

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

Art. ID MY-NOD-P1-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		2,15 ± 0,04	g/100g		
	MgO	[1309-48-4]	3,17 ± 0,17	g/100g		
	Al ₂ O ₃		4,6 ± 0,23	g/100g		
	SiO ₂		14,9 ± 0,4	g/100g		
	P ₂ O ₅		0,46 ± 0,02	g/100g		
	K ₂ O		1,23 ± 0,09	g/100g		
	CaO		3 ± 0,2	g/100g		
	TiO ₂		0,45 ± 0,02	g/100g		
	MnO		37,1 ± 1,3	g/100g		
	Fe ₂ O ₃ (T)		8,24 ± 0,22	g/100g		
	Lithium (Li)	[7439-93-2]	140 ± 13	µg/g		
	Vanadium (V)	[7440-62-2]	469 ± 22	µg/g		
	Cobalt (Co)	[7440-48-4]	2190 ± 91	µg/g		
	Nickel (Ni)	[7440-02-0]	12681 ± 387	µg/g		
	Copper (Cu)	[7440-50-8]	11288 ± 479	µg/g		
	Zinc (Zn)	[7440-66-6]	1522 ± 87	µg/g		
	Arsenic (As)	[7440-38-2]	88 ± 12	µg/g		
	Rubidium (Rb)	[7440-17-7]	24,7 ± 1,7	µg/g		
	Strontium (Sr)	[7440-24-6]	660 ± 29	µg/g		
	Yttrium (Y)	[7440-65-5]	93 ± 10	µg/g		
	Zirconium (Zr)	[7440-67-7]	278 ± 33	µg/g		
	Niobium (Nb)	[7440-03-1]	23 ± 5	µg/g		
	Molybdenum (Mo)	[7439-98-7]	632 ± 116	µg/g		

Antimony (Sb)	[7440-36-0]	54,1 ± 3,6	µg/g
Barium (Ba)	[7440-39-3]	2564 ± 65	µg/g
Lanthanum (La)	[7439-91-0]	111 ± 21	µg/g
Cerium (Ce)	[7440-45-1]	319 ± 24	µg/g
Praseodymium (Pr)	[7440-10-0]	30,4 ± 2	µg/g
Neodymium (Nd)	[7440-00-8]	135 ± 9	µg/g
Samarium (Sm)	[7440-19-9]	33,4 ± 2,1	µg/g
Europium (Eu)	[7440-53-1]	7,8 ± 0,3	µg/g
Gadolinium (Gd)	[7440-54-2]	30,7 ± 1,2	µg/g
Terbium (Tb)	[7440-27-9]	4,6 ± 0,3	µg/g
Dysprosium (Dy)	[7429-91-6]	26,8 ± 1	µg/g
Holmium (Ho)	[7440-60-0]	5 ± 0,6	µg/g
Erbium (Er)	[7440-52-0]	13,7 ± 0,8	µg/g
Thulium (Tm)	[7440-30-4]	2 ± 0,3	µg/g
Ytterbium (Yb)	[7440-64-4]	12,9 ± 0,5	µg/g
Lutetium (Lu)	[7439-94-3]	1,9 ± 0,2	µg/g
Hafnium (Hf)	[7440-58-6]	86 ± 18,4	µg/g
Tantalum (Ta)	[7440-25-7]	0,4 ± 0,3	µg/g
Tungsten (W)	[7440-33-7]	58 ± 3	µg/g
Thallium (Tl)	[7440-28-0]	191 ± 22	µg/g
Lead (Pb)	[7439-92-1]	434 ± 23	µg/g
Bismuth (Bi)	[7440-69-9]	4,8 ± 0,3	µg/g
Thorium (Th)	[7440-29-1]	15,5 ± 0,5	µg/g
Uranium (U)	[7440-61-1]	4,1 ± 0,4	µg/g