

50X TBE

<u>Product Name</u>	<u>Product Code</u>	<u>Kit Packing</u>
50X TBE	ML017-100 ML	100 ML
	ML017-500 ML	500 ML
	ML017-2X500ML	2X500 ML

Introduction: TBE (Tris-Borate-EDTA) buffer is commonly used in all DNA electrophoresis applications (both for acrylamide and for agarose gels). In general, TBE buffer offers better resolution of 0.1 to 3 kb fragments; whereas, TAE (Tris-Acetate-EDTA) buffer provides better resolution of fragments greater than 4 kb. Furthermore, TBE is better suited for high-voltage (>150V) electrophoresis because of its higher buffering capacity and lower conductivity than TAE.

Description: The 50X TBE - Concentrate Gel Tablets come in easy-to-open pouches for simple and quick preparation of TBE Buffer. 1000 ml of 1X buffer can be prepared from each 20ml tablet.

Advantage: A solid, tablet form of the product allows for the convenient, space-saving storage of TBE in a non-precipitable form. The 50X TBE - Concentrate Gel Tablets come individually pouched and require heating for less than a minute in a microwave in water to dissolve. The dissolved tablet is then reconstituted to the appropriate volume to yield the required TBE solution. Fresh TBE can be made in a matter of minutes for any electrophoresis application. The tablet format allows for a longer shelf life without precipitation problems and also decreases the storage space normally required for liquid TBE.

Limitations of Liquid 50X TBE Concentrate: Liquid TBE at higher concentrations (such as 50X) has a tendency to precipitate during storage. This precipitation is a result of nucleation of salt crystals by insoluble materials. After extensive research, HiMedia has introduced solid-gel tablets of 50X TBE packed in easy-to-open pouches for simple and quick preparation of TBE Buffer.

Steps to be followed for 1X TBE Preparation: Due to Microwave oven variances, times may vary according to model/brand used. The following instructions were developed using a 400 watt microwave.

1. Remove the tablet from the pouch (Cut the pouch if necessary).
2. Place the tablet into a 250-500 ml beaker.
3. Add approximately 10 ml of Molecular Biology Grade water (ML024) / distilled water into the beaker via pipetting or squirt bottle.

NOTE: The addition of the water eliminates any risk of eruption when heating the solid material. Hence, this step must always be performed.

4. Place the beaker into the microwave.
5. Microwave on high for 20-25 seconds (20 ml tablet). Amount of heating be adjusted according to the model/brand of microwave used.
6. Using heat-resistant gloves remove the beaker from the microwave and gently swirl. The material should now be in a liquid phase. If not, re-microwave in 5 seconds intervals until material is in a liquid phase. Again, it is crucial to have approximately 10 ml of Molecular Biology Grade water or distilled water in the beaker.

7. Pour the liquid TBE concentrate into an appropriately sized graduated cylinder.
8. Rinse the beaker that was used during the heating process with Molecular Biology Grade Water or distilled water to recover any remaining TBE concentrate. Transfer this rinse to the graduated cylinder that contains the TBE concentrate.
9. Make up the final volume by adding additional Molecular Biology Grade water or distilled water.
NOTE: Filter the 1X TBE through 0.22 μ or 0.45 μ filters before use (refer ***NOTE** at the bottom of the page).

Alternative Method for 1X TBE Preparation:

1. Cut open the pouch containing solid-gel tablet of 20 ml of 50X TBE.
2. Put the tablet in 950 ml of Molecular Biology Grade Water (ML024) / distilled water and stir till it dissolves (warm the solution to 50°C if desired).
3. Make up the volume to 1 litre using Molecular Biology Grade Water (ML024) /distilled water.

Storage conditions:

The 50X TBE - Concentrate Gel Tablets can be stored at room temperature (15-25° C)

***NOTE:**

1. Concentrations of 10X TBE Buffer or greater may precipitate due to the nature of the product. This precipitation is a result of nucleation of salt crystals by insoluble materials. HiMedia routinely filters 10X TBE (Product Code: ML011) to reduce this chance of precipitation. If crystallization does occur, additional filtration may be necessary. The solution should be filtered through 0.22 μ or even 0.45 μ filters.
2. 50X TBE cannot be filtered due to very high viscosity through 0.22 μ or even 0.45 μ filters. We therefore recommend the user to filter the 1X TBE before use.
3. Sometimes the tablet becomes white in color due to the high borate concentration.

Technical Assistance

At HiMedia we pride ourselves on the quality and availability of our technical support. For any kind of technical assistance, mail at mb@himedialabs.com.