



## CERTIFICATE OF ANALYSIS

### Sodium Calibration Standard for Protein Hydrolysate 012506H

**Product:** Sodium Calibration Standard for Protein Hydrolysate

**Part Number:** 012506H

**Lot Number:** 306011

**Production Date:** 14 Jun 2013

**Expiration Date:** 14 Jun 2016

**Primary Application:** This calibration standard is a solution of 18 amino acids and ammonia in 0.27 N sodium citrate buffer, pH 2.2. This calibration standard is intended to be used for calibration of chromatographic instrumentation for determination of amino acids.

**Acceptance Criteria:** The concentrations for 18 amino acids and ammonia are within  $\pm 4\%$  of those stated below. These values are based on the results of HPLC analysis using certified NIST amino acids standard and Sigma amino acids standard.

Compound	Concentrations $\mu\text{M/mL}$
L-Alanine	0.25
Ammonia	0.25
L-Arginine	0.25
L-Aspartic acid	0.25
L-Cystine	0.25
L-Glutamic acid	0.25
Glycine	0.25
L-Histidine	0.25
L-Isoleucine	0.25
L-Leucine	0.25
L-Lysine	0.25
L-Methionine	0.25
L-Phenylalanine	0.25
L-Proline	0.25
L-Serine	0.25
L-Threonine	0.25
L-Tryptophan	0.25
L-Tyrosine	0.25
L-Valine	0.25

**Analysis Certified by:**

Jim Murphy

President

Title

**Date:**

28 Jun 2013

Rev.6, 11/22/2011