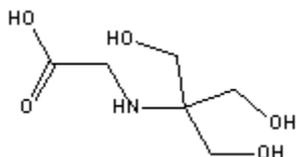


Catalog Number: 103112, 194556, 807410, 807413, 807416, 807420

Tricine electrophoresis grade

Structure:



Molecular Formula: $C_6H_{13}NO_5$

Molecular Weight: 179.17

CAS # : 5704-04-1

Synonyms: N-Tris-[hydroxymethyl]methylglycine;
N-[2-Hydroxy-1,1-bis(hydroxymethyl) ethyl] glycine

Physical Description: White crystalline powder

pKa: 8.1 @ 25° C.^{5,6}

Buffering pH Range: 7.4 - 8.8

$\Delta pK/\Delta T$: -0.021¹

Metal Binding Constants (log K) for 0.1 M solution at 20° C:²

Mg²⁺: 1.2

Ca²⁺: 2.4

Mn²⁺: 2.7

Cu²⁺: 7.3

pH (1 M solution): ~4.0 - 6.0

Solubility: Very soluble in water (25% w/v - clear, colorless solution). To sterilize solutions, MP recommends filter sterilization using a 0.2 micron filter. For molecular biology, treat the water with DEPC prior to adding the tricine. DEPC reacts with amino groups and may help to decompose the tricine.

Description: Tricine was first prepared by Good for use as a buffer for chloroplast reactions. It is structurally similar to Tris, but is much less inhibitory at high concentrations.⁵ For ATP assays using firefly luciferase, tricine buffer at 25 mM was found to be the best of ten common buffers tested.¹⁰

Tricine can be used in cryopreservation medium for the preservation of tissues and organs. Cryopreservation depends on the physical and chemical characteristics of the preservation medium used. The pH values and pK values for tricine/DMSO mixtures has been reported down to -20° C.⁸

Tricine has been found to be an efficient scavenger of hydroxyl radicals in a study of radiation-induced membrane damage.⁷

Tricine is typically the buffer of choice in SDS-PAGE systems when separating proteins in the range of 1 to 100 kDa.⁹

Typical Preparation: A buffer may be prepared by titrating with sodium hydroxide to the desired pH, using about a half-equivalent of NaOH.³

Availability:

Catalog Number	Description	Size
103112	Tricine	25 g 100 g 250 g 1 kg
194556	Tricine, cell culture reagent	25 g 100 g 250 g 1 kg
807410 807413 807416 807420	Tricine, Electrophoresis Grade, purity not less than 99%	25 g 100 g 250 g 1 kg

References:

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5. Good, N.E., "Uncoupling of the Hill reaction from photophosphorylation by anions." *Arch. Biochem. Biophys.*, v. **96**, 653-661 (1962).
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