

Preparation of Tris•Cl [Tris(hydroxymethyl)aminomethane] Stock Solutions¹

Method A

1. Dissolve 121g Tris Base (BPE152) in 800mL H₂O.
2. Adjust solution to desired pH with concentrated HCl.
3. Mix and add H₂O to 1 litre.

Method B

1. Prepare a 0.1M Tris Base solution: add H₂O to 12.1g Tris Base to a total volume of 1 litre.
2. From the chart below, obtain the volume of 0.1M HCl needed to produce the desired pH, and add to 100mL of 0.1M Tris Base.
3. Mix well.

pH, 25°C	0.1M HCl	pH, 25°C	0.1M HCl	pH, 25°C	0.1M HCl
7.2	89.4mL	7.8	69.0mL	8.4	34.4mL
7.3	86.8	7.9	64.0	8.5	29.4
7.4	84.0	8.0	58.4	8.6	24.8
7.5	80.6	8.1	52.4	8.7	20.6
7.6	77.0	8.2	45.8	8.8	17.0
7.7	73.2	8.3	39.8	8.9	14.0

Note: The pH of Tris buffers changes significantly with temperature, decreasing approximately 0.028 pH units per 1°C. Tris-buffered solutions should be adjusted to the desired pH at the temperature at which they will be used. Since the pKa of Tris is 8.08, Tris should not be used as a buffer below pH~7.2 or above pH~9.0.

¹Convenient, ready-made Fisher BioReagent solutions are also available. See also Tris, 2M Solution, BPE1759; Tris, 0.3M Solution, BPE1761; and Tris-HCl, 1M Buffer Solutions, BPE1756 (pH 7.0), BPE1757 (pH 7.5), and BPE1758 (pH 8.0).

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