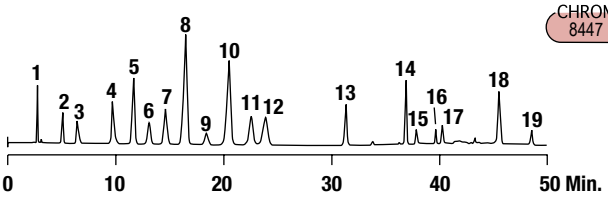
Water Pollutants

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

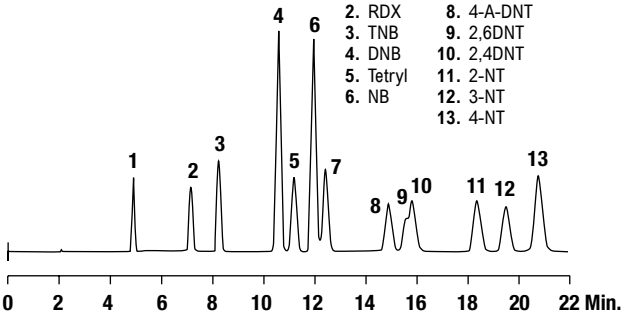
Flow Rate: 1.0mL/min
Detector: UV at 210nm

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

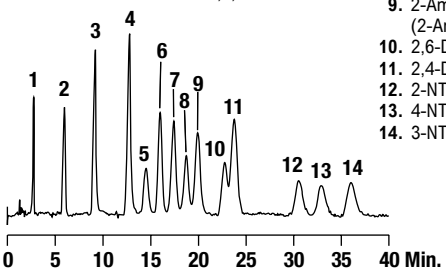


Column: Alltech® Platinum™ C18, 5µm, 250 x 4.6mm (Part No. **32064**)
Mobile Phase: Water:Methanol (50:50)
Flow Rate: 0.7mL/min
Detector: UV at 254nm

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



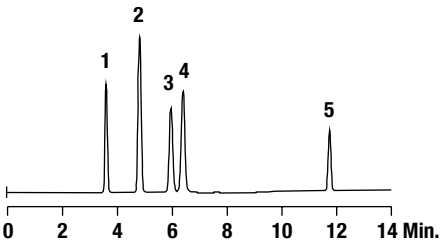
Column: Alltech® Adsorbosphere™ UHS C18, 5µm, 150 x 4.6mm (Part No. **288118**)
Mobile Phase: Water:Methanol (50:50)
Flow Rate: 1.0mL/min
Detector: UV at 254nm

Phenols

Phenols

CHROM 10707

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



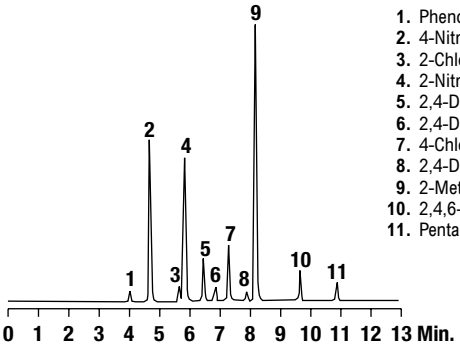
Column: GraceSmart™ C18, 5µm, 250 x 4.6mm (Part No. **5138810**)
Mobile Phase: **A:** 1% Glacial Acetic Acid in Water
B: 1% Glacial Acetic Acid in Methanol
Gradient:

