

Polyurethane Analysis on an Agilent PLgel Column with Gel Permeation Chromatography

Application Note

Materials Testing and Research, Polymers

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Introduction

Low-pore-size, high efficiency Agilent PLgel columns were chosen for an analysis of polyurethane, specifically to exclude the bulk of the sample and give maximum resolution of the low molecular weight components.

Analysis of Polyurethane

Base line resolution of residual isocyanate monomers is almost achieved. The individual isocyanates (IPDI, MDI, and TDI) are identified (Figure 1).





Conditions

Columns Agilent PLgel 5 μ m, 50Å, 300 × 7.5 mm

(p/n PL1110-6515)

Agilent PLgel 5 μ m, 100Å, 300 × 7.5 mm

(p/n PL1110-6520)

Eluent THF

Flow rate 1.0 mL/min

Detector RI

System Agilent PL-GPC 50

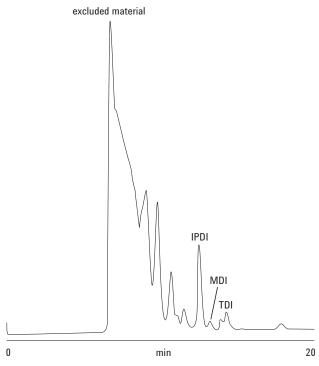


Figure 1. Identifying isocyanates in a polyurethane using Agilent PLgel 5 µm columns.

Conclusion

Low-pore-size Agilent PLgel columns are ideally suited to high resolution separations of oligomers, the presence of which affects the end-use application of many materials.

For More Information

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