

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

Art. ID MY-BX-N-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 <sub>2</sub> O                  |             | 0,04 ± 0,02         | g/100g |        |        |
|                  | MgO                                | [1309-48-4] | 0,11 ± 0,03         | g/100g |        |        |
|                  | Al <sub>2</sub> O <sub>3</sub>     |             | 54,21 ± 0,4         | g/100g |        |        |
|                  | SiO <sub>2</sub>                   |             | 7,4 ± 0,15          | g/100g |        |        |
|                  | P <sub>2</sub> O <sub>5</sub>      |             | 0,13 ± 0,03         | g/100g |        |        |
|                  | K <sub>2</sub> O                   |             | 0,05 ± 0,01         | g/100g |        |        |
|                  | CaO                                |             | 0,17 ± 0,05         | g/100g |        |        |
|                  | TiO <sub>2</sub>                   |             | 2,37 ± 0,09         | g/100g |        |        |
|                  | MnO                                |             | 0,05 ± 0,009        | g/100g |        |        |
|                  | Fe <sub>2</sub> O <sub>3</sub> (T) |             | 23,17 ± 0,28        | g/100g |        |        |
|                  | Lithium (Li)                       | [7439-93-2] | 39 ± 9              | µg/g   |        |        |
|                  | Beryllium (Be)                     | [7440-41-7] | 5,5 ± 0,6           | µg/g   |        |        |
|                  | Scandium (Sc)                      | [7440-20-2] | 60 ± 7              | µg/g   |        |        |
|                  | Vanadium (V)                       | [7440-62-2] | 350 ± 44            | µg/g   |        |        |
|                  | Chromium (Cr)                      | [7440-47-3] | 280 ± 31            | µg/g   |        |        |
|                  | Cobalt (Co)                        | [7440-48-4] | 30 ± 7              | µg/g   |        |        |
|                  | Nickel (Ni)                        | [7440-02-0] | 180 ± 16            | µg/g   |        |        |
|                  | Copper (Cu)                        | [7440-50-8] | 18 ± 2              | µg/g   |        |        |
|                  | Zinc (Zn)                          | [7440-66-6] | 80 ± 15             | µg/g   |        |        |
|                  | Gallium (Ga)                       | [7440-55-3] | 67 ± 14             | µg/g   |        |        |
|                  | Arsenic (As)                       | [7440-38-2] | 115 ± 6             | µg/g   |        |        |
|                  | Rubidium (Rb)                      | [7440-17-7] | 3,6 ± 0,6           | µg/g   |        |        |
|                  | Strontium (Sr)                     | [7440-24-6] | 110 ± 9             | µg/g   |        |        |

|                 |             |            |      |
|-----------------|-------------|------------|------|
| Yttrium (Y)     | [7440-65-5] | 114 ± 14   | µg/g |
| Zirconium (Zr)  | [7440-67-7] | 550 ± 44   | µg/g |
| Niobium (Nb)    | [7440-03-1] | 52 ± 4     | µg/g |
| Molybdenum (Mo) | [7439-98-7] | 8,3 ± 0,7  | µg/g |
| Tin (Sn)        | [7440-31-5] | 13,4 ± 1,1 | µg/g |
| Barium (Ba)     | [7440-39-3] | 30 ± 9     | µg/g |
| Lanthanum (La)  | [7439-91-0] | 355 ± 18   | µg/g |
| Cerium (Ce)     | [7440-45-1] | 520 ± 23   | µg/g |
| Neodymium (Nd)  | [7440-00-8] | 163 ± 7    | µg/g |
| Samarium (Sm)   | [7440-19-9] | 22 ± 1,3   | µg/g |
| Europium (Eu)   | [7440-53-1] | 4,4 ± 0,3  | µg/g |
| Gadolinium (Gd) | [7440-54-2] | 20 ± 1,6   | µg/g |
| Terbium (Tb)    | [7440-27-9] | 3 ± 0,3    | µg/g |
| Ytterbium (Yb)  | [7440-64-4] | 11,6 ± 1,5 | µg/g |
| Lutetium (Lu)   | [7439-94-3] | 1,8 ± 0,18 | µg/g |
| Hafnium (Hf)    | [7440-58-6] | 15,2 ± 1,1 | µg/g |
| Tantalum (Ta)   | [7440-25-7] | 4,6 ± 0,4  | µg/g |
| Lead (Pb)       | [7439-92-1] | 135 ± 13   | µg/g |
| Thorium (Th)    | [7440-29-1] | 50 ± 6     | µg/g |
| Uranium (U)     | [7440-61-1] | 8,8 ± 1,5  | µg/g |