

Basaltic Pahoehoe Lava Nano-Pellet, pressed pellet diameter 20 mm (Standard for solid-state microanalysis)

Art. ID MY-BHVO-2-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
	Na ₂ O		2,219 ± 0,048	g/100g		
	MgO	[1309-48-4]	7,257 ± 0,042	g/100g		
	Al ₂ O ₃		13,44 ± 0,06	g/100g		
	SiO ₂		49,6 ± 0,14	g/100g		
	P ₂ O ₅		0,2685 ± 0,005	g/100g		
	K ₂ O		0,513 ± 0,0037	g/100g		
	CaO		11,4 ± 0,06	g/100g		
	TiO ₂		2,731 ± 0,018	g/100g		
	MnO		0,169 ± 0,0019	g/100g		
	Fe ₂ O ₃ (T)		12,39 ± 0,09	g/100g		
	Lithium (Li)	[7439-93-2]	4,5 ± 0,085	µg/g		
	Beryllium (Be)	[7440-41-7]	1,076 ± 0,046	µg/g		
	Scandium (Sc)	[7440-20-2]	31,83 ± 0,34	µg/g		
	Vanadium (V)	[7440-62-2]	318,2 ± 2,3	µg/g		
	Chromium (Cr)	[7440-47-3]	287,2 ± 3,1	µg/g		
	Cobalt (Co)	[7440-48-4]	44,89 ± 0,32	µg/g		
	Nickel (Ni)	[7440-02-0]	119,8 ± 1,2	µg/g		
	Copper (Cu)	[7440-50-8]	129,3 ± 1,4	µg/g		
	Zinc (Zn)	[7440-66-6]	103,9 ± 1	µg/g		
	Gallium (Ga)	[7440-55-3]	21,37 ± 0,2	µg/g		
	Germanium (Ge)	[7440-56-4]	1,623 ± 0,039	µg/g		
	Arsenic (As)	[7440-38-2]	0,7 ± 0,11	µg/g		
	Selenium (Se)	[7782-49-2]	0,18 ± 0,04	µg/g		

Bromine (Br)	[7726-95-6]	0,3 ± 0,1	µg/g
Rubidium (Rb)	[7440-17-7]	9,261 ± 0,096	µg/g
Strontium (Sr)	[7440-24-6]	394,1 ± 1,7	µg/g
Yttrium (Y)	[7440-65-5]	25,91 ± 0,28	µg/g
Zirconium (Zr)	[7440-67-7]	171,2 ± 1,3	µg/g
Niobium (Nb)	[7440-03-1]	18,1 ± 0,2	µg/g
Molybdenum (Mo)	[7439-98-7]	4,07 ± 0,16	µg/g
Ruthenium (Ru)	[7440-18-8]	0,000125 ± 0,000018	µg/g
Cadmium (Cd)	[7440-43-9]	0,152 ± 0,049	µg/g
Indium (In)	[7440-74-6]	0,117 ± 0,045	µg/g
Tin (Sn)	[7440-31-5]	1,776 ± 0,059	µg/g
Antimony (Sb)	[7440-36-0]	0,1034 ± 0,0079	µg/g
Caesium (Cs)	[7440-46-2]	0,0996 ± 0,0022	µg/g
Barium (Ba)	[7440-39-3]	130,9 ± 1	µg/g
Lanthanum (La)	[7439-91-0]	15,2 ± 0,08	µg/g
Cerium (Ce)	[7440-45-1]	37,53 ± 0,19	µg/g
Praseodymium (Pr)	[7440-10-0]	5,339 ± 0,028	µg/g
Neodymium (Nd)	[7440-00-8]	24,27 ± 0,25	µg/g
Samarium (Sm)	[7440-19-9]	6,023 ± 0,057	µg/g
Europium (Eu)	[7440-53-1]	2,043 ± 0,012	µg/g
Gadolinium (Gd)	[7440-54-2]	6,207 ± 0,038	µg/g
Terbium (Tb)	[7440-27-9]	0,9392 ± 0,006	µg/g
Dysprosium (Dy)	[7429-91-6]	5,28 ± 0,028	µg/g
Holmium (Ho)	[7440-60-0]	0,9887 ± 0,0053	µg/g
Erbium (Er)	[7440-52-0]	2,511 ± 0,014	µg/g
Thulium (Tm)	[7440-30-4]	0,3349 ± 0,0031	µg/g
Ytterbium (Yb)	[7440-64-4]	1,994 ± 0,027	µg/g
Lutetium (Lu)	[7439-94-3]	0,2754 ± 0,0024	µg/g
Hafnium (Hf)	[7440-58-6]	4,47 ± 0,025	µg/g
Tantalum (Ta)	[7440-25-7]	1,154 ± 0,019	µg/g
Tungsten (W)	[7440-33-7]	0,251 ± 0,035	µg/g
Rhenium (Re)	[7440-15-5]	0,000543 ± 0,000029	µg/g
Osmium (Os)	[7440-04-2]	0,000111 ± 0,000021	µg/g
Iridium (Ir)	[7439-88-5]	0,00007 ± 0,000011	µg/g
Platinum (Pt)	[7440-06-4]	0,0089 ± 0,0016	µg/g
Thallium (Tl)	[7440-28-0]	0,0224 ± 0,0015	µg/g
Lead (Pb)	[7439-92-1]	1,653 ± 0,038	µg/g
Bismuth (Bi)	[7440-69-9]	0,0148 ± 0,0043	µg/g

Thorium (Th)	[7440-29-1]	1,224 ± 0,016	µg/g
Uranium (U)	[7440-61-1]	0,412 ± 0,035	µg/g