Elemental Microanalysis Ltd

Certificate of Analysis

Spruce powder working standard
Cat. No. B2213 – Certificate No. 295719

General

This Analytical Standard (OAS) consists of a homogenous batch of wood (Spruce) powder for use as a routine working laboratory standard in the determination of C, N, H, O and of the stable isotopes ^{13}C, ^{15}N and ^{18}O.

Values and Uncertainty

The uncertainty in the quoted delta value is expressed as σ (1 standard deviation), Confidence limits include those errors due to sampling variation, weighing, calibration and measurement.

This material may be used in method development, performance monitoring or as part of a quality control programme.
Values are traceable to primary standards issued by N.I.S.T. and I.A.E.A Vienna.
It is not intended for this to be a substitute for such primary standards.

Results

Nitrogen	**% = 0.09**	**σ = 0.02%**
	$^{15}N_{V\text{-}AIR}$ = -4.9‰	**σ = 0.2‰**
Carbon	**% = 49.88**	**σ = 0.07%**
	$^{13}C_{V\text{-}PDB}$ = -25.44‰	**σ = 0.02‰**
Oxygen	**% = 42.93**	**σ = 0.13%**
	$^{18}O_{V\text{-}SMOW}$ = +23.59‰	**σ = 0.12‰**
Hydrogen	**% = 6.29**	**σ = 0.02%**

Expiration

The values quoted are valid until **23 March 2027** within the measurement uncertainties specified.

Storage and Use

This OAS should be stored between 20ºC to 25ºC and should be kept tightly sealed away from light and moisture.
Data given above is based on dried material. Samples should be dried for a minimum of 24hrs at 70°C and stored in a dessicator prior to use.

Information

The technical aspects involved in the preparation and issuance of this (In)Organic Analytical Standard (IAS/OAS) were carried out at Elemental Microanalysis Ltd, Okehampton, Devon EX20 1UB UK, Tel +44 1837 54446, Email enquiries@microanalysis.co.uk

For and on behalf of
Elemental Microanalysis Ltd

Jon Davies
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