

Polycarbonate Analysis on Agilent PLgel 5 μm MIXED-D using Gel Permeation Chromatography

Application Note

Materials Testing and Research, Polymers

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Introduction

Polycarbonates are synthetic thermoplastic polymers containing carbonate links (-O-(C=O)-O-) manufactured from bisphenol-A and phosgene. Polycarbonate is a good electrical insulator, resistant to flame and high temperature. It is mainly used in electronics and telecommunications. It is also used in the construction industry and lens making. Despite its durability and high impact resistance, polycarbonate lenses have low scratch resistance and must be coated with a durable surface.

Dichloromethane is a good solvent for polycarbonate, making it easy to analyze by gel permeation chromatography.

Polycarbonate Analysis

The Agilent PLgel MIXED-D 5 μm column is specifically designed for the analysis of polymers, paints, and resin systems where material above 400,000 MW is unlikely to be present. Figure 1 shows the analysis of a relatively low molecular weight polycarbonate that elutes well within the range of PLgel MIXED-D columns.

Conditions

Columns	2 \times Agilent PLgel 5 μm MIXED-D, 300 \times 7.5 mm (p/n PL1110-6504)
Eluent	Dichloromethane
Flow rate	1.0 mL/min
Detector	RI
System	Agilent PL-GPC 50



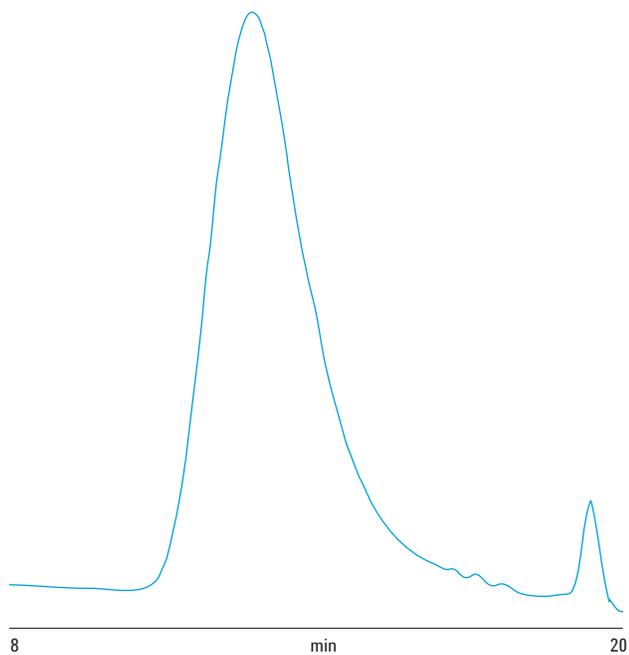


Figure 1. A relatively low molecular weight polycarbonate analyzed on an Agilent PLgel 5 μ m MIXED-D two-column set.

Conclusion

The data illustrate the analysis of polycarbonate molecular weight distribution by gel permeation chromatography using Agilent PLgel 5 μ m MIXED-D columns.

For More Information

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