

Calcium-Carbonate Nano-Pellet, pressed pellet diameter 20 mm (Standard for solid-state microanalysis)

Art. ID MY-RS3-NP-LA-ICP-MS-LIBS-20MM
Unit each (pressed pellet)
Deliverydetails No Dangerous Good /not restricted

Description

Pellet for LA-ICP-MS and LIBS application /// The principle behind LA-ICP-MS (Laser Ablation - Inductively Coupled Plasma - Mass Spectrometry) involves a laser beam removing (ablating) material from a sample and analysing its chemical composition in a mass spectrometer /// LIBS (Laser-Induced Breakdown Spectroscopy) uses a laser beam to interact with the sample. Due to the extreme heat of the laser (10,000 K and more) a plasma is formed. A plasma is a cloud of ions (charged atoms) and electrons (negatively charged particles). When this plasma collapses it emits light. Light is a mixture of different wavelengths. This light is then transferred through a fiberoptic cable to a spectrometer, which can precisely split the light into its respective wavelengths. The working principle of the LIBS-spectrometer is similar to a prism as it disperses the incoming light. Each element has several characteristic wavelengths. A detector is able to attribute an intensity to each of them.

Text/Information	Analyte/Parameter	CAS number	Concentration/Value	Unit	Method	Source
	CaO		56,03 ± 0,28	g/100g		
	Lithium (Li)	[7439-93-2]	0,128 ± 0,002	µg/g		
	Boron (B)	[7440-42-8]	0,702 ± 0,106	µg/g		
	Sodium (Na)	[7440-23-5]	56,9 ± 10,4	µg/g		
	Magnesium (Mg)	[7439-95-4]	217 ± 1,92	µg/g		
	Aluminium (Al)	[7429-90-5]	2,06 ± 0,716	µg/g		
	Silicon (Si)	[7440-21-3]	6885 ± 381	µg/g		
	Titanium (Ti)	[7440-32-6]	5,26 ± 2,714	µg/g		
	Vanadium (V)	[7440-62-2]	0,013 ± 0,004	µg/g		
	Chromium (Cr)	[7440-47-3]	0,479 ± 0,117	µg/g		
	Manganese (Mn)	[7439-96-5]	3,51 ± 0,853	µg/g		
	Iron (Fe)	[7439-89-6]	113 ± 0,658	µg/g		
	Copper (Cu)	[7440-50-8]	0,914 ± 0,092	µg/g		
	Zinc (Zn)	[7440-66-6]	1,79 ± 0,418	µg/g		
	Gallium (Ga)	[7440-55-3]	0,008 ± 0,001	µg/g		
	Rubidium (Rb)	[7440-17-7]	0,12 ± 0,008	µg/g		
	Strontium (Sr)	[7440-24-6]	168 ± 5,458	µg/g		
	Yttrium (Y)	[7440-65-5]	0,011 ± 0	µg/g		
	Molybdenum (Mo)	[7439-98-7]	0,015 ± 0,003	µg/g		
	Cadmium (Cd)	[7440-43-9]	0,051 ± 0,007	µg/g		
	Caesium (Cs)	[7440-46-2]	0,007 ± 0,001	µg/g		
	Barium (Ba)	[7440-39-3]	45,8 ± 1,346	µg/g		
	Lanthanum (La)	[7439-91-0]	0,019 ± 0,001	µg/g		

Cerium (Ce)	[7440-45-1]	0,046 ± 0,01	µg/g
Praseodymium (Pr)	[7440-10-0]	0,004 ± 0,0005	µg/g
Neodymium (Nd)	[7440-00-8]	0,019 ± 0,004	µg/g
Samarium (Sm)	[7440-19-9]	0,007 ± 0,002	µg/g
Europium (Eu)	[7440-53-1]	0,005 ± 0,001	µg/g
Gadolinium (Gd)	[7440-54-2]	0,006 ± 0,004	µg/g
Terbium (Tb)	[7440-27-9]	0,001 ± 0,001	µg/g
Dysprosium (Dy)	[7429-91-6]	0,003 ± 0,002	µg/g
Holmium (Ho)	[7440-60-0]	0,001 ± 0,001	µg/g
Erbium (Er)	[7440-52-0]	0,002 ± 0,002	µg/g
Thulium (Tm)	[7440-30-4]	0,001 ± 0,001	µg/g
Ytterbium (Yb)	[7440-64-4]	0,003 ± 0,003	µg/g
Lutetium (Lu)	[7439-94-3]	0,001 ± 0,001	µg/g
Hafnium (Hf)	[7440-58-6]	0,003 ± 0,002	µg/g
Thallium (Tl)	[7440-28-0]	0,004 ± 0,001	µg/g
Lead (Pb)	[7439-92-1]	0,136 ± 0,015	µg/g
Thorium (Th)	[7440-29-1]	0,002 ± 0,001	µg/g
Uranium (U)	[7440-61-1]	0,004 ± 0,001	µg/g