

National Bureau of Standards

Certificate

Standard Reference Material 1479

Polystyrene

(Narrow Molecular Weight Distribution)

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This Standard Reference Material is intended for the calibration and checking of instruments used in polymer technology and science for the determination of molecular weight and for use as a characterized sample for measurements of other physical properties of polystyrene. The certified value for the weight-average molecular weight:

$$M_w = 1,050,000 \text{ g}\cdot\text{mol}^{-1}$$

was determined by light scattering. The standard deviation of the mean based on 521 degrees of freedom is:

$$S_{\bar{x}} = 42,000 \text{ g}\cdot\text{mol}^{-1} \text{ (4 percent).}$$

The systematic error of this determination is not expected to exceed 7 percent.

Technical assistance in the determination of weight-average molecular weight was provided by Dennis Minor of the Polymer Science and Standards Division.

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