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

Art. ID	MY-BIR-1a-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 incomming 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
	Na2O		1,832 ± 0,022	g/100g		
	MgO	[1309-48-4]	9,689 ± 0,052	g/100g		
	Al2O3		15,51 ± 0,07	g/100g		
	SiO2		47,79 ± 0,16	g/100g		
	P2O5		0,03 ± 0,0043	g/100g		
	K2O		0,029 ± 0,003	g/100g		
	CaO		13,29 ± 0,06	g/100g		
	TiO2		0,9587 ± 0,0066	g/100g		
	MnO		0,1731 ± 0,0016	g/100g		
	Fe2O3(T)		11,4 ± 0,05	g/100g		
	Lithium (Li)	[7439-93-2]	3,203 ± 0,069	µg/g		
	Beryllium (Be)	[7440-41-7]	0,102 ± 0,011	µg/g		
	Scandium (Sc)	[7440-20-2]	43,21 ± 0,59	µg/g		
	Vanadium (V)	[7440-62-2]	320,6 ± 2,9	µg/g		
	Chromium (Cr)	[7440-47-3]	392,9 ± 3,9	µg/g		
	Cobalt (Co)	[7440-48-4]	52,22 ± 0,57	µg/g		
	Nickel (Ni)	[7440-02-0]	168,9 ± 1,9	µg/g		
	Copper (Cu)	[7440-50-8]	120,7 ± 1,6	µg/g		
	Zinc (Zn)	[7440-66-6]	70,4 ± 1,1	µg/g		
	Gallium (Ga)	[7440-55-3]	15,46 ± 0,23	µg/g		
	Rubidium (Rb)	[7440-17-7]	0,21 ± 0,0081	µg/g		
	Strontium (Sr)	[7440-24-6]	108,6 ± 0,7	µg/g		
	Yttrium (Y)	[7440-65-5]	15,6 ± 0,17	µg/g		

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	Zirconium (Zr)	[7440-67-7]	14,8 ± 0,22	µg/g
	Niobium (Nb)	[7440-03-1]	0,553 ± 0,014	µg/g
	Molybdenum (Mo)	[7439-98-7]	0,068 ± 0,021	µg/g
	Cadmium (Cd)	[7440-43-9]	0,077 ± 0,017	µg/g
	Tin (Sn)	[7440-31-5]	0,701 ± 0,067	µg/g
	Antimony (Sb)	[7440-36-0]	0,462 ± 0,032	µg/g
	Caesium (Cs)	[7440-46-2]	0,00646 ± 0,00072	µg/g
	Barium (Ba)	[7440-39-3]	6,75 ± 0,13	µg/g
	Lanthanum (La)	[7439-91-0]	0,627 ± 0,012	µg/g
	Cerium (Ce)	[7440-45-1]	1,92 ± 0,023	µg/g
	Praseodymium (Pr)	[7440-10-0]	0,3723 ± 0,0047	µg/g
	Neodymium (Nd)	[7440-00-8]	2,397 ± 0,043	µg/g
	Samarium (Sm)	[7440-19-9]	1,113 ± 0,018	µg/g
	Europium (Eu)	[7440-53-1]	0,5201 ± 0,0047	µg/g
	Gadolinium (Gd)	[7440-54-2]	1,809 ± 0,021	µg/g
	Terbium (Tb)	[7440-27-9]	0,3623 ± 0,005	µg/g
	Dysprosium (Dy)	[7429-91-6]	2,544 ± 0,028	µg/g
	Holmium (Ho)	[7440-60-0]	0,5718 ± 0,0047	µg/g
	Erbium (Er)	[7440-52-0]	1,68 ± 0,015	µg/g
	Thulium (Tm)	[7440-30-4]	0,2558 ± 0,004	µg/g
	Ytterbium (Yb)	[7440-64-4]	1,631 ± 0,015	µg/g
	Lutetium (Lu)	[7439-94-3]	0,2484 ± 0,0032	µg/g
	Hafnium (Hf)	[7440-58-6]	0,5822 ± 0,0088	µg/g
	Tantalum (Ta)	[7440-25-7]	0,0414 ± 0,002	µg/g
	Tungsten (W)	[7440-33-7]	0,027 ± 0,015	µg/g
	Thallium (Tl)	[7440-28-0]	0,0021 ± 0,0007	µg/g
	Lead (Pb)	[7439-92-1]	3,037 ± 0,049	µg/g
	Thorium (Th)	[7440-29-1]	0,0328 ± 0,0015	µg/g
	Uranium (U)	[7440-61-1]	0,01051 ± 0,00041	µg/g