

# Dialkyl Phthalate Analysis on Agilent PLgel 5 $\mu$ m using Gel Permeation Chromatography

## Application Note

Materials Testing and Research, Polymers

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### Introduction

Phthalates are phthalic acid esters mainly used as softeners of polyvinylchlorides, to increase their flexibility, transparency, durability, and longevity. Although phthalates have been very valuable in this role, they are being phased out because of health concerns. This has increased attention on their analysis, which is straightforward using gel permeation chromatography and an Agilent PLgel column.



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## Analysis of Dialkyl Phthalate

A single Agilent PLgel high performance, low pore size column achieves rapid analysis of dialkyl phthalates, as shown in Figure 1. Resolution would be further improved by increasing the number of columns.

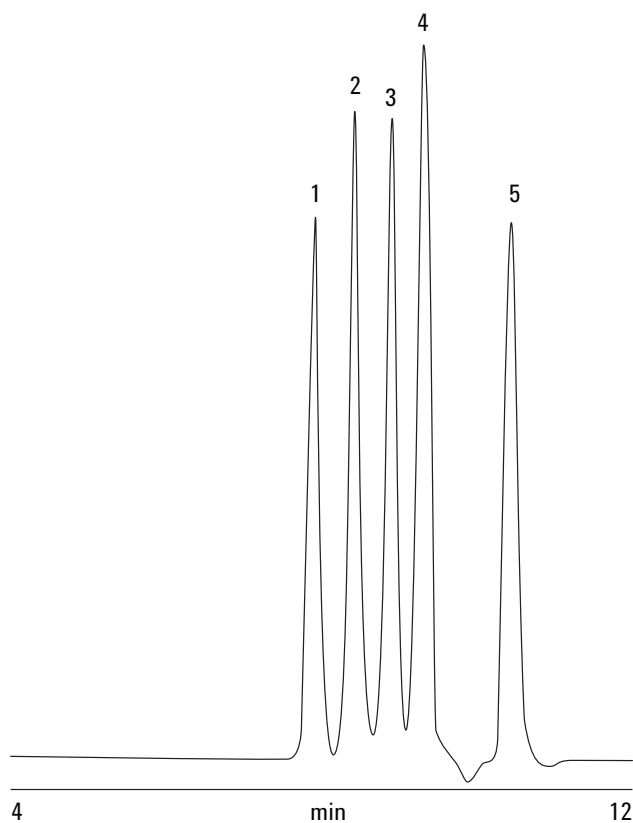


Figure 1. Four dialkyl phthalates separated on an Agilent PLgel 5  $\mu$ m column.

## Conditions

Column	Agilent PLgel 5 $\mu$ m 50Å, 300 $\times$ 7.5 mm (p/n PL1110-6515)
Eluent	THF
Flow rate	1.0 mL/min
Detector	RI
System	Agilent PL-GPC 50

## Conclusion

Small-molecule separations are possible on low-pore-size PLgel GPC columns, showing good resolution.

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Printed in the USA  
May 27, 2011  
5990-8324EN



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