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ProductInformation

Guanidine hydrochloride

Product Number **G 3272**
Store at Room Temperature

Product Description

Molecular Formula: CH_5N_3•HCl
Molecular Weight: 95.53
CAS Number: 50-01-1
pK_a: 13.6[1]
Melting Point: 178-185 °C[2]

This product is designated as Molecular Biology grade and is suitable for molecular biology applications. It has been analyzed for the presence of RNase and DNase.

Guanidine HCl may agglomerate upon storage. It may appear as a free-flowing crystalline powder, a free-flowing powder with solid material dispersed throughout, or a solid. The quality of the product does not appear to be affected and solutions prepared from the free-flowing and lumpy guanidine HCl appear identical.

Guanidine HCl is used in the isolation of RNA to dissociate the nucleoprotein into its nucleic acid and protein moieties.[3] It is an inhibitor of RNase. Highly concentrated (6 - 8 M) Guanidine HCl solutions are used to denature native globular proteins. It apparently disrupts hydrogen bonds which hold the protein in its unique structure. However, there also is evidence suggesting that guanidine hydrocholoride may disrupt hydrophobic interactions by promoting the solubility of hydrophobic residues in aqueous solutions.[4]

A method for measuring guanidine in the sera of uremic subjects has been reported.[5]

Precautions and Disclaimer

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

Preparation Instructions

In order to make an 8 M solution in water, one must heat the solution to 35 °C for approximately 30 minutes. The maximum solubility of guanidine hydrochloride in water at room temperature is approximately 6 M.

References

1. Data for Biochemical Research, 3rd ed., Dawson, R. M. C., et al., Oxford University Press (New York, NY: 1986), pp. 322-323.
2. Handbook of Chemistry and Physics. 65th ed., p. C-316.
3. Cox, R. A., The Use of Guanidinium Chloride in the Isolation of Nucleic Acids, Methods in Enzymology, **12B**, 120-129 (1968).
4. http://www.agsci.ubc.ca/courses/fnh/410/protein/1_54.htm
5. Menichini, G. C. and Giovannetti, S., A New Method for Measuring Guanidine in Uremia, Experientia, **29**, 506-507 (1973).

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