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Portland Cement (Blended with Slag)

Art. ID	NIST-635a
Unit	5 x 5 g
Deliverydetails	No Dangerous Good /not restricted

Description

This Standard Reference Material (SRM®) is intended primarily for use in validation of chemical and instrumental methods of analysis of cements and materials of similar matrix for elemental contents. It can be used to validate value assignment of in-house reference materials. A unit of NIST-635a consists of five vials, each containing about 5 g of cement ground to pass through a 75 µm sieve, and each sealed in a foil pouch. /// Sample value(s) - please ask for current certificate.

Text/Information	Analyte/Parameter	CAS number	Concentration/Value	Unit	Method	Source
Certified Mass Fraction Value	Silicon dioxide (SiO2)	[7631-86-9]	23,13 ± 0,13	%	XRF, ICP-OES and gravimetry	
Certified Mass Fraction Value	Aluminum Trioxide (Al2O3)		7,867 ± 0,049	%	XRF and ICP-OES	
Certified Mass Fraction Value	Iron (III) Oxide (Fe2O3)		3,175 ± 0,025	%	XRF and ICP-OES	
Certified Mass Fraction Value	Calcium Oxide (CaO)	[1305-78-8]	54,85 ± 0,36	%	XRF, ICP-OES and gravimetry	
Certified Mass Fraction Value	Magnesium oxide (MgO)	[1309-48-4]	3,817 ± 0,065	%	XRF and ICP-OES	
Certified Mass Fraction Value	Sulfur Trioxide (SO3)		3,222 ± 0,045	%	XRF, ICP-OES and gravimetry	
Certified Mass Fraction Value	Sodium oxide (Na2O)	[1313-59-3]	0,2477 ± 0,0037	%	XRF and ICP-OES	
Certified Mass Fraction Value	Potassium oxide (K2O)		0,725 ± 0,019	%	XRF and ICP-OES	
Certified Mass Fraction Value	Titanium dioxide (TiO2)	[13463-67-7]	0,353 ± 0,010	%	XRF and ICP-OES	
Certified Mass Fraction Value	Phosphorus Pentoxide (P2O5)	[1314-56-3]	0,0949 ± 0,0046	%	XRF, ICP-OES and spectrophotometry	
Certified Mass Fraction Value	Manganese Trioxide (Mn2O3)		0,1279 ± 0,0027	%	XRF and ICP-OES	

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Certified Mass Fraction Value	Chromium Trioxide (Cr2O3)		0,01012 ± 0,00063	%	XRF and ICP-OES
Certified Mass Fraction Value	Zinc oxide (ZnO)	[1314-13-2]	0,02619 ± 0,00087	%	XRF and ICP-OES
Certified Mass Fraction Value	Strontium oxide (SrO)		0,1754 ± 0,0088	%	XRF and ICP-OES
Certified Mass Fraction Value	Barium Oxide (BaO)		0,0315 ± 0,0043	%	XRF and ICP-OES
Certified Mass Fraction Value	Chlorine (Cl)	[7782-50-5]	0,0146 ± 0,0028	%	Total Cl determined using XRF
Reference Mass Fraction Value	Free CaO		0,527 ± 0,023	%	ASTM C114-15
Reference Mass Fraction Value	Sulfide sulfur	[n/a]	0,242 ± 0,021	%	KIO3 titration after reaction with HCl
Reference Mass Fraction Value	Fluorine (F)	[7782-41-4]	0,0553 ± 0,0002	%	Ion-selective electrode and XRF
Reference Mass Fraction Value	Loss on Ignition (L.O.I.) between 45 °C and 220 °C		0,857 ± 0,002	%	Thermogravimetry
Reference Mass Fraction Value	Loss on Ignition (L.O.I.) between 220 °C and 550 °C		0,35 ± 0,03	%	Thermogravimetry
Reference Mass Fraction Value	Loss on Ignition (L.O.I.) between 550 °C and 950 °C		1,20 ± 0,02	%	Thermogravimetry
Reference Mass Fraction Value	Loss on Ignition (L.O.I.) total at 950 °C		2,45 ± 0,06	%	Thermogravimetry
Information Mass Fraction Value	Loss on drying between ambient temperature and 45 °C		< 0,1	%	
Information Mass Fraction Value	Total analyzed constituents		100,34	%	