Efficient Separation of Polymethylmethacrylate

Agilent PLgel 10 µm MIXED-B Columns

Technical Overview

Introduction

PLgel 10 µm MIXED-B columns are designed for high MW polymer analysis and demanding eluent conditions. The PLgel 10 µm MIXED-B spans a wide range of molecular weights, up to 10 million, with a linear calibration curve. It is particularly useful for molecular weight distributions where slightly higher than average MWs are encountered. The 10 µm particle size provides good resolution with relatively low pressures for enhanced lifetimes in demanding conditions.

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The figure shows the separation of a polymethylmethacrylate obtained using PLgel MIXED-B columns. By applying Mark-Houwink parameters (polystyrene K = 14.1 x 10 a = 0.70; polymethylmethacrylate K = 12.8 x 10 a = 0.69)[1], the differences in molecular weight averages shown in Table 1 are revealed.

Conditions

Columns: 2 x PLgel 10 µm MIXED-B, 300 x 7.5 mm (p/n PL1110-6100)
Eluent: Methyl ethyl ketone (MEK)
Flow Rate: 1.0 mL/min
Detection: RI

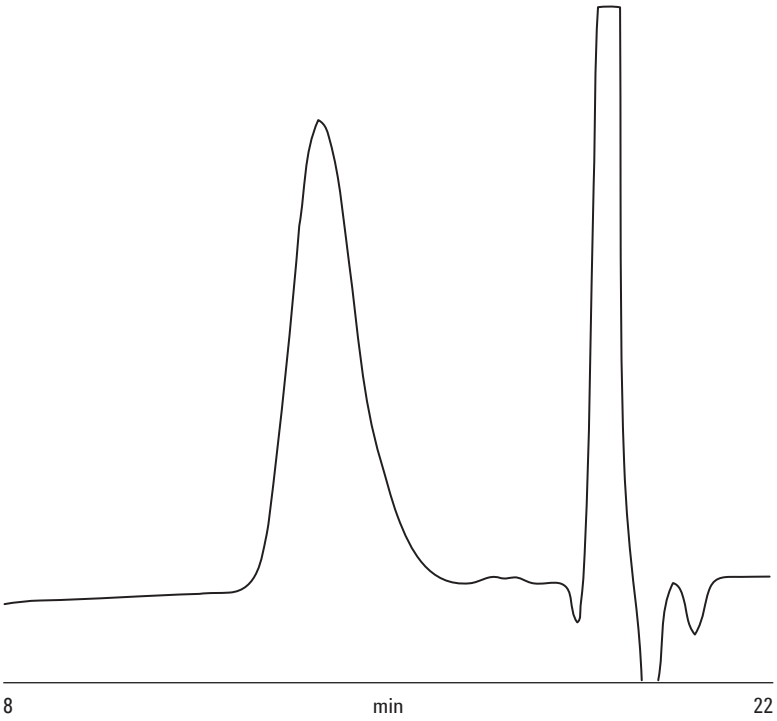

Figure 1. Separation of a polymethylmethacrylate obtained using PLgel MIXED-B columns

Table 1. Mp, Mw and Mn equivalents for PS and PMMA

	PS Equivalent	PMMA Equivalent
Mp	37521	42286
Mw	36669	41628
Mn	19354	21714

[1] B J Hunt and S R Holding (eds) (1989) Size Exclusion Chromatography. Blackie, UK.

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