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**Certificate of Analysis
Part No. B2401
Oxygen & Nitrogen Pin Standard**

Certificate Number 517C
Page 1 of 1

% Oxygen**Mean = 0.0008****One Sigma Standard Deviation = +/-0.0001****Expanded Uncertainty = +/-0.0002****(k=2, @ 95% confidence, n=49)****% Nitrogen****Mean = 0.0091****One Sigma Standard Deviation = +/-0.0008****Expanded Uncertainty = +/-0.0016****(k=2, @ 95% confidence, n=47)**

Method of analysis is ASTM E 1019-11 and ARI 034

Primary (NMI) Standards Utilised

NIST	368
NCS	NS21007, NS11027
BAS	058-1
BAM	099-1

ALPHA . AR661-914B, AR657-916A, AR660-317B, AR668-1014B, AR661-A957H

Notes

This pin reference standard is intended to be a calibration or QC validation of Oxygen and Nitrogen on inert gas fusion analysers utilizing infrared and thermal conductivity detection as described in ASTM E1019. The analytical sample and minimum size used for testing was 1 pin (0.5g). The mean analytical values were derived by data sets showing trace-ability to the above mentioned reference standards, and reported in mass fraction. The precision values represent the estimated uncertainty derived from the data sets and may not represent your testing capabilities. Refer to your test method for the expanded method derived uncertainty if needed.

The material used in production of this standard was sampled 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 reference standard. This bottle consists of 50g, 0.5g pins (nominal), to be used directly from the bottle with no preparation. This standard has an indefinite shelf life. 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 standards. For good laboratory practice it is recommended that all standards be verified prior to use.

Certified July 14, 2017

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