

**Certificate of Analysis
Part No. B2755
Stainless Steel Chip Standard**

Certificate Number 317D
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% Carbon
Mean = 0.0178
One Sigma Standard Deviation = 0.0007
Expanded Uncertainty = 0.0016
(k=2, 95% confidence) n=69

% Sulphur
Mean = 0.0266
One Sigma Standard Deviation = 0.0011
Expanded Uncertainty = 0.0025
(k=2, 95% confidence) n=66

% Nitrogen
Mean = 0.0364
One Sigma Standard Deviation = 0.0009
Expanded Uncertainty = 0.0019
(k=2, 95% confidence) n=44

Method of analysis is ASTM E 1019-11 and ARI 033

Primary (NMI) Standards employed:

NIST SRM 2159, 163, 16e, 125b, 73c
JSS 610-10
EURO 086-1, 231-2, 284-2, 227-1, 286-1
NCS NS21006
JK 36, 12A

ALPHA . AR949-82206, AR961-308, AR891-1015A, AR958-212A, AR951-814F, AR959-62106,
AR1652-
1214B, AR1651-316D, AR960-814B

Notes:

The intended use of this reference material standard is for the calibration and verification of Carbon/Sulphur/Nitrogen analysis described by ASTM E-1019. The mean analytical values were derived by data sets showing trace-ability to the above mentioned references, and reported in mass fraction. The minimum and typical size for testing was 1g. The precision values represent the estimated mean, standard deviation and expanded uncertainty derived from the data sets. Refer to your test method for additional uncertainty information.

The material used in production of this reference material standard was identified in accordance with ARI 032. The samples used for round robin testing were selected in accordance with ARI 014. The above values relate only to the material used to produce this product. This bottle consists of 150g, clean chips, to be used directly from the bottle with no preparation needed. While unable to determine a definite shelf life, this reference should be reviewed every 25 years from the date of certification. Keep sealed and store under normal laboratory conditions.

Remedies for any claimed defect in this product will be limited to product replacement or refund of the purchase price. In no event shall Elemental Microanalysis Ltd be liable for incidental or consequential damages.

This is a Certified Reference Standard (working reference material), and is traceable the above-mentioned reference materials. For good laboratory practice it is recommended that all standards be verified prior to use

Elemental Microanalysis Limited

Certified December 20, 2017