209.1 - Diffraction and Scattering

SRMs 676a, 674b, 1878b and 1879b consist of high phase purity materials for use in the quantitative analysis of samples by the internal standard method. SRMs 640g, 660c, 675, and 1976b consist of materials with select crystallographic and microstructure properties used in the evaluation of diffraction equipment for the following variables; 1) d-spacing or line position, 2) line or instrument intensity, and 3) instrumental or sample contributions to the shape of reflection profiles. SRM 1976b, a sintered alumina plate, is also certified with respect to lattice parameters as well as 13 relative intensity values from 22° to 155° 2q (Cu Ka). SRM 1990 is certified for lattice parameter.

PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

SRM	Description	Unit Size	Application
640g	Line Position and Line Shape Standard for Powder Diffraction (Silicon Powder)	7.5 g	Line Position Line Shape
660c	Line Position and Line Shape Standard for Powder Diffraction (Lanthanum Hexaboride Powder)	6 g	Line Position Line Shape
674b	X-Ray Powder Diffraction Intensity Set (Quantitative Powder Diffraction Standard)	10.00 g (powder)	Quantitative Analysis
675	Line Position, Mica (XRD)	7.5 g	Line Position - Low 2θ
676a	Alumina Powder (Quantitative Analysis Powder Diffraction Standard)	20 g	Quantitative Analysis
1878b	Respirable Alpha Quartz (Quantitative X-Ray Powder Diffraction Standard)	5 g	Quantitative Analysis
1879b	Respirable Cristobalite (Quantitative X-Ray Powder Diffraction Standard)	5 g	Quantative Analysis
1976c	Instrument Response Standard for X-Ray Powder Diffraction	1 disc	Line Position, Intensity, 2θ
1979	Powder Diffraction Line Profile Standard for Crystallite Size Analysis (Nano-Crystalline ZnO Powder)	2 x 3 g	Line shape Crystalline size
1990	Single Crystal Diffractometer Alignment Standard - Ruby Sphere	3 spheres	Quantitative Analysis
2000	Calibration Standard for High-Resolution X-Ray Diffraction	1 block	Line Position
3600	Absolute Intensity Calibration Standard for Small-Angle X-ray Scattering	coupon	Small-angle scattering intensity

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- Certified values are normal font
- Non-certified or reference values are italicized
- Non-certified values in parentheses are for information only