Buffer Solution

1. [Tris Base](https://en.wikipedia.org/wiki/Tris)  = 121.14 g/mole (M. Wt.)
2. [EDTA](https://en.wikipedia.org/wiki/Ethylenediaminetetraacetic_acid)  = 292.24 g/mole (M. Wt.)
3. [Magnesium acetate](https://en.wikipedia.org/wiki/Magnesium_acetate)  = 142.394 (anhydrous), g/mole (M. Wt.)

214.455 (tetrahydrate) g/mole (M. Wt.)

1. [Sodium chloride](https://en.wikipedia.org/wiki/Sodium_chloride) = 58.44 g/mole (M. Wt.)
2. [Acetic acid](https://en.wikipedia.org/wiki/Acetic_acid)  = 60.05 (M. Wt.), density (1.049 g/mL)
3. [Triethylamine](https://en.wikipedia.org/wiki/Triethylamine)  = 101.19 g/mole, (M. Wt.), density (0.7255 g/mL)
4. [Boric acid](https://en.wikipedia.org/wiki/Boric_acid) = 61.83 g/mole (M. Wt.)
5. [Sodium acetate](https://en.wikipedia.org/wiki/Sodium_acetate) = 82.03 g/mole (M. Wt.)
6. [TE Buffer](https://en.wikipedia.org/wiki/TE_buffer):

To make a 100 ml solution of T10E1 Buffer, 1 ml of 1 M Tris-HCl (pH 8.0) and 0.2 ml EDTA (0.5 M) and made up with double distilled water up to 100ml.

Take 0.12114 g of tris + 0.029 g EDTA

pH = ~ 8.0

1. [TAE Buffer](https://en.wikipedia.org/wiki/TAE_buffer) (**50X**):

**TAE buffer** is a [buffer solution](https://en.wikipedia.org/wiki/Buffer_solution) containing a mixture of [Tris base](https://en.wikipedia.org/wiki/Tris_base), [acetic acid](https://en.wikipedia.org/wiki/Acetic_acid) and [EDTA](https://en.wikipedia.org/wiki/EDTA).

TAE buffer is commonly prepared as a 50X stock solution for laboratory use. A 50X stock solution can be prepared by dissolving 242g Tris base in water, adding 57.1mL glacial acetic acid, and 100mL of 500mM EDTA (pH 8.0) solution, and bringing the final volume up to 1 liter. This stock solution can be diluted 50:1 with water to make a 1X working solution. This 1X solution will contain 40mM Tris, 20mM acetic acid, and 1mM EDTA.

For 200 mL buffer

Tris base= 48.4 g

EDTA = 2.9224 g

Acetic Acid = 11.42 mL

pH = ~ 8.0

1. B4 Buffer:

10 mM Tris + 1 mM EDTA + 10 μg/mL BSA

= ~ (TE Buffer + 10 μg/mL BSA)

1. TBE Buffer (**10X**):

TBE electrophoresis buffer

Tris base 121.1 g (1 M) + Boric acid 61.8 g (1 M) + EDTA (disodium salt) 7.4 g (0.02 M) in 1 liter solution

1. [Prepare 1M TEAA](http://www.thelabrat.com/protocols/25.shtml)

Add 5.7mL glacial HOAc to 50mL H2O and mix well  
----Add 13.9mL triethylamine and mix well -add H2O to final volume of 100mL and mix well  
----Adjust pH to 7.0 with triethylamine or HOAc and store in tightly capped light protective container at +4oC