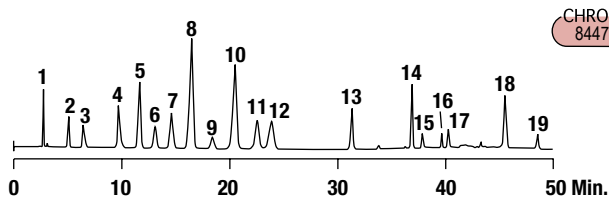


Water Pollutants

Semipolar & Highly Hydrophilic Waste Water Contaminants



CHROM 8447

1. 4-Amino-5-hydroxy-2,7-naphthalene-disulfonic Acid
2. Hydroquinone
3. Benzylamine
4. 3'-Aminoacetophenone
5. Phenol
6. 4-Hydroxyphenylacetic Acid
7. 1-Naphthalene Sulfonic Acid
8. 2,4-Dihydroxybenzoic Acid
9. 1-Naphthalene Sulfonic Acid Degradant
10. 4-Hydroxy-3-methoxybenzoic Acid
11. Phenylacetic Acid
12. *m*-Cresol
13. 4-Hydroxycinnamic Acid
14. *trans*-Cinnamaldehyde
15. *trans*-Cinnamaldehyde Degradant
16. *trans*-Cinnamaldehyde Degradant
17. 2-Naphthalenethiol Degradant
18. 2-Naphthalenethiol
19. 2-Naphthalenethiol Degradant

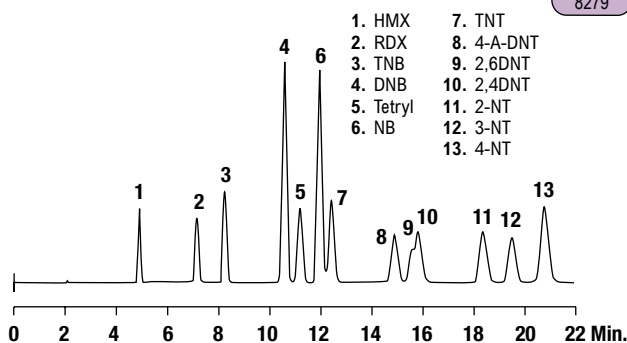
Column: Alltech® Platinum™ EPS C18, 5µm, 250 x 4.6mm (Part No. 32246)
Mobile Phase: A: 0.03M Monosodium Phosphate, pH2.5
 B: Acetonitrile:Methanol:Water (40:50:10)
Gradient:

Time:	0	3	13	20	25	30	40	45	55
%B:	5	5	10	10	20	40	75	80	80

Flow Rate: 1.0mL/min
Detector: UV at 210nm

Explosives

Nitroaromatic and Nitroamine Explosives

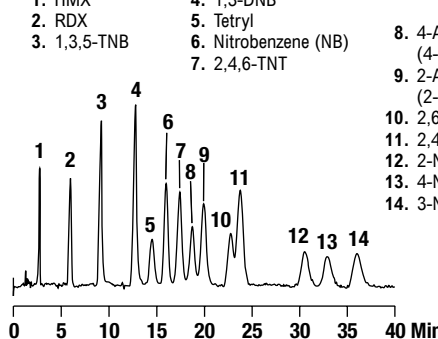


CHROM 8279

1. HMX
2. RDX
3. TNB
4. DNB
5. Tetryl
6. NB
7. TNT
8. 4-A-DNT
9. 2,6DNT
10. 2,4DNT
11. 2-NT
12. 3-NT
13. 4-NT

Column: Alltech® Platinum™ C18, 5µm, 250 x 4.6mm (Part No. 32064)
Mobile Phase: Water:Methanol (50:50)
Flow Rate: 0.7mL/min
Detector: UV at 254nm

