



3050 Spruce Street  
Saint Louis, Missouri 63103 USA  
Telephone 800-325-5832 • (314) 771-5765  
Fax (314) 286-7828  
email: techserv@sial.com  
sigma-aldrich.com

## Product Information

### Imidazole

Product Number **I 0250**  
Store at Room Temperature

#### Product Description

Molecular Formula:  $C_3H_4N_2$   
Molecular Weight: 68.08  
CAS Number: 288-32-4  
 $pK_a$ : 7.1  
Melting Point: 90-91 °C<sup>2</sup>

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  $Ca^{2+}$ .<sup>3</sup>

Imidazole can be used for the elution of histidine containing proteins from divalent cation resins (Product 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

For Laboratory Use Only. Not for drug, household or other uses.

#### 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 licensed under U.S. Patent No. 4,569,794.

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