

## Soybean Meal Certified Reference Material

**Product No: AR2016**

**Lot No: 723C**

### Material and Use

AR2016 is a Certified Reference Material (CRM) traceable to the listed primary reference standards. All reference materials should be verified as fit for purpose prior to use. The intended use of this CRM is for the verification and calibration of combustion (or other appropriate) analyzers for the determination of carbon, nitrogen, and sulfur. Typical sample size for analytical testing is dependent upon the test method and instrumentation used. This product should be kept sealed tight and stored under normal laboratory conditions. Certified values are valid for 3 years from the initial date of certification.

Element	Value	(+/-)	Method & Detection	n	k
% Carbon	44.46	0.47	Combustion/TC	20	2.1
% Nitrogen	7.96	0.28	Combustion/TC	20	2.1
% Sulfur	0.36	0.03	Combustion/TC	20	2.1

Note: (+/-) indicates expanded uncertainty. Values are on a "dried" basis.

### Traceability

The reported values are traceable to the following primary reference standards:

NIST SRM 143d

### Methods and References

*ISO/IEC 17025:2017 – General requirements for the competence of testing and calibration laboratories*

*ISO 17034:2016 – General requirements for the competence of reference material producers*

*ISO 33401:2024 – Reference materials – Contents of certificates, labels, and accompanying documentation*

*ISO Guide 30:2015 – Terms and definitions used in connection with reference materials*

*ISO Guide 35:2017 – Reference materials – General and statistical principles for certification*

### Calculation of Reported Values

Analytical values are accredited under Alpha Resources, LLC ISO/IEC 17025 and ISO 17034 accreditation issued by ANSI National Accreditation Board (ANAB). Please refer to certificates and scopes of accreditation AT-1200 and AR-1920. Sampling and calculation of reported values for each analyte are performed in compliance with guidance found in ISO 17034, ISO 33401, and ISO Guide 35. Material homogeneity, uncertainty of primary reference standards, characterization uncertainty from contributing laboratories, and other factors are considered in the assessment of overall measurand uncertainty. Analysis of variance is used in the calculation of uncertainty between contributing labs and between samples. Expanded uncertainty is calculated by application of a coverage factor to the combined uncertainty value.



**Dustin Jenkins, Ph.D.**

**Global Technical Director**

**Certification Date:** February 09, 2024

**Updated:** July 26, 2024



This certificate cannot be reproduced except in full. Remedies for any claimed defect in this product will be limited to product replacement or refund of the purchase price. In no event shall Alpha Resources, LLC be liable for incidental or consequential damages. Produced in accordance with ISO 17025 and ISO 17034.