Stock Solution

TD-S Revision 2.0

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1M Tris HCl Buffer - 1 L

Instructions

1. Dissolve 157.60 g of Tris HCl (Tris HCl, GoldBio Catalog # T-095 [CAS 1185-53-1, mw. = 157.60 g/mol]) in 750 mL of dH_2O.

2. Adjust to desired pH using 10N NaOH. This method will introduce 0.06M - 0.81M NaCl into the concentrated stock solution.

3. Fill to final volume of 1 L with dH_2O.

4. Filter sterilize (recommended) or autoclave.

5. Store at 4°C.

Note: Alternatively, equimolar concentrations of Tris base (Tris, GoldBio Catalog # T-400 [CAS 77-86-1, mw. = 121.14 g/mol]) and Tris HCl can be mixed to attain a pH of ~ 8.1. The pH can be adjusted by increasing the molar ratio of Tris HCl (more acidic) or Tris base (more basic) and estimated using the Hendersen-Hasselbalch equation.

To make a 1 L solution of 1M Tris HCl, use the table below to estimate the required volume of base for a given pH:

Starting pH: 3.58
Adjust pH with: 10N NaOH

pH	7.0	7.1	7.2	7.3	7.4	7.5	7.6	7.7	7.8	7.9	8.0	8.1	8.2	8.3	8.4	8.5	8.6	8.7	8.8	8.9	9.0
mL	6	7	9	11	13	16	19	23	27	31	36	41	46	51	56	61	66	70	75	78	81

Note: This data was collected in GoldBio labs using GoldBio reagents and calculated using 100 ml volumes. All reagent volumes recorded above were adjusted accordingly to create this protocol.

Tris pKa at 25°: 8.06
Tris pH range: 7.0 – 9.0
d(pKa)/dT value: -0.028

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