 68.08 g/mol  
pH: 9.5-11.0 (25°C, 0.1 M in H<sub>2</sub>O)<sup>1</sup>  
pK<sub>a</sub>: 6.95  
Melting Point: 90-91°C<sup>2</sup>



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.<sup>3</sup> 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 <sup>2+</sup>	0.1
Mn <sup>2+</sup>	1.6
Fe <sup>2+</sup>	3.3
Co <sup>2+</sup>	2.4
Ni <sup>2+</sup>	2.9
Cu <sup>2+</sup>	4.2
Zn <sup>2+</sup>	2.0

These values compare to an EDTA affinity constant log of 10.6 for Ca<sup>2+</sup>.<sup>4</sup>

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.<sup>5</sup>

### 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.



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## 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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