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Alcan Certified Reference Material Program

Certificate of Analysis

BAUXITE FROM Indal (Muri-1986) - BXT-04

Certification:

This reference material has been certified according to Alcan standard methods for which ARDC is accredited ISO 17025. 28 bottles randomly selected were analyzed for this preliminary certification. The measurement of uncertainty, which is represented by one standard deviation, includes the inter-bottled heterogeneity and the method precision. Each bottle contains 100 g of bauxite ground at less than 100 μm . Results are updated by benchmark analysis in 2007.

Usage:

This certified reference sample is intended both for instrument calibration and method control. Before sampling, the bottle should be vigorously shaken. An extra amount of sample should then be dried at 105°C for two hours. Finally, the exact portion is extracted. Do not return the unused sample in the bottle.

Traceability:

This material is traceable to previous Alcan standards for wet chemical analyses and phase analysis (TOC, $\text{g}\cdot\text{Al}_2\text{O}_3$). For elemental composition, this material is traceable to NIST pure compounds and to Alcan standards.



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Parameter	Expressed as	Assigned Value (%)	Standard Deviation (%)	Test Method
Loss of Mass, 110-1000°C		25.8	0.1	Alcan SM 1381-95, LECO TGA 601
Aluminum	Al ₂ O ₃	48.6	0.2	Alcan SM 1359-99, XRF, glass beads
Iron	Fe ₂ O ₃	17.0	0.2	Alcan SM 1359-99, XRF, glass beads
Silicon	SiO ₂	2.69	0.07	Alcan SM 1359-99, XRF, glass beads
Titanium	TiO ₂	5.33	0.09	Alcan SM 1359-99, XRF, glass beads
Sodium	Na ₂ O	0.02	0.01	Alcan SM 1359-99, XRF, glass beads
Calcium	CaO	0.013	0.005	Alcan SM 1359-99, XRF, glass beads
Sulfur	SO ₃	0.13	0.01	Tentative value
Chromium	Cr ₂ O ₃	0.089	0.006	Alcan SM 1359-99, XRF, glass beads
Zirconium	ZrO ₂	0.064	0.005	Alcan SM 1359-99, XRF, glass beads
Vanadium	V ₂ O ₅	0.16	0.02	Alcan SM 1359-99, XRF, glass beads
Phosphorus	P ₂ O ₅	0.13	0.003	Alcan SM 1359-99, XRF, glass beads
Magnesium	MgO	0.04	0.01	Alcan SM 1359-99, XRF, glass beads
Potassium	K ₂ O	0.026	0.005	Alcan SM 1359-99, XRF, glass beads
Manganese	MnO	0.041	0.002	Alcan SM 1359-99, XRF, glass beads
Zinc	ZnO	0.002	0.001	Alcan SM 1359-99, XRF, glass beads
Si150	SiO ₂	2.3	0.1	Alcan SM 1243-04 , low temperature digestion ¹
Al150	Al ₂ O ₃	42.7	0.3	Alcan SM 1243-04, low temperature digestion ¹
Si225	SiO ₂	2.5	0.1	Alcan SM 1244-04 , high temperature digestion ²
Al225	Al ₂ O ₃	45.4	0.4	Alcan SM 1244-04 , high temperature digestion ²
Total Organic Carbon	C	0.13	0.02	Alcan SM 1327-04, LECO carbon analyser

1 Conditions: 2.5 N NaOH, 150 oC, A/C > 0.41, 25 min

2 Conditions: 5.0 N NaOH, 225 oC, A/C < 0.05, 60 min

Dr. Stéphane Paré, reviewed by Patrick Dubé
May 15, 2007