Explosive Analysis, EPA Method 8330



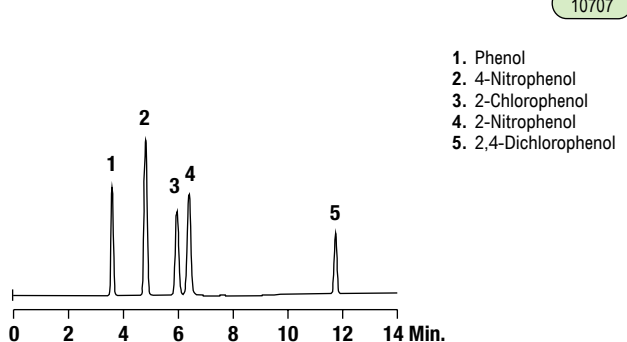
CHROM 10511

1. HMX
2. RDX
3. 1,3,5-TNB
4. 1,3-DNB
5. Tetryl
6. Nitrobenzene (NB)
7. 2,4,6-TNT
8. 4-Amino-2,6-Dinitrotoluene (4-AM-DNT)
9. 2-Amino-4,6-Dinitrotoluene (2-AM-DNT)
10. 2,6-DNT
11. 2,4-DNT
12. 2-NT
13. 4-NT
14. 3-NT

Column: Alltech® Adsorbosphere™ UHS C18, 5µm, 150 x 4.6mm (Part No. 288118)
Mobile Phase: Water:Methanol (50:50)
Flow Rate: 1.0mL/min
Detector: UV at 254nm

Phenols

Phenols



CHROM 10707

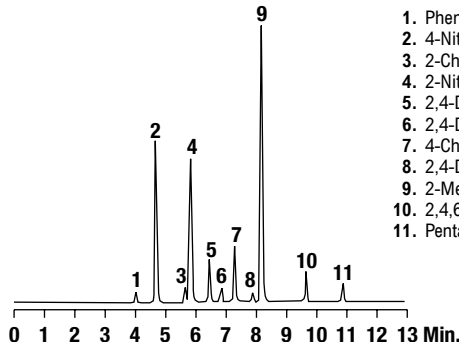
1. Phenol
2. 4-Nitrophenol
3. 2-Chlorophenol
4. 2-Nitrophenol
5. 2,4-Dichlorophenol

Column: GraceSmart™ C18, 5µm, 250 x 4.6mm (Part No. 5138810)
Mobile Phase: A: 1% Glacial Acetic Acid in Water
 B: 1% Glacial Acetic Acid in Methanol
Gradient:

Time:	0	6	8	15
%B:	45	45	60	80

Flow Rate: 1.0mL/min
Detector: UV at 280nm

Separation of EPA 604 Phenols Mixture



1. Phenol
2. 4-Nitrophenol
3. 2-Chlorophenol
4. 2-Nitrophenol
5. 2,4-Dinitrophenol
6. 2,4-Dimethylphenol
7. 4-Chloro-3-Methylphenol
8. 2,4-Dichlorophenol
9. 2-Methyl-4,6-Dinitrophenol
10. 2,4,6-Trichlorophenol
11. Pentachlorophenol

Column: Vydac® Denali®, 5µm, 150 x 4.6mm (Part No. 238DE5415)
Mobile Phase: A: 1% Acetic Acid in Water
 B: 1% Acetic Acid in Acetonitrile
Gradient:

