

## Product Information

### Imidazole, for molecular biology

Catalog Number **I5513**  
Store at Room Temperature

CAS RN: 288-32-4

Molecular Formula: C<sub>3</sub>H<sub>4</sub>N<sub>2</sub>  
Molecular Weight: 68.08  
pK<sub>a</sub>: 7.1  
Melting Point: 90-91 °C<sup>2</sup>

#### Product Description

Catalog Number I5513 has been tested for the absence of DNase, RNase, and protease.

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 <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>3</sup>

Imidazole can be used for the elution of histidine containing proteins from divalent cation resins (Catalog No. P 6611, His-Select®-HC Nickel affinity gel) and can also be used in reverse staining of SDS-PAGE gels for detection of proteins.<sup>4</sup>

#### 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).

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