ALPHA RESOURCES® Value Beyond Measure

Certificate of Analysis

HIGH NITROGEN COMPOSITE BLEND
AR 6101
LOT 722A

% NITROGEN*
MEAN = 0.96%
STANDARD DEVIATION = ± 0.05%
EXPANDED UNCERTAINTY = ± 0.11%
(k=2, @ 95% confidence, n=51)
(*Note: This is above the ASTM E-1019 test method scope limits)
Method of Analysis is inert gas fusion, TC detection, ARI-LAB-622
Alpha References used for validation: AR6101-118D, AR6103-118F, AR6102-6102809, AR6102-118E

The intended use of this reference material is for the calibration and validation of high nitrogen in iron using inert gas fusion with thermal conductivity detection. This standard was produced gravimetrically from a base stock of high purity raw materials with balances calibrated and checked by precision NIST traceable weights. The precision values represent the standard deviation and the expanded degree of uncertainty based on errors from analysis utilizing ISO Guide 35, the Guide to Uncertainty Management and ANOVA. Metrological traceability is to the SI derived unit of mass fraction expressed as percent. When necessary, professional judgment is applied toward consideration of data and statistical information. The statistical analysis and the overall direction and coordination of the analytical measurements leading to certification were performed by K.E. Dyer, Chief Chemist at Alpha Resources. Normal test procedures should be employed when using this standard. This includes using the *reproducibility* and *repeatability* factors for the test method you wish to employ. The material used in production of this reference was identified in accordance with ARI-LAB-603. The samples for round robin style testing were selected in accordance with ARI-LAB-625.

Micro sample sizes of 0.05g to 0.1g were used. This bottle contains 25g powder, refer to your instrument manufacturer or test method for typical sample size. There were no primary standards of this type and matrix available at the time of certification. Values are valid for 20 years from the date of certification.

This is prepared Reference Material (RM), for good laboratory practice it is recommended that all standards be verified as fit for purpose prior to use. 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 be liable for incidental or consequential damages.

Certified June 13, 2023
Updated February 18, 2025
Kent Dyer
Chief Chemist