



## CERTIFICATE OF ANALYSIS

### Amino Acids Calibration Standard - Acidics and Neutrals For Lithium Systems 1700-0180

**Product:** Amino Acids Calibration Standard - acidics and neutrals

**Part Number:** 1700-0180

**Lot Number:** 503018

**Production Date:** 10 Mar 2015

**Expiration Date:** 10 Mar 2018

**Primary Application:** This calibration standard is a solution of 27 amino acids in 0.1N Hydrochloric acid. This calibration standard is intended to be used for calibration of chromatographic instrumentation for determination of amino acids.

**Acceptance Criteria:** The concentrations for 27 amino acids 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 $\mu\text{M}/\text{mL}$
$\beta$ -Alanine	2.5
L-Alanine	2.5
D,L- $\alpha$ -amino-adipic acid	2.5
L-2-Amino-n-butyric acid	2.5
D,L- $\beta$ -Amino- <i>i</i> -butyric acid	2.5
L-Asparagine	2.5
L-Aspartic acid	2.5
Citrulline	2.5
L-Cystathionine	2.5
L-Cystine	1.25
L-Glutamic acid	2.5
Glycine	2.5
4-trans-L-Hydroxyproline	2.5
L-Isoleucine	2.5
L-Leucine	2.5
L-Methionine	2.5
L-Phenylalanine	2.5
<i>o</i> -Phosphoethanolamine	2.5
<i>o</i> -Phospho-L-serine	2.5
L-Proline	2.5

Sarcosine	2.5
L-Serine	2.5
Taurine	2.5
L-Threonine	2.5
L-Tyrosine	2.5
Urea	2.5
L-Valine	2.5

**Storage Conditions: Keep frozen**

**Analysis Certified by:** Jim Murphy **Date:** 30 March 2015  
President  
**Title**