Analysis of Polybutadiene

Application Note

Materials Testing & Research, Polymers

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Introduction

Agilent PLgel 20 µm MIXED-A columns are designed for the analysis of ultra high MW polymers. These columns minimize the potential effects of shear degradation and are ideal for regular high temperature operation. The capability of PLgel MIXED-A columns is demonstrated in the analysis of polybutadiene by gel permeation chromatography (GPC). This high molecular weight compound was prepared as a 0.1% solution. The calculated MW was 2,766,700 relative to polystyrene standards.

Verified for Agilent
1260 Infinity
GPC/SEC System

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Specific features of the PLgel 20 µm MIXED-A include a unique linear calibration to 40 million MW, rigid, high pore size PLgel matrix, particle size of 20 µm, large frit porosity of 10 µm, and long lifetimes under low pressure.

Conditions

Columns: 4 x PLgel 20 µm MIXED-A, 300 x 7.5 mm (p/n PL1110-6200)
Eluent: THF
Flow Rate: 1.0 mL/min
Detection: RI

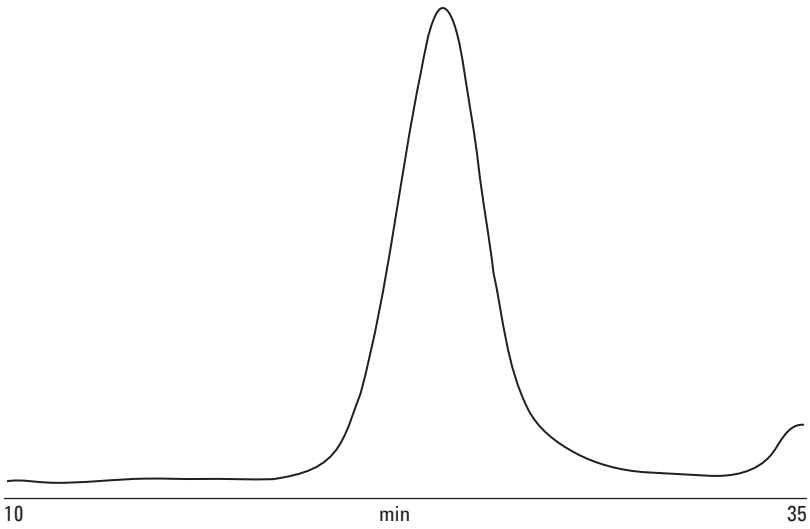

Figure 1. GPC analysis of polybutadiene using PLgel MIXED-A columns

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Published in UK, April 30, 2015
5991-5802EN

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