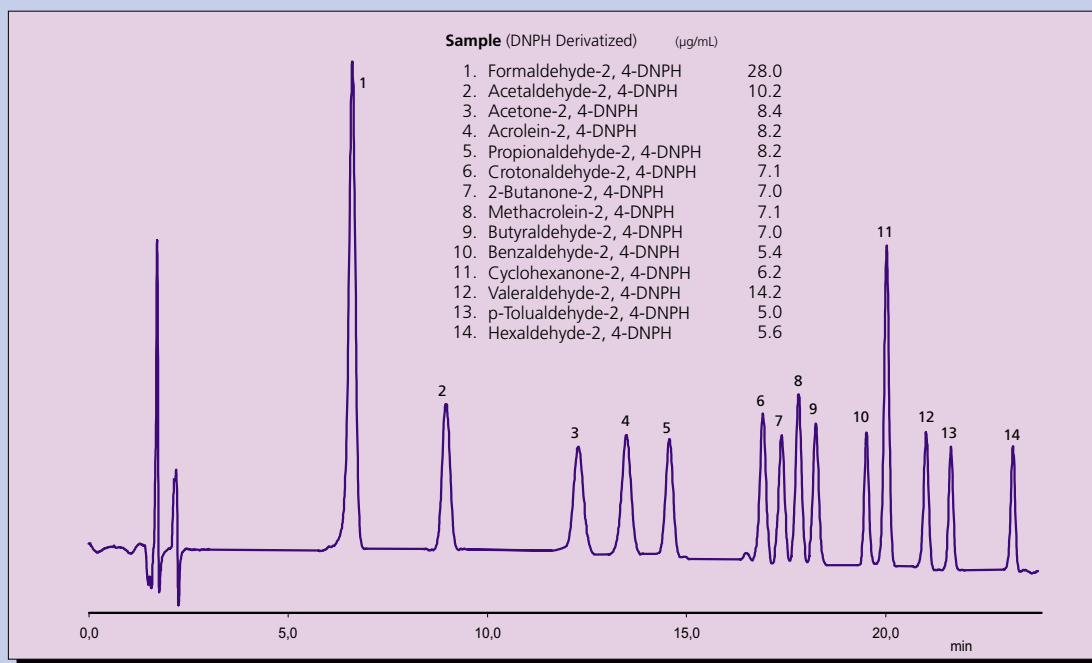
Time:	0	7	8	13
%B:	35	63	95	95

Flow Rate: 1.0mL/min
Detector: UV at 280nm

more applications

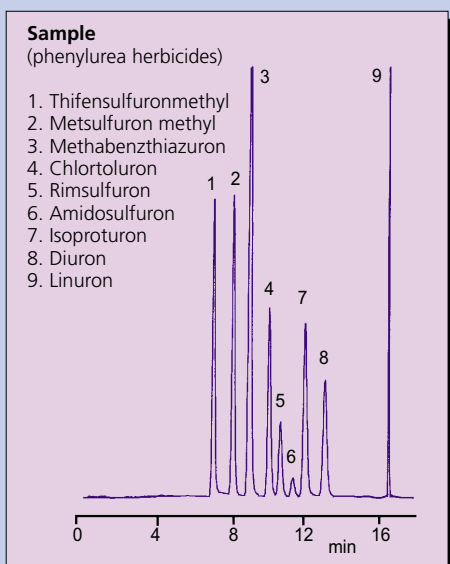
View our complete searchable chromatogram database at www.discoverysciences.com/chromdb/

10 135 Aldehydes and Ketones, Analysis of Auto Emission Mix



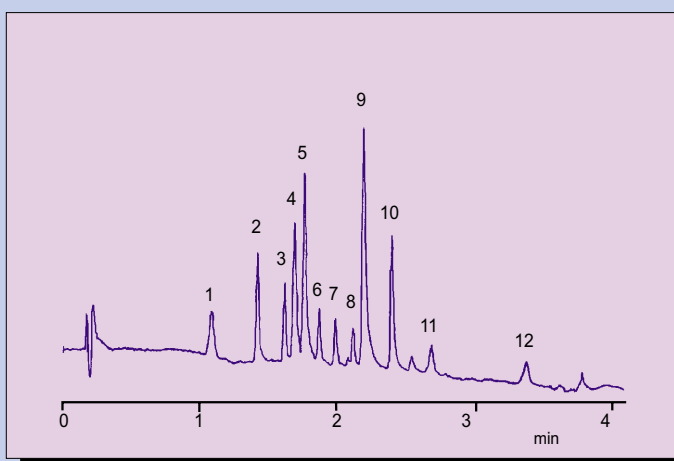
Column phase: GROM-SIL AK, 5 μm
Column size: 250 x 4 mm
Eluent A: H_2O
B: ACN / THF = 75 / 25
Gradient: 40% B (0-10 min), 40 - 85% B (10-30 min)
Flow rate: 1.0 ml/min
Pressure: 19.0 MPa
Temperature: RT
Detection (UV): 365 nm
Injection: 10 μl (5 to 30 $\mu\text{g/ml}$ of each)

10 134 Analysis of Phenylurea Herbicides



Column phase: GROM-SIL PEST-3, 4 μm
Column size: 250 x 4 mm
Eluent A: 80 μl H_3PO_4 (85%) + H_2O
B: ACN
Gradient: 35% B (0-15 min), 35-80% B (15-20 min),
Flow rate: 1.0 ml/min
Pressure: 17 MPa
Temperature: 18°C
Detection (UV): 220 nm
Injection: 10 μl (10 $\mu\text{g/ml}$ MeOH of each)

