

203.5 - Differential Scanning Calorimetry and Differential Thermal Analysis

These SRMs are intended for calibration and validation of differential scanning calorimeters, differential thermal analyzers, and similar instruments.

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.

Temperature and Enthalpy of Fusion

SRM	Description	Unit Size	Enthalpy of Fusion (J/g)	Melting Temperature (K)
2232a	Indium for DSC Temperature and Enthalpy Calibration	1 g	28.58	156.5985°C
2234	Gallium for Thermal Analysis	2 g	80.097	302.9146
2235	Bismuth for Thermal Analysis	1.5 g	53.146	544.556

Temperature and Enthalpy of Transition

SRM	Description	Unit Size	Enthalpy of Transition (J/g)	Transition Temperature (°C)
8103	Adamantane for Subambient DSC Temperature and Enthalpy Calibration	1 g	<i>21.64</i>	<i>-64.58</i>

Enthalpy and Heat Capacity

SRM	Description	Unit Size	Molecular Weight (in g/mol)	Temperature Range (in K)
705a	Polystyrene (Narrow Molecular Weight Distribution)	5 g	170,900	10 to 350
720	Sapphire Heat Capacity	15 g		10 to 2250

Thermal Analysis Purity Set

SRM 1514 is for evaluating methods of determining purity by differential scanning calorimetry. It consists of pure phenacetin and phenacetin doped with p-aminobenzoic acid.

SRM	Description	Unit of Issue	Measurand
1514	Thermal Analysis Purity Set	set (4)	4 levels of p-ABA (in mol %)

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- Certified values are normal font.
 - Non-certified and reference values are italicized.
 - Values of potential interest and information values are within parentheses.