

Analytical Results

% Oxygen

Value = 0.372

Expanded Uncertainty = ± 0.028

Method & Detection: Inert Gas Fusion

$k \approx 2$ (95% confidence)

% Nitrogen

Value = 0.0073

Expanded Uncertainty = ± 0.0017

Method & Detection: Inert Gas Fusion

$k \approx 2$ (95% confidence)

% Hydrogen

Value = 0.00202

Expanded Uncertainty = ± 0.00059

Method & Detection: Inert Gas Fusion

$k \approx 2$ (95% confidence)

Methods Employed:

JCGM 100:2008; Evaluation of Measurement Data – Guide to the Expression of Uncertainty in Measurement; (GUM 1995 with Minor Corrections), Joint Committee for Guides in Metrology (JCGM) (2008); available at https://www.bipm.org/utis/common/documents/jcgm/JCGM_100_2008_E.pdf (accessed February 2025)

JCGM 101:2008; Evaluation of Measurement Data – Supplement 1 to the Guide for the Expression of Uncertainty in Measurement; Propagation Distributions Using a Monte Carlo Method; Joint Committee for guides in Metrology (JCGM) (2008); available at https://www.bipm.org/utis/common/documents/jcgm/JCGM_100_2008.pdf (accessed February 2025).

**The analytical results above are provided by an accredited reference material manufacturer with a current certification in ISO 17025 and 17034.*

The intended use of this Reference Material (RM) is for the verification of inert gas fusion for the determination of oxygen, nitrogen, and hydrogen.

The minimum sample size to perform this intended use is no less than 1 pin.

The Period of Validity for this RM 20 years from the initial certification date, provided the RM is handled and stored in accordance with the instructions given in this certificate.

This bottle contains 10g of titanium pins of nominal mass 0.10 g to be used per the test method you follow. This product requires no preparation prior to use. Keep sealed tightly and store under normal laboratory conditions. Refer to your test methods and or manufacturer manual for expanded uncertainties, repeatability/reproducibility factors.

For good laboratory practice, we recommend that all reference materials 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 Elemental Microanalysis Ltd. be liable for incidental or consequential damages.

Certified on the 5th of March 2026.

Elemental Microanalysis Ltd