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Certificate of Analysis
Part No. B2503
Carbon & Sulphur Ring Standard

Certificate Number 1217A

% Carbon
Mean = 0.428
Standard Deviation = 0.003
Expanded Uncertainty = 0.006
(k=2, @ 95% confidence limit) (n=42)

%Sulphur
Mean = 0.0093
Standard Deviation = 0.0003
Expanded Uncertainty = 0.0006
(k=2, @ 95% confidence limit) (n=42)

Method of analysis is ASTM E1019-11 and ARI 033

Primary (NMI)/ Guide 34 Reference Standards Employed:

NIST SRM	178, 363, 2160, 20g
JK	7b
BAM/BAS	084-1, 291-1
NCS	NS11009
ALPHA	AR873-1214A

The intended use of this reference standard is for the calibration and validation of induction combustion Carbon/Sulphur analysis by infra-red detection as described by ASTM E-1019.The mean analytical values shown are derived by 4 data sets showing traceability to the above mentioned primary reference standards and reported in mass fraction. The minimum and typical size for testing was 1g (1 ring) per ASTM E1019. The precision values represent the estimated uncertainty derived from the data sets. Refer to your test method for the additional uncertainty information.

The material used in production of this standard was identified in accordance with ARI 032. The samples used for round robin style testing were selected in accordance with ARI 014. The above values relate only to the material used to produce this standard. This bottle consists of 454g, 1g rings (nominal weight) to be used directly from the bottle with no preparation necessary. While unable to determine a definite shelf life, this reference should be reviewed every 25 years after 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 Material (working reference standard) and is traceable to the above-mentioned standard. For good laboratory practice it is recommended that all standards be verified prior to use

Certified January 11, 2018

Elemental Microanalysis Limited