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🌐 Production: 10x TBE Buffer Powder Sachets



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Desired concentrations of Components in the 10x buffer

Boric acid-0.89M

Tris-0.89M

Na2EDTA-0.02M

Concentration of 1x TBE buffer

Tris-Borate-0.089M

Na2EDTA-0.002M

Jenny Molloy, Nadine Mowoh, Stephane Fadanka 2022. Production: 10x TBE Buffer Powder Sachets. **protocols.io**
<https://protocols.io/view/production-10x-tbe-buffer-powder-sachets-b94ur8ww>



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Part of collection

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 **Borax** Contributed by users Step 4

 **Tris base** Contributed by users Step 6

 **EDTA DiSodium salt anhydrate** **Sigma Aldrich** Step 5


Weighing balance and weighing boat

Spatula

Ziplock Bags

Work in well ventilated area and wear face masks and goggles to avoid inhaling the powders or powder from entering the eye.

Ensure all powders are dry and free from moisture to enable the resulting buffer to stay longer.




- 1 Weigh about  **35 g** of Boric acid into a weighing boat and place the weighing boat in a vacuum tupperware half-filled with silica gel beads. 5m



- 2 Close the tupperware and use the vacuum pump to create a vacuum until you are not able to hand pump any more air out or the pump shuts off. 2m

Check instructions for your vacuum pump system to understand when a vacuum has been formed and when to stop pumping.

- 3 Allow it to stay overnight at room temperature 12h

This step ensures no moisture is carried over into the final powder mixture. The powders readily absorb moisture from the atmosphere and this can reduce their shelf life.

- 4 Weigh out  **27.515 g** of  **Borax** Contributed by users from the pre-dried powder into a  **500 mL** beaker. 5m

- 5 Weigh  **3.72 g** of  **EDTA DiSodium salt anhydrate** **Sigma Aldrich** and add into the beaker 2m

6 Weigh of and add to the content of the beaker. ^{2m}

7 Use a spatula to stir so as to have an even and a uniform mixture of all three powders. ^{2m}

If scaling up the protocol, stirring may be insufficient and you may want to vigorously agitate in a close container to ensure that the powders are evenly mixed.

8 Transfer the powder mix into a zip lock antistatic bag, seal carefully and label appropriately as powder to make up of 10x TBE. ^{2m}

9 The powder is stable for up to 6 months.

For long term storage, keep the pouches in a secondary container like a larger tupperware box with dessicant to help absorb any extra moisture from the atmosphere.