

## New England Biolabs Certificate of Analysis

**Product Name:** Standard Taq Reaction Buffer Pack  
**Catalog Number:** B9014S  
**Concentration:** 10 X Concentrate  
**Lot Number:** 10044912  
**Expiration Date:** 05/2022  
**Storage Temperature:** -20°C  
**Specification Version:** PS-B9014S v1.0  
**Composition (1X):** 10 mM Tris-HCl, 50 mM KCl, 1.5 mM MgCl<sub>2</sub>, (pH 8.3 @ 25°C)

Standard Taq Reaction Buffer Pack Component List			
NEB Part Number	Component Description	Lot Number	Individual QC Result
B9021SVIAL	Magnesium Chloride (MgCl <sub>2</sub> ) Solution	10038440	Pass
B9014SVIAL	Standard Taq Reaction Buffer Pack	10032877	Pass

Assay Name/Specification	Lot # 10044912
<b>Endonuclease Activity (Nicking, Buffer)</b> A 50 µl reaction in 2X Standard Taq Reaction Buffer 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.	Pass
<b>Non-Specific DNase Activity (16 hour, Buffer)</b> A 50 µl reaction in 2X Standard Taq Reaction Buffer containing 1 µg of T3 DNA in addition to a reaction containing Lambda-HindIII DNA incubated for 16 hours at 37°C results in a DNA pattern free of detectable nuclease degradation as determined by agarose gel electrophoresis.	Pass
<b>PCR Amplification (5 kb Lambda DNA, Buffer)</b> A 50 µl reaction in Standard Taq Reaction Buffer in the presence of 200 µM dNTPs and 0.2 µM primers containing 5 ng Lambda DNA with 1.25 units of Taq DNA Polymerase for 25 cycles of PCR amplification results in the expected 5 kb product.	Pass
<b>pH (buffers/solutions)</b> The pH of 10X Standard Taq Reaction Buffer is between pH 8.2 and 8.4 at 25°C.	Pass
<b>Phosphatase Activity (pNPP, Buffer)</b> A 200 µl reaction in 1M Diethanolamine @ pH 9.8 and 0.5 mM MgCl <sub>2</sub> containing 2.5 mM p-Nitrophenyl Phosphate (pNPP) and a minimum of 40 µl Standard Taq Reaction Buffer	Pass

