

Pure. Simple. Convenient.



# Crystal Buffers

- Reagents of the highest purity and quality
- Pre-weighed powder in pouches and tablets
- Dissolve and go for greater convenience
- Ideal to standardize your electrophoresis
- Guaranteed reproducible results

## Highest purity and quality

Bioline Crystal Buffers for DNA/RNA and protein electrophoresis are made from reagents with the highest purity and reliability, and are delivered pre-weighed in convenient ready-to-use sealed pouches and in tablets. Crystal Buffers undergo extensive and stringent QC assays and the guaranteed batch-to-batch reproducibility provides consistent results when running electrophoresis of DNA/RNA fragments and proteins.

## Buffers for all occasions

Bioline Crystal Buffers are perfect to help you standardize your electrophoresis runs. Each pouch or tablet contains a pre-determined amount of components, providing increased buffer precision. There is no need to spend time in the laboratory weighing and handling the individual components for preparing buffers. Simply dissolve the contents of the pouch or place the tablet in deionized water to the recommended volume and you are ready to go without any further preparation.

## Crystal Buffers for DNA/RNA electrophoresis

### Crystal running buffers

TBE and TAE buffers are the most common buffers used in agarose and polyacrylamide electrophoresis of DNA and RNA fragments.

*Crystal 10x TBE Buffer* is the choice when running short nucleic acids fragment (below 1500bp). *Crystal 50x TAE Buffer* is recommended for large fragments (above 1500bp) and general large genomic DNA. TAE has a lower buffer capacity than TBE, however linear dsDNA tends to migrate faster in TAE than in TBE. Crystal 50x TAE buffer can also be used in non-denaturing RNA agarose gel electrophoresis. For specifications, application and the selection of the appropriate Bioline Agarose see Table 1.



# Crystal Buffers

**Table 1: Specifications and applications of Crystal DNA/RNA running buffers**

	CRYSTAL 10x TBE	CRYSTAL 50x TAE
Name	Tris-Borate-EDTA	Tris-Acetate-EDTA
Format	Powder in sealed pouch	Powder in sealed pouch
Molecular Biology Grade	DNase/RNase free	DNase/RNase free
Composition (Pouch/1000ml)	0.89M Tris-Borate, 0.02M EDTA with pH 8.3 at 25°C	2.0M Tris-Acetate, 0.05M EDTA with pH 8.3 at 25°C
Shelf life	At least 3 years	At least 3 years
Applications	<ul style="list-style-type: none"> <li>• Short fragments &lt;1500bp</li> </ul>	<ul style="list-style-type: none"> <li>• Long fragments &gt;1500bp</li> <li>• Non-denaturing RNA analysis</li> <li>• Southern blotting buffer</li> </ul>
Recommended Bioline Agarose	<ul style="list-style-type: none"> <li>• High-Res grade (BIO-41029)</li> <li>• Tablets (BIO-41028)</li> </ul>	<ul style="list-style-type: none"> <li>• Molecular grade (BIO-41026)</li> <li>• Tablets (BIO-41028)</li> </ul>

## Crystal Buffers for protein electrophoresis

**Crystal 1x TG Buffer** is the recommended running buffer in native (non-denaturing) protein polyacrylamide gel electrophoresis (PAGE). The buffer can also be used in Western blotting assays. The contents of one pouch dissolved in 1000ml of deionized water yield a Tris-glycine buffer with a concentration of 0.025M Tris and 0.192M glycine with pH 8.2 at 25°C.

Crystal 1x TG Buffer can be used to perform SDS-PAGE when used in combination with the anionic detergent sodium dodecyl sulfate (SDS) at a concentration of 0.1%. This can be obtained by dissolving 2 tablets of the Bioline **Crystal SDS Reagent** in 1000ml of the Tris-glycine buffer. Crystal SDS reagent is provided in pre-weighed 0.5g tablets.

Crystal SDS Reagent can also be used in protein loading buffers, Southern (DNA) and Northern (RNA) blotting, and as general laboratory detergent and denaturing reagent.

## General laboratory buffers

Tris-EDTA (TE) buffer is routinely used in procedures involving DNA and RNA. The contents of one pouch of **Crystal 10x TE Buffer** dissolved in 1000ml of deionized water yield a Tris-EDTA buffer with a concentration of 0.1M Tris-HCl and 0.01M EDTA with pH 7.4 at 25°C.

Bioline **Crystal PBS Buffer** is a general use laboratory buffer supplied as pre-weighed tablets in two formulations to make up to 500ml or 1000ml of buffer. One tablet of Crystal PBS buffer dissolved in 500ml or 1000ml of deionized water yields 0.01M phosphate buffer, 0.0027M potassium chloride, 0.14M sodium chloride with pH 7.4 at 25°C.

## Crystal loading buffers

Bioline offers a variety of DNA and RNA loading buffers. Crystal DNA/RNA Loading Buffers are ready-to-use solutions to facilitate sample loading and to monitor the migration rate during agarose electrophoresis. The presence of glycerol in the buffer ensures that the sample is deposited at the bottom of the sample well.

**Crystal 5x DNA Loading Buffers** contain dyes for easy visualization while loading. Three formulations are available: Crystal 5x DNA Loading Buffer Blue, Crystal 5x DNA Loading Buffer Red and Crystal 5x DNA Loading Buffer TriColor.

**Crystal RNA Loading Buffers** are available in two formulations: with and without ethidium bromide (EtBr). The ready-to-use solution maintains the denatured state of RNA during agarose electrophoresis.

## Ordering Information

PRODUCT	PACK SIZE	CAT NO.
Crystal 10x TBE Buffer	10 Pouches	BIO-37104
Crystal 50x TAE Buffer	5 Pouches	BIO-37103
Crystal 10x TE Buffer	10 Pouches	BIO-37105
Crystal 1x TG Buffer	10 Pouches	BIO-37106
Crystal PBS Buffer (1 Litre)	100 Tablets	BIO-37108
Crystal PBS Buffer (0.5 Litre)	100 Tablets	BIO-37107
Crystal SDS Reagent (0.5g)	50 Tablets	BIO-37109
Crystal 5x DNA Loading Buffer Blue	2 x 1ml	BIO-37045
Crystal 5x DNA Loading Buffer Red	2 x 1ml	BIO-37068
Crystal 5x DNA Loading Buffer TriColor	2 x 1ml	BIO-37070
Crystal 2x RNA EtBr Loading Buffer	1ml	BIO-38025
Crystal 2x RNA Loading Buffer	1ml	BIO-38026

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