

Graphite Reference Material

Product No: AR2029
Lot No: 251001

Material and Intended Use

AR2029 is a high purity graphite reference material (RM). The intended use of this RM is for the verification of combustion for the determination of carbon. This RM can also be used to verify value assignment of in-house reference materials. A unit consists of one bottle containing 50 g of fine powder. All reference materials should be verified as fit for purpose prior to use.

Reported Values

Reference values for AR2029 are given in Table 1. Sampling and calculation of reported values for each measurand were performed using practices consistent with ISO 17034:2016 (1) and ISO 33405:2024 (2).

Table 1. Reference values for AR2029, Lot 251001.

Property	Value
% Carbon	99.99

% Carbon – Values indicate the amount of the element present in the material matrix as determined using combustion and are metrologically traceable to the International System of Units (SI) derived unit of mass fraction expressed as percent (%).

Instructions for Use

Material should be dried to constant mass before use. Bottles of powder should be kept sealed tight and stored in a cool, dry location.

Minimum Sample Size

It is recommended that no less than 0.075 g of material be used for destructive test methods.

Period of Validity

This certification is valid for 20 years from the initial certification date, within the measurement uncertainties specified, provided the RM is handled and stored in accordance with the instructions given in this certificate (see "Instructions for Use"). Accordingly, periodic recalibration or recertification of this RM is not required. The certification is nullified if the RM is damaged, contaminated, or otherwise modified.

Homogeneity

This product was manufactured from a single production lot of commercial product. Samples were randomly selected using practices consistent with ISO 33405:2024. Homogeneity was evaluated by replicate analysis. Within- and between-sample variance was evaluated using Analysis of Variance (ANOVA).

Maintenance of the Reference Material Certificate

Alpha Resources will monitor this RM throughout the period of its availability. If substantive technical changes occur that affect the value assignment, AR will notify the purchaser.

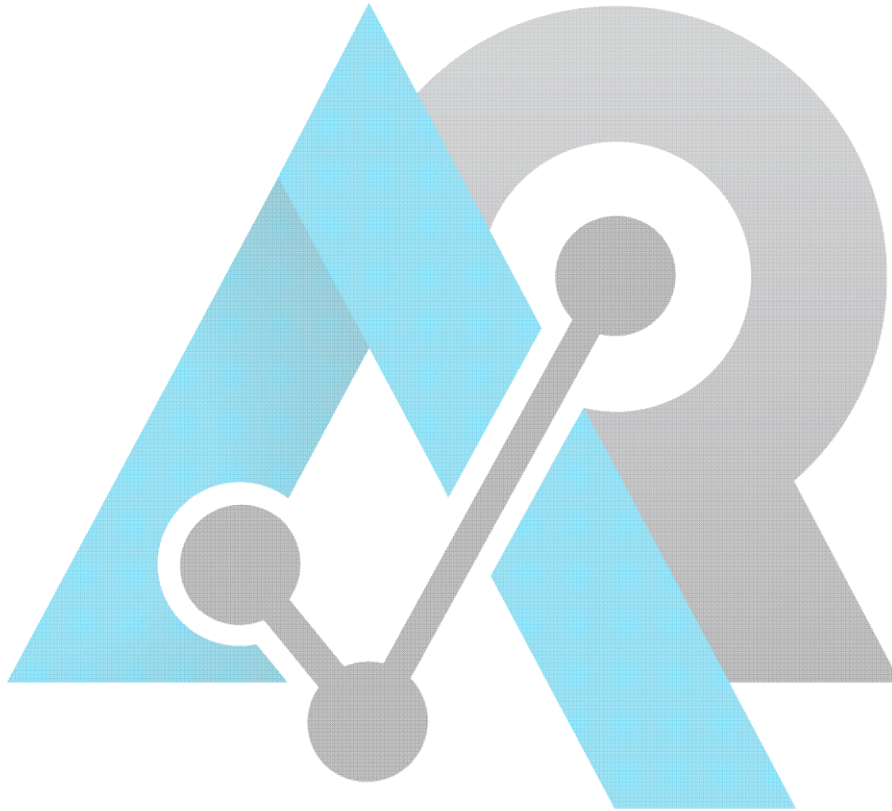
Users of this RM should ensure the Reference Material Certificate in their possession is current. This can be accomplished by contacting Alpha Resources at the following: Telephone - (269) 465-5559; Email - info@alpharesources.com; or via the Internet - <https://www.alpharesources.com>.

Methods and References

- (1) ISO 17034:2016 – General requirements for the competence of reference material producers.
- (2) ISO 33405:2024 – Reference materials – Approaches for characterization and assessment of homogeneity and stability.



Dustin Jenkins, Ph.D.
Global Technical Director
Certification Date: January 16, 2026



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