

## New England Biolabs Product Specification

*Product Name:* NEBuffer™ 1  
*Catalog #:* B7001S  
*Concentration:* 10X Concentrate  
*Shelf Life:* 36 months  
*Storage Temp:* -20°C  
*Composition (1X):* 10 mM Bis-Tris-Propane-HCl, 10 mM MgCl<sub>2</sub>, 1 mM DTT, (pH 7.0 @ 25°C)  
*Specification Version:* PS-B7001S v1.0  
*Effective Date:* 13 Sep 2017

### Assay Name/Specification (minimum release criteria)

**Conductivity (buffers/solutions)** - The conductivity of 10X NEBuffer 1 is between 20 and 30 mS at 25°C.

**Endonuclease Activity (Nicking, Buffer)** - A 50 µl reaction in 1X NEBuffer 1 containing 1 µg of supercoiled PhiX174 RF I DNA incubated for 4 hours at 37°C results in <10% conversion to the nicked form as determined by agarose gel electrophoresis.

**Functional Testing (Restriction Digest, BSA, Buffer)** - A 50 µl reaction in 1X NEBuffer 1 plus 100 µg/ml Bovine Serum Albumin containing 1 µg of Lambda-HindIII DNA and 1 unit of SacI incubated for 1 hour at 37°C results in complete digestion of the substrate DNA as determined by agarose gel electrophoresis.

**Functional Testing (Restriction Digest, BSA, Buffer)** - A 50 µl reaction in 1X NEBuffer 1 plus 100 µg/ml Bovine Serum Albumin containing 1 µg of pXba DNA and 1 unit of KpnI incubated for 1 hour at 37°C results in complete digestion of the substrate DNA as determined by agarose gel electrophoresis.

**Non-Specific DNase Activity (16 hour, Buffer)** - A 50 µl reaction in 1X NEBuffer 1 containing 1 µg of HaeIII digested PhiX174 RF I DNA incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.

**pH (buffers/solutions)** - The pH of 10X NEBuffer 1 is between pH 6.9 and 7.1 at 25°C.

**RNase Activity (Buffer)** - A 10 µl reaction in 1X NEBuffer 1 containing 40 ng of a 300 base single-stranded RNA is incubated at 37°C. After incubation for 16 hours, >90% of the substrate RNA remains intact as determined by fluorescent detection.



Date 13 Sep 2017

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Director of Quality Control

