



CERTIFICATE OF ANALYSIS

Sodium Calibration Standard with Norleucine 1700-0165

Product: Sodium Calibration Standard with Norleucine in Sodium Citrate Buffer

Part Number: 1700-0165

Lot Number: 901029

Production Date: 15 Jan 2019

Expiration Date: 14 Jan 2022

Primary Application: This calibration standard is a solution of 22 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 22 amino acids and ammonia are within $\pm 4\%$ of those stated below. These values are based on the results of HPLC analysis using certified Sigma amino acids standard and QC certified lot of 1700-0165.

Compound	Concentrations $\mu\text{M}/\text{mL}$
L-Alanine	0.25
Ammonia	0.25
L-Arginine	0.25
L-Aspartic acid	0.25
Cysteic acid	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-D,L-sulfone	0.25
L-Phenylalanine	0.25
L-Proline	0.25
L-Serine	0.25
L-Threonine	0.25
L-Valine	0.25
Taurine	0.25
L-Cystine	0.25
L-Methionine	0.25
L-Tyrosine	0.25
Tryptophan	0.25
Norleucine	0.25

Storage Conditions: Keep frozen

Analysis Certified by:

Jim Murphy
President

Title

Date:

February 4, 2019

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