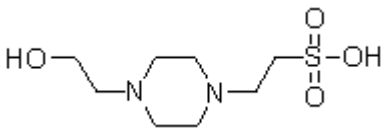
FT-061940

HEPES Buffer

Product Information

HEPES is an organic chemical buffering agent that is widely used to maintain physiological pH (range pH 6.8-8.2); Its **pKa** at 20°C is 7.45-7.65.

Chemical name:	**Hepes, Free Acid**	**Hepes, Sodium Salt** 4-(2-Hydroxyethyl)piperazine-1-ethanesulfonic acid sodium salt, N-(2-Hydroxyethyl)piperazine-N′-(2-ethanesulfonic acid) sodium salt
	CAS: 7365-45-9	CAS: 75277-39-3
Cat. Number:	UP061940 , 250g	34941A , 100g
Molecular Weight:	238.30 g/Mol	260.29 g/Mol
Storage :	Room temperature. Protect from moisture.	

Specifications

Test	Specification #06194	Specification #34941
Purity (dry basis)**:**	≥99%	≥99%
Heavy Metals (as Pb):	<0.0005%	<0.0001
Iron:	<0.0005%	
Loss on drying: Residue on ignition	<0.2%	3%
DNase activity:	Not detected	Not detected
Rnase activity:	Not detected	Not detected
Protease activity:	Not detected	Not detected
Solubility (Water)	5%	

Technical Information

HEPES is a popular general purpose buffer for biological research. It is water soluble, does ot interfere with biological processes or biological membranes (penetration, solubilisation, adsorption on surface, etc.), have known complex-forming tendency with metal ions, be non-toxic and have a very low U.V. absorption at wavelength >260 nm.

HEPES is used to advantage in tissue culture. Fears that HEPES may serve as a nutrient source for aerobic bacteria have been shown to be unfounded.

HEPES is recommended for the protection of frozen solutions of enzymes from freezing-induced pH changes.

It is also usefull in oxidative phosphorylation, protein synthesis with cell-free bacterial systems, photophosphorylation, CO2 fixation. In TEM studies (Transmission Electron Microscopy) HEPES does not affect metal substrates. It is recommended buffer for the glutamate binding assay, prevents binding to non-receptor materials.

Lepe-Zuniga et al. reported a phototoxicity of HEPES when exposed to ambient light by the production of hydrogen peroxide. For best repeatability of results it is then strongly advised to keep any HEPES containing solution in darkness as much as possible.

See FT-06200 for other **Good's buffers** (biological buffers: by increase pH buffering range: MOPS, MES, ADA, ACES, PIPES, MOPSO, TES, HEPES, DIPSO, MOBS, TAPSO, HEPPSO, POPSO, EPPS, Bicine, HEPBS, TAPS, AMPD, TABS, AMPSO, CHES, CAPSO, AMP, CABS).

Legals
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