

Certificate of Analysis

Product Description:

Name: **Wheat Flour**
Part Number: **CRM-WF-S**
Lot Number: **130202**



ISO/IEC 17025:2005 Accreditation
Certificate Number AT-1529

Certified Values:

Metals in CRM-WF-S

Analyte	µg/g		µg/g	Analyte	µg/g		µg/g
K	1260	±	30	Co	< 0.005		
Na	15.0	±	2.5	Cr	(0.3)		
Ca	152	±	10	Cu	1.53	±	0.08
Mg	320	±	8	Mo	0.36	±	0.05
P	1230	±	50	Mn	6.7	±	0.3
Fe	47	±	5	Ni	< 0.05		
Al	< 0.01			Pb	< 0.01		
As	< 0.005			Se	(0.3)		
Ba	1.1	±	0.1	Sn	< 0.05		
Be	< 0.001			Zn	7.0	±	0.5
Cd	(0.03)						

The values in parenthesis are given for information purpose only.

The wheat flour samples are randomly selected and digested using HotBlock digestion system. The metals are determined by inductively coupled plasma optical emission spectrometry (ICP-OES) and inductively coupled plasma mass spectrometer (ICP-MS) using internal laboratory developed methods. The certified values are based on the combination of results by different analytical techniques. The combined effect of uncertainty components associated with sample variation, errors of measurements and method bias is estimated, and the expanded uncertainty in the certified value is calculated at a 95% confidence interval and coverage factor (k) is approximately 2.

Packaging and Storage Conditions:

The milk powder is packaged in a pre-cleaned amber glass bottle. To maintain the integrity of the material, the product should be kept tightly capped and stored under normal laboratory conditions

Expiration Information:

The expiry date is guaranteed to be valid for 3 years from the shipping date provided. For this reason, standards from the same lot may have different expiration dates.

Shipped Date:

Expiration Date:

Certificate Issue Date: **August 31, 2016**

Moven Mututurari

Moven Mututurari, Ph. D, Laboratory Manager

Information – Carbon, Nitrogen and Sulfur in CRM-WF-S

Carbon, Nitrogen and Sulfur

Analyte	Concentration by mass fraction (%)
C	40 ± 1
S	(0.13)
N (total)	2.1 ± 0.1
Protein (crude)	(12)

The values in parenthesis are given for information purpose only.

The wheat flour material was dried using a vacuum-dry process at approximately 25°C for 24 hours at a pressure not greater than 70 Pa (0.5 mm Hg) with a cold trap at a temperature of approximately -30°C before performing C, N, and S analysis by CNS analyzers.

Preparation Information:

This product is wheat flour from a commercial source. Fifty pound bags of wheat flour were sieved. Only particles that passed a 100 mesh sieve were saved. The saved material was transferred to a 30-gal polyethylene mixing-drum and blended for several hours. Then the material was bottled into 40-g units under UV lamps. Randomly selected bottles were taken for the homogeneity testing and certification.

Traceability Information:

The traceability of this product is maintained through an unbroken chain of comparisons to appropriate standards with suitable procedure and measurement uncertainties. The maintenance of the base and derived units of International System of Units (SI) with traceability of measurement results (contemporary metrology) to SI ensures their comparability over time as follows.

a. Standard Weight and Analytical Balance

The standard weights (NBS weights Inventory No 20231A) are calibrated every two years by South Carolina Metrology Laboratory that is a participant in “NIST Weights and Measures Measurement Assurance Program” with a certificate of measurement traceability to NIST primary standards.

The balances are calibrated yearly by the ISO 17025 accredited metrology service, and are verified weekly by an in-house method using standard weights.

b. Volumetric Device

The calibration of volumetric vessels is checked annually using ASTM method E542.

c. Thermometer

The standard thermometers are calibrated every year by the ISO 17025 accredited metrology service. The thermometers used in-house are verified against the standard thermometers yearly.

d. Calibration Standards

The calibration standards used for determination of metals are traceable to the NIST SRM3100 series.

Refer to Material Safety Datasheet (SDS) for hazardous information.

NOTICE: HPS products are intended for laboratory use only. All products should be handled and used by trained professional persons. Safe handling and use of these products rests solely with the buyer and/or user. The data and information as stated was furnished by the manufacturer of the product. The information provided in this certificate pertains only to the lot number specified. None of the information provided in this certificate may be used, reproduced or transmitted in any form or by any means without written approval from High Purity Standards.

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