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

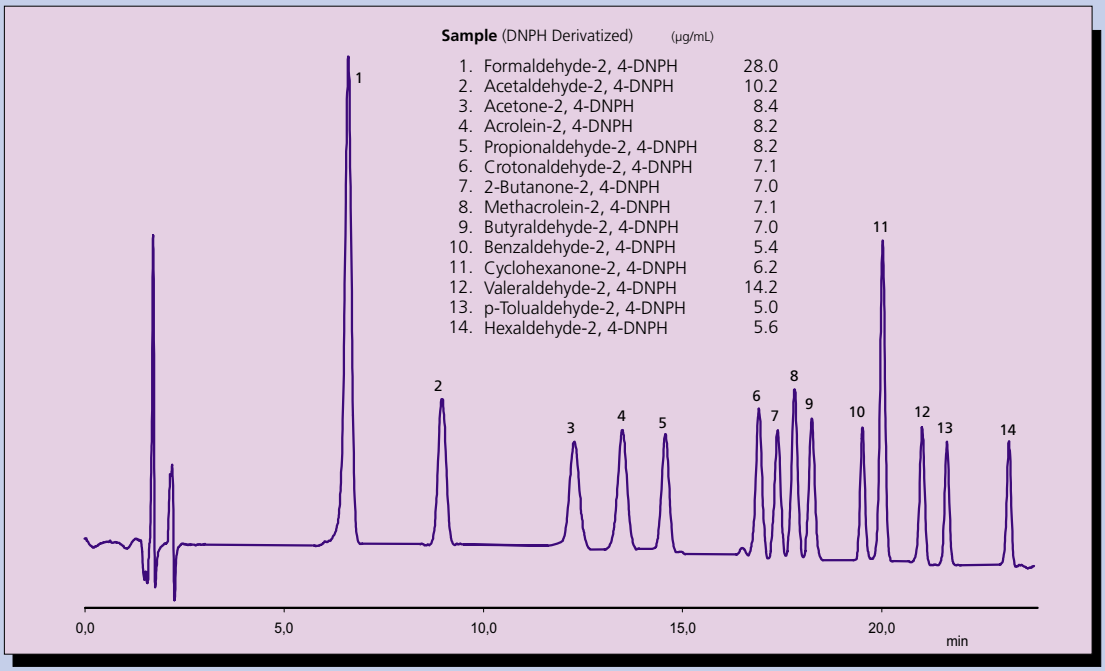


Column: Vydac® Denali®, 5µm, 150 x 4.6mm (Part No. **238DE5415**)
Mobile Phase: **A:** 1% Acetic Acid in Water
B: 1% Acetic Acid in Acetonitrile
Gradient:

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

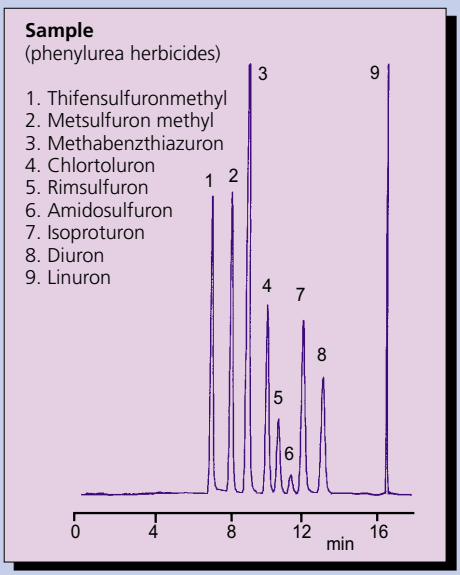
Flow Rate: 1.0mL/min
Detector: UV at 280nm

10 135 Aldehydes and Ketones, Analysis of Auto Emission Mix



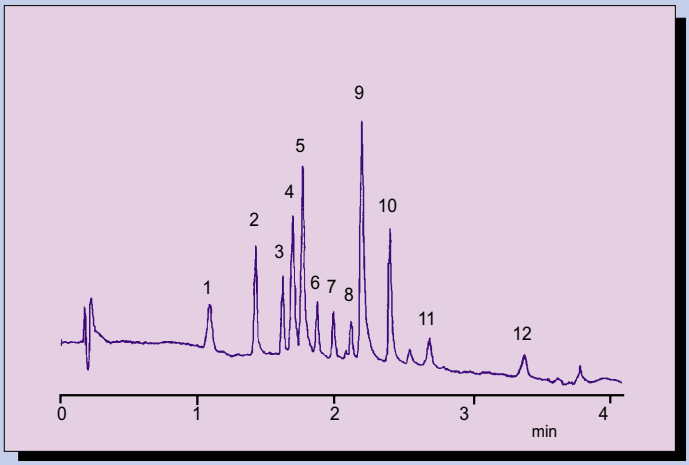
Column phase: GROM-SIL AK, 5 µm
Column size: 250 x 4 mm
Eluent A: H_2O
B: ACN / THF = 75 / 25
Gradient: 40% B (0-10 min), 40 - 85% B (10-30 min)
Flow rate: 1.0 ml/min
Pressure: 19.0 MPa
Temperature: RT
Detection (UV): 365 nm
Injection: 10 µl (5 to 30 µg/ml of each)

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 µg/ml MeOH of each)

10 079 High Speed HPLC Analysis of Phenols (EPA)



