

## New England Biolabs Product Specification

<i>Product Name:</i>	NEBuffer™ 2
<i>Catalog #:</i>	B7002S
<i>Concentration:</i>	10X Concentrate
<i>Shelf Life:</i>	36 months
<i>Storage Temp:</i>	-20°C
<i>Composition (1X):</i>	50 mM NaCl, 10 mM Tris-HCl, 10 mM MgCl <sub>2</sub> , 1 mM DTT, (pH 7.9 @ 25°C)
<i>Specification Version:</i>	PS-B7002S v1.0
<i>Effective Date:</i>	30 Jan 2018

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

**Conductivity (buffers/solutions)** - The conductivity of 10X NEBuffer 2 is between 52 and 78 mS/cm at 25°C.

**Endonuclease Activity (Nicking, Buffer)** - A 50 µl reaction in 1X NEBuffer 2 containing 1 µg of supercoiled PhiX174 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 2 plus 100 µg/ml Bovine Serum Albumin containing 1 µg of Lambda DNA and 1 unit of SphI 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 2 plus 100 µg/ml Bovine Serum Albumin containing 1 µg of Lambda DNA and 1 unit of HindIII 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 2 containing 1 µg of PhiX174-HaeIII 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 2 is between pH 7.8 and 8.0 at 25°C.

**RNase Activity (Buffer)** - A 10 µl reaction in 1X NEBuffer 2 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 30 Jan 2018

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Director of Quality Control

