Epoxy Resin Analysis on Agilent PLgel MIXED-E with Gel Permeation Chromatography

Application Note

Materials Testing and Research, Polymers

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Introduction

Epoxy resins are thermosetting copolymers formed by mixing epoxide with polyamine. They are extremely durable after curing, and so are widely used as general-purpose adhesives, coatings and composites.

Analysis of epoxy resins by gel permeation chromatography is straightforward with Agilent PLgel 3 µm MIXED-E columns, which are ideal for low molecular weight samples that contain oligomeric fractions, as well as polymers, up to 30,000 MW.

Verified for Agilent
1260 Infinity
GPC/SEC System

Agilent Technologies

Analysis of polysiloxane

In this analysis of epoxy resin, the ultra high efficiency achieved with Agilent PLgel 3 µm particles gives baseline resolution of the sample components with the lowest MW component eluting within 8 minutes.

Conditions

Columns	Agilent PLgel 3 µm MIXED-E, 300 × 7.5 mm (p/n PL1110-6300)
Eluent	THF
Flow rate	1.0 mL/min
Detector	RI
System	Agilent PL-GPC 50

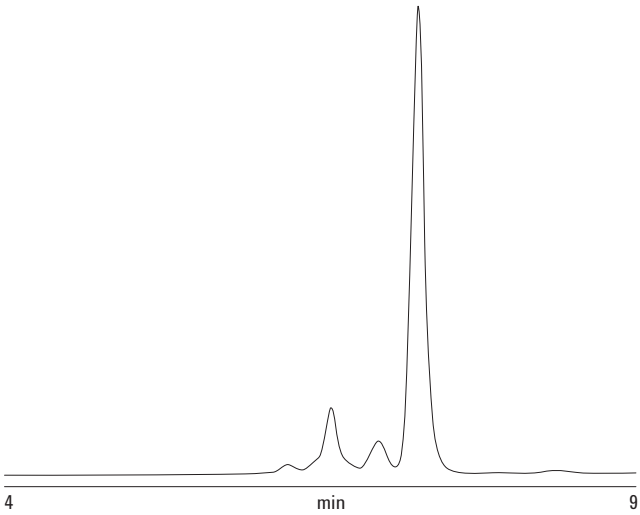

Figure 1 Fast elution of low molecular components of an epoxy resin on an Agilent PLgel 3 µm MIXED-E column.

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