

Most common supporting electrolyte

Acetate buffer (CH₃COONa / CH₃COOH), pH 4.5 - 0.1 M solution

Dissolve 8.2 g of anhydrous CH₃COONa (or 13.6 g of CH₃COONa·3H₂O) in 800 ml of distilled water. Add 5.75 ml of glacial CH₃COOH. Check and adjust the pH. Bring to volume with distilled water, in a 1 l volumetric flask

Ammonia buffer (NH₄Cl / NH₃), pH 9.4 - 0.1 M solution

Dissolve 5.4 g of NH₄Cl in 900 ml of distilled water. Add 6.9 ml of 26% NH₃. Check and adjust the pH. Bring to volume with distilled water, in a 1 l volumetric flask

Ammonium citrate buffer (Ammonium citrate / citric acid), pH 3 – 0.2 M solution

Dissolve 42.5 g of citric acid in 800 ml of distilled water. Add 26% NH₃ until pH 3. Bring to volume with distilled water, in a 1 l volumetric flask

Ammonium tartrate buffer (ammonium tartrate / tartaric acid), pH 9 - 0.2 M solution

Dissolve 300 g of tartaric acid in 800 ml of distilled water. Add 26% NH₃ until pH 9. Bring to volume with distilled water, in a 1 l volumetric flask

Borate buffer (NaH₂BO₃ / H₃BO₃), pH 9.5 - 0.1 M solution

Dissolve 5.1 g of H₃BO₃ in 900 ml of distilled water. Add 2 g of NaOH. Check and adjust the pH. Bring to volume with distilled water, in a 1 l volumetric flask

Britton Robinson buffer, various pH

Common solution

Mix:

- 100 ml of 0.04 M H₃BO₃ (2.04 g / 100 ml) solution
- 100 ml of 0.04 M CH₃COOH (2.3 ml of glacial CH₃COOH / 100 ml) solution
- 100 ml of 0.04 M H₃PO₄ (2.8 ml of 85% H₃PO₄ / 100 ml) solution

Solution at desired pH

Adjust pH to desired value by adding 0.2 M NaOH (8 g/l) to the above solution.

EDTA - 0.1 M solution

Dissolve 37.2 g of EDTA-Na₂ in 1 l of distilled water, in a volumetric flask.

HCl – 0.1 or 1 M solution

Dilute 8.2 (or 82) ml of 37% HCl in 1 l of distilled water, in a volumetric flask.

KCl - 0.1 M or 1 M solution

Dissolve 7.5 (or 75) g of KCl in 1 l of distilled water, in a volumetric flask.

KCNS - 0.1 M solution

Dissolve 9.72 g of KCNS in 1 l of distilled water, in a volumetric flask.

KNO₃ - 0.1 or 1 M solution

Dissolve 10 (or 100) g of KNO₃ in 1 l of distilled water, in a volumetric flask.

LiCl / LiOH - 0.1 M solution

Dissolve 2.4 g of LiOH and 4.3 g of LiCl in 1 l of distilled water, in a volumetric flask.

NaF - 1 M solution

Dissolve 42 g of NaF in 1 l of distilled water, in a volumetric flask. Heat, if necessary.

Phosphate buffer (NaH₂PO₄ / H₃PO₄), pH 6.8 - 0.2 M solution

Dissolve 24 g of NaH₂PO₄·H₂O in 800 ml of distilled water. Add 85% H₃PO₄ until pH 6.8. Bring to volume with distilled water, in a 1 l volumetric flask

Sodium citrate buffer (Sodium citrate / citric acid), pH 3 – 0.2 M solution

Dissolve 42.5 g of citric acid in 800 ml of distilled water. Add 20% NaOH until pH 3. Bring to volume with distilled water, in a 1 l volumetric flask

Sodium tartrate buffer (sodium tartrate / tartaric acid), pH 9 - 0.2 M solution

Dissolve 300 g of tartaric acid in 800 ml of distilled water. Add 20% NaOH until pH 9. Bring to volume with distilled water, in a 1 l volumetric flask

TEA 0.3 M / KOH 0.1 M buffer

Dissolve 45 g of TEA (triethanolamine) and 5.6 g of KOH in 1 l of distilled water, in a volumetric flask.

TEA 0.3 M / NaOH 0.2 M buffer

Dissolve 45 g of TEA (triethanolamine) and 8 g of NaOH in 1 l of distilled water, in a volumetric flask.