

Iso-Analytical Limited

Report of Analysis

IA-R045 – ¹⁵N Ammonium Sulphate Laboratory Standard

This laboratory standard is intended to provide a sample of known isotope composition with a ¹⁵N/¹⁴N isotope ratio stated in parts per thousand difference (‰) from Air. This laboratory standard is not certified, but is provided to allow routine checking of the overall quality of measurements performed by continuous-flow isotope ratio mass spectrometry, and may be used as part of a quality control program. It is not intended for use as a substitute for calibration materials or inter-comparison materials distributed by NIST or IAEA.

Analysis

The ¹⁵N/¹⁴N isotope ratio of the laboratory standard was measured by elemental analyser continuous-flow isotope ratio mass spectrometry using IAEA-N-1 (Ammonium Sulphate) as the calibration material. The ¹⁵N/¹⁴N isotope ratio in the laboratory standard was measured five times on three separate occasions.

Isotope Abundance

The laboratory standard IA-R045 is compared to Air for the ¹⁵N/¹⁴N isotope ratio. The isotope composition of the laboratory standard in ‰ relative to Air is:

Laboratory Standard	$\delta^{15}\text{N}_{\text{Air}} (\text{‰})$ $\delta_m \pm \sigma_1$
IA-R045	-4.71 ± 0.07

Note: $\delta_m = \sum_{i=1}^n \delta_i/n$; $\sigma_1 = \sqrt{\sum_{i=1}^n (\delta_m - \delta_i)^2/(n-1)}$; n = 15 for ¹⁵N

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