

Phenols

PERFORMANCE

A wide variety of phenolic compounds can be determined by employing reversed-phase separations and either UV or amperometric detection. Amperometric methods are generally more sensitive while UV detection is commonly employed as the workhorse detector of HPLC and is preferable to amperometry when phenol concentrations are above 1 ppm.

APPLICATION AREA

- Wastewater Monitoring
- Ground/Surface Water
- Drinking Water

COMMENTS

Phenols originate in a variety of chemical, petrochemical, and pulp and paper processes. Many are highly toxic and 11 common phenols (Figure 1) appear on the U.S. EPA priority pollutants list. Phenols have commonly been determined by gas chromatography, but liquid/ion chromatographic methods are finding increased application, particularly when a large amount of nonvolatiles are in the sample matrix and can poison the GC column.

Now sold under the
Thermo Scientific brand



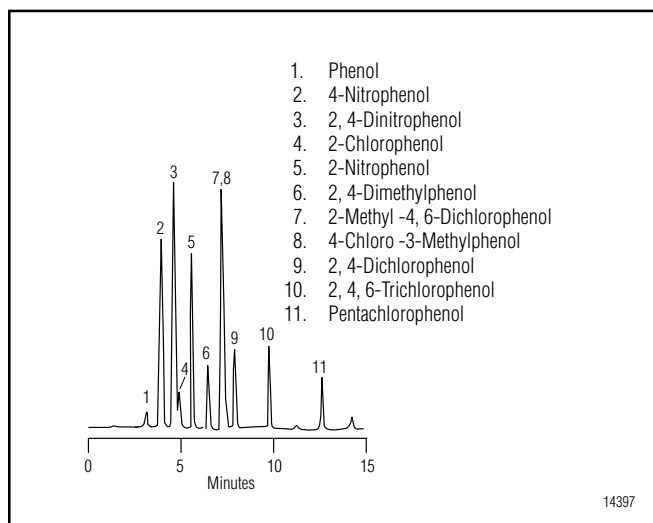


Figure 1 Gradient Ion Suppression/UV Detection

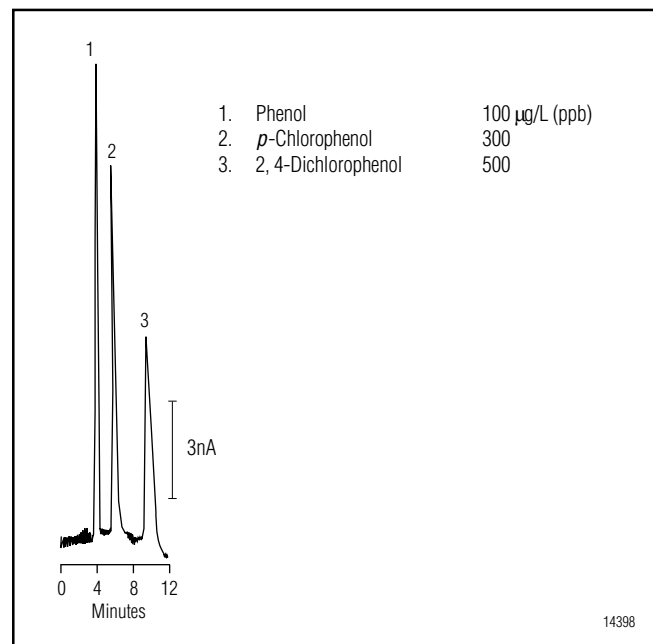


Figure 2 Polymer Reversed-Phase/Amperometric Detection

CONDITIONS

Figure 1

Column: C18-10 μm
Eluent 1: 1% Acetic acid in 40% Methanol,
60% water
Eluent 2: 1% Acetic acid in Methanol
Program: Gradient of 0% to 100% Eluent 2 in
15 minutes, then hold for 10 minutes
Detector: UV, 285 nm

Figure 2

Column: IonPac[®] NG1 Guard and NS1
Separator
Eluent: 0.02 M NaH_2PO_4 in 40% Acetonitrile,
60% water
Detector: Pulsed Amperometric (PAD),
Glassy Carbon Electrode, 1.1 V

RECOMENDED EQUIPMENT

Dionex DX-500 chromatography system

consisting of:

ED40 Electrochemical Detector

AD20 Absorbance Detector



IonPac is a registered trademark of Dionex Corporation.



Printed on recycled and recyclable paper with soy-based inks.

Dionex Corporation

1228 Titan Way
P.O. Box 3603
Sunnyvale, CA
94088-3603
(408) 737-0700

Dionex Corporation

Salt Lake City Technical Center
1515 West 2200 South, Suite A
Salt Lake City, UT
84119-1484
(801) 972-9292

Dionex U.S. Regional Offices

Sunnyvale, CA (408) 737-8522
Westmont, IL (630) 789-3660
Houston, TX (281) 847-5652
Atlanta, GA (770) 432-8100
Marlton, NJ (856) 596-0600

Dionex International Subsidiaries

Austria (01) 616 51 25 Belgium (015) 203800 Canada (905) 844-9650 France 01 39 46 08 40 Germany 06126-991-0
Italy (06) 66 51 50 52 Japan (06) 6885-1213 The Netherlands (0161) 43 43 03 Switzerland (062) 205 99 66 United Kingdom (01276) 691722
* Designed, developed, and manufactured under an NSAI registered ISO 9001 Quality System.
<http://www.dionex.com>



LPN 032841-04 3M 6/00
© 2000 Dionex Corporation