



National Institute of Standards and Technology

Certificate of Analysis

Standard Reference Material 1479

Polystyrene

(Narrow Molecular Weight Distribution)

This Standard Reference Material (SRM) is intended primarily for the calibration and evaluation of instruments used in polymer technology and science for the determination of molecular weight of polystyrene. SRM 1479 is supplied as white pellets of polystyrene in a 2 gram unit. 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:

$$S_x = 42,000 \text{ g}\cdot\text{mol}^{-1} \text{ (4 percent)}$$

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

Storage: SRM 1479 should be stored in the original bottle, tightly closed under normal laboratory conditions.

The certification measurements were performed by C.C. Han, P.H. Verdier, L.E. Smith, and I.C. Sanchez of the Polymer Science and Standards Division.

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

The technical and support aspects involved in the revision, update and issuance of this Standard Reference Material were coordinated through the Standard Reference Materials Program by J.C. Colbert. The original coordination of certification efforts was performed by R.K. Kirby.

This Certificate of Analysis has undergone editorial revision to reflect program and organizational changes at NIST and at the Department of Commerce. No attempt was made to reevaluate the certificate value or any technical data presented in this certificate.

Gaithersburg MD 20899
March 20, 1992
(Revision of Certificate dated 3-27-81)

William P. Reed, Chief
Standard Reference Materials Program