Preliminary

Product Information Sheet

Microanalytical Reference Material

BX-N*-NP

Nano-particulate pressed powder pellet

Reference Values

Analyte	Value	Uncertainty (95% CL)	Unit	Analyte	Value	Uncertainty (95% CL)	Unit
Na2O	0.04	0.02	g/100g	Sr	110	9	µg/g
MgO	0.11	0.03	g/100g	Y	114	14	µg/g
Al2O3	54.21	0.4	g/100g	Zr	550	44	µg/g
SiO2	7.4	0.15	g/100g	Nb	52	4	µg/g
P2O5	0.13	0.03	g/100g	Mo	8.3	0.7	µg/g
K2O	0.05	0.01	g/100g	Sn	13.4	1.1	µg/g
CaO	0.17	0.05	g/100g	Ba	30	9	µg/g
TiO2	2.37	0.09	g/100g	La	355	18	µg/g
MnO	0.05	0.009	g/100g	Ce	520	23	µg/g
Fe2O3(t)	23.17	0.28	g/100g	Nd	163	7	µg/g
Li	39	9	µg/g	Sm	22	1.3	µg/g
Be	5.5	0.6	µg/g	Eu	4.4	0.3	µg/g
Sc	60	7	µg/g	Gd	20	1.6	µg/g
V	350	44	µg/g	Tb	3	0.3	µg/g
Cr	280	31	µg/g	Yb	11.6	1.5	µg/g
Co	30	7	µg/g	Lu	1.8	0.18	µg/g
Ni	180	16	µg/g	Hf	15.2	1.1	µg/g
Cu	18	2	µg/g	Ta	4.6	0.4	µg/g
Zn	80	15	µg/g	Pb	135	13	µg/g
Ga	67	14	µg/g	Th	50	6	µg/g
As	115	6	µg/g	U	8.8	1.5	µg/g
Rb	3.6	0.6	µg/g				

Information Values

Analyte	Value	Unit	Analyte	Value	Unit
F	900	µg/g	Dy	18.5	µg/g
Ge	1.1	µg/g	Ho	4.1	µg/g
In	0.3	µg/g	Er	11	µg/g
Sb	8	µg/g	Tm	1.7	µg/g
Cs	0.4	µg/g	W	9	µg/g
Pr	54	µg/g	Bi	1.7	µg/g

All values are the present best estimates of the true content for each element in the original powder. These values are taken from the 1995 working values with confidence limits for twenty-six CRPG, ANRT and IWG-GIT geostandards. The compilation's author Govindaraju K. evaluated published values of pre-existing reference materials in order to "re certify" the material based on a statistically more solid basis than the original data sheet. The values do have a higher likelihood of being true/accurate, in an analytical sense. Information values did not fulfil all necessary statistical criteria of a reference value and should neither be considered for calibration nor validation.

*The original manufacturer (CNRS-CRPG) is not liable for any issues occurring from the use of this material since they took no part in the manufacturing of the pellets.

Intended Use

This microanalytical reference material (MRM) is designed for use by laboratories undertaking the determination of major and trace element mass fractions in bauxite and equivalent matrices with LA-ICP-MS (Laser Ablation Inductively Coupled Plasma Mass Spectrometry), µXRF/XRF (Micro X-ray Fluorescence Spectroscopy) and LIBS (Laser-Induced Breakdown Spectroscopy). It is suitable for calibration and as a secondary reference material for the assessment of a measurement procedure and quality control. Note that the material may only be used for a single purpose in the same measurement process. For example, it must not be used for calibration and method validation at the same time.

Description of the MRM

This MRM is a nanoparticular pressed powder pellet of the bauxite powder "BX-N". The original powder, purchased from the Centre de Recherches Pétrographiques et Géochimiques (CNRS-CRPG), was subjected to our own material-specific milling protocol and pressed without any binders using a programmable hydraulic press. The fortification of contrasting colour surrounding the reference material is, according to the manufacturer, an "organic compound". The exact composition is not specified any closer. The certificate of analysis is available on demand.

Handling advice and Storage

Avoid touching the pellet's surface directly in order to prevent contamination. Also, do not clean the surface with any liquids as it may compromise the pellet's integrity.
Please note the label marks the bottom of the pellet.
If using a pressed pellet not ordered specifically for µXRF and or XRF please consider the sample thickness.
Store the MRM in a desiccator and or in a dark and dry environment.

The myStandards GmbH cannot be held responsible for changes that happen during storage of the material at the customer's premises, especially with respect to opened samples.

Period of Validity

Provided the storage and handling conditions are met, no chemical alteration is known to exist, and the assigned values will remain stable. Therefore, the product information and assigned values for this MRM are valid for one year from the date of dispatch. This validity may be extended as further evidence of stability becomes available. The manufacturer will inform the customer if any alterations occur.

Date of dispatch: {LIEFERDATUM}

Safety instructions

Nano-particulate powders can cause harm if ingested, inhaled or in contact with skin. In their pressed form however, they do not exhibit any dusting. If a pellet should accidently break, we advise wearing a dust mask during clean up.

Further Information

This MRM has been produced in accordance with the recommendations specified in ISO Guides 30 to 35. Due to processing a part of the sample material may be seen on the fortification, this does not reduce the performance of the MRM. Please refrain from using this part of the pellet.

The pellets are sold exclusively via the myStandards GmbH and authorised subcontractors.

Pellet serial number: {SERIENNUMMER}
Manufactured for: {METHODE}
Size: {GROESSE}

Document History

Version	Date	Changes applied
1.0	30.01.2020	First publication
2.0	05.11.2020	Changed Description of the MRM, Handling advice and Storage, Further Information, Intended Use (adding LIBS, XRF and calibration) and Period of Validity (including changing date of manufacturing to date of dispatch); Addition of new terms and conditions; Updated document structure, Addition of individual Pellet characteristics
3.0	23.06.2022	New official letterhead
4.0	04.04.2023	Updated link to terms and conditions; Adaptation to automatically fill in the date and individual pellet characteristics

References

Govindaraju K. 1995. 1995 working values with confidence limits for twenty-six CRPG, ANRT and IWG-GIT geostandards. Geostandards Newsletter, 19 (special), 1-32.

Legal notice