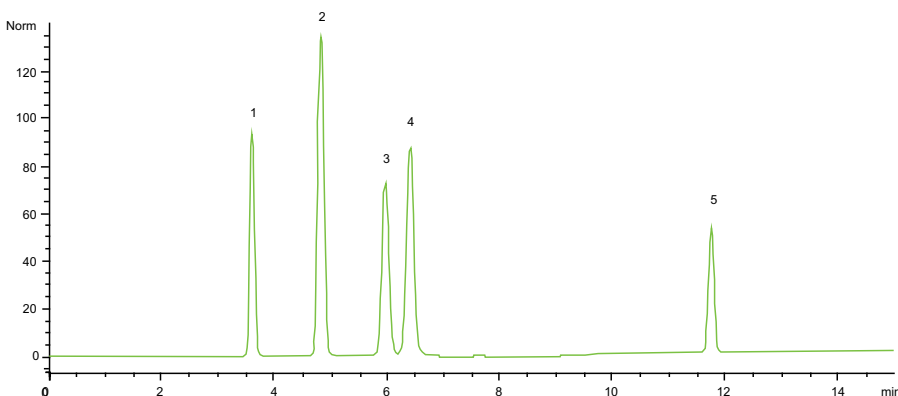
10 079 High Speed HPLC Analysis of Phenols (EPA)



Column phase: GROM-SIL 100 ODS-2 FE, 1,5 μm
Column size: 33 x 4.6 mm
Eluent A: 0,1% TFA in H_2O
B: ACN
Gradient: 20% B (0-0.17 min), 20-40% B (0.17-0.5 min)
 40-70% B (0.5-2.83 min), 70-100% B (2.83-3.0 min)
Flow rate: 1.3 ml/min
Pressure: 8 - 27 MPa
Temperature: RT
Detection (UV): 274 nm
Injection: 50 μl (0.04 ppm)

Phenols

On GraceSmart™ HPLC Column



1. Phenol
2. 4-Nitrophenol
3. 2-Chlorophenol
4. 2-Nitrophenol
5. 2,4-Dichlorophenol

Test condition (as USP assay)

Test sample:

1. Phenol
2. 4-Nitrophenol
3. 2-Chlorophenol
4. 2-Nitrophenol
5. 2,4-Dichlorophenol

Column: GraceSmart™ C18, 5µm, 4.6 x 150mm (Part #: 5138810)

Mobile Phase:

- A: 1% Glacial Acetic Acid in Water
- B: 1% Glacial Acetic Acid in Methanol

Flow: 1.0mL/min

Detection: UV at 280nm

Time (min)	0	6	8	15
%B	45	45	60	80

www.discoverysciences.com

GRACE® and GRACE DAVISON® are trademarks, registered in the United States and/or other countries, of W. R. Grace & Co.-Conn. GRACESMART™ and GRACE DAVISON DISCOVERY SCIENCES™ are trademarks of W. R. Grace & Co.-Conn. This trademark list has been compiled using available published information as of the publication date of this brochure and may not accurately reflect current trademark ownership. Grace Davison Discovery Sciences is a product group of W. R. Grace & Co.-Conn. Alltech Associates, Inc. is a wholly owned subsidiary of W. R. Grace & Co.-Conn. © Copyright 2007 Alltech Associates, Inc. All rights reserved. The information presented herein is derived from our testing and experience. It is offered for your consideration and verification. Since operating conditions vary significantly, and are not under our control, we disclaim all warranties on the results that may be obtained from the use of our products. Grace reserves the right to change prices and/or specifications without prior notification. Printed in the USA.

4/5/2007, M190

Grace Davison Discovery Sciences Regional Headquarters:

In the Americas:

2051 Waukegan Rd.
Deerfield, IL 60015
Tel: +1 847 948 8600
Email: discoverysciences@grace.com

In Europe:

Brandstraat 12
B-9160 Lokeren, Belgium
Tel: +32 09 340 65 65
Email: discoverysciences.BE@grace.com

In Asia:

19th Floor, K.Wah Center
1010 Huai Hai Zhong Road
Shanghai 200031 PRC
Tel: 86 21 54674678
Email: dsbiz.asia@grace.com

In Australia/New Zealand:

2 Kerr Court
Rowville, 3178
Victoria, Australia
Tel: +61 3 9237 6100
Email: discoverysciences.AU@grace.com