

# Technical Information Bulletin

## New Product

### Carrara Marble Powder IRMS Reference Material

Elemental Microanalysis now has available a new IRMS reference material.

This is Carrara marble powder (0.1-0.3mm) with consensus values for  $^{18}\text{O}/^{16}\text{O}$  and  $^{13}\text{C}/^{12}\text{C}$  isotope ratios determined through a statistical treatment of data produced via an interlaboratory study.



	$\delta^{13}\text{C}_{\text{V-PDB}}$	$\delta^{18}\text{O}_{\text{V-PDB}}$
MEAN VALUE ‰	+2.10	-2.01
$\sigma$ (1s.d.) ‰	0.07	0.1

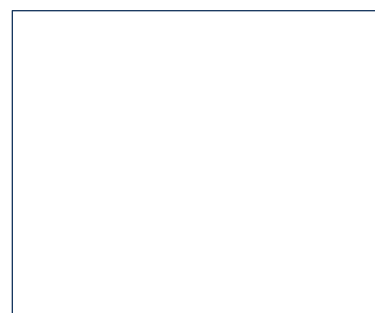
Whilst it has similar composition and isotope values to the now exhausted primary standard marble NBS-19, it is not intended to be a replacement for this as, for example, an  $^{18}\text{O}$  scale anchor, but can be used for instance in method development, routine checking of analytical performance and as part of a quality control programme.

Part Number	Description	Pack Size
B2214	Carrara Marble Powder Standard	0.5g



- Homogenous batch of Carrara Marble Powder
- Values traceable to primary standards issued by I.A.E.A.
- Product available to order [online](#), by telephone, email or fax
- Elemental Microanalysis offers extensive knowledge of analysis, 35 years of experience and a worldwide reputation for excellence

Available from your local Dealer:



# IRMS Reference Materials from Elemental Microanalysis

Material	Form	Pack	Part No	$\delta^{13}\text{C}$	$\delta^{15}\text{N}$	$\delta^{34}\text{S}$	$\delta^{18}\text{O}$	$\delta^2\text{H}$
<b>Interlaboratory comparison Certified Isotopic reference materials:</b>								
EMA-P1 polymer	Solid	3g	B2203	-27.85	-3.01		+20.99	-25.30
EMA-P2 polymer	Solid	3g	B2205	-28.19	-1.57		+26.88	-87.80
Silver Phosphate	Solid	1g	B2207				+21.70	
Carrara Marble	Solid	0.5g	B2214	+2.10			-2.01	
<b>Certified Isotopic reference materials:</b>								
Sediment	Solid	5g	B2151	-26.27	+4.42			
Soil	Solid	5g	B2153	-26.66	+7.30			
Protein (Casein)	Solid	5g	B2155	-26.98	+5.94	+6.32*		
Wheat flour	Solid	5g	B2157	-27.21	+2.85	-1.42*		
Sorghum flour	Solid	5g	B2159	-13.68	+1.58	+10.11*		
High enriched water	Liquid	25ml	B2190				+266.83	+1701.83
Medium enriched water	Liquid	25ml	B2191				+108.63	+843.43
Zero natural water	Liquid	25ml	B2192				-0.41	+11.26
Medium natural water	Liquid	25ml	B2193				-12.34	-98.32
Low natural water	Liquid	25ml	B2194				-33.57	-269.07
<b>Uncertified 'working standards':</b>								
Olive oil	Liquid	5g	B2172	-29.32				
Urea	Solid	5g	B2174	-37.32	-0.45			
Spruce (Wood) Flour	Solid	3g	B2213	-25.31	-3.02		+23.87	

\*These values are uncertified and given for information only\*