

# New Product Release from Elemental Microanalysis

## Spruce (Wood) Powder Isotope CRM

Elemental Microanalysis introduces a new laboratory Reference Material for the determination of C, N, H, O and of the stable isotopes <sup>13</sup>C, <sup>15</sup>N and <sup>18</sup>O.

This analytical standard consists of a homogenous batch of wood (Spruce) powder. Values are traceable to primary standards issued by N.I.S.T and I.A.E.A Vienna.

Cat. No.	Material	Pack
B2213	Spruce (Wood) Powder	3g

Element	Value	Standard Deviation
Nitrogen	% = 0.069	$\sigma = 0.001\%$
	<sup>15</sup> N <sub>V-AIR</sub> = -3.02‰	$\sigma = 0.46\text{‰}$
Carbon	% = 49.64	$\sigma = 0.1\%$
	<sup>13</sup> C <sub>V-PDB</sub> = -25.31‰	$\sigma = 0.06\text{‰}$
Oxygen	% = 40.18	$\sigma = 0.27\%$
	<sup>18</sup> O <sub>V-SMOW</sub> = +23.87‰	$\sigma = 0.2\text{‰}$
Hydrogen	% = 6.29	$\sigma = 0.07\%$



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This product is available to order online, by telephone, email or fax. With 35 years of experience, Elemental Microanalysis offers extensive knowledge of analysis and a worldwide reputation for excellence.

Elemental Microanalysis Products are manufactured using our ISO 9001:2008 quality system. Our laboratory is accredited to ISO 17025.



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# Reference materials for Stable Isotope analysis

A range of certified materials for EA-IRMS at three levels. Values for the interlaboratory comparison certified materials have been derived from an international study involving more than 25 laboratories.

Certified materials have been derived from data from two or more instruments in a single testing organisation on two or more runs on different days. Uncertified working standards use data from a single instrument and are intended as 'in-run' references only.

Form	Pack	Part No	$\sigma^{13}\text{C}$	$\sigma^{15}\text{N}$	$\sigma^{34}\text{S}$	$\sigma^{18}\text{O}$	$\sigma^2\text{H}$
<b>Interlaboratory comparison Certified isotopic reference materials:</b>							
EMA-P1 polymer	3g	B2203	-27.8		-3.0	+21.0	-25.3
EMA-P2 polymer	3g	B2205	-28.2	-1.57		+26.9	-87.8
Silver Phosphate	1g	B2207				+21.7	
<b>Certified isotopic reference materials:</b>							
Sediment	5g	B2151	-26.1	+4.4	+4.2*		
Soil	5g	B2153	-27.5	+6.7	+4.9*		
Protein (Casein)	5g	B2155	-27.0	+5.9	+6.3*		
Wheat flour	5g	B2157	-27.2	+2.8	-1.4*		
Sorghum flour	5g	B2159	-13.7	+1.6	+10.1*		
High enriched water	25ml	B2190				+266.8	+1701.8
Medium enriched water	25ml	B2191				+108.6	+843.4
Zero natural water	25ml	B2192				+0.6	+4.9
Medium natural water	25ml	B2193				-10.2	-62.0
Low natural water	25ml	B2194				-19.6	-157.1
<b>Uncertified 'working standards':</b>							
Olive oil	Liquid	5g	B2172			-28.5	
Urea	Solid	5g	B2174			-39.7	-0.7
Wood (Spruce) Powder	Solid	3g	B2213			-25.31	-3.02
							+23.87

All materials certified by reference to the appropriate IAEA Vienna SRMs. Approximate values given above, values vary from batch to batch.

Full details are given on the certificate of analysis together with expanded uncertainty. Values marked \* are uncertified and given for information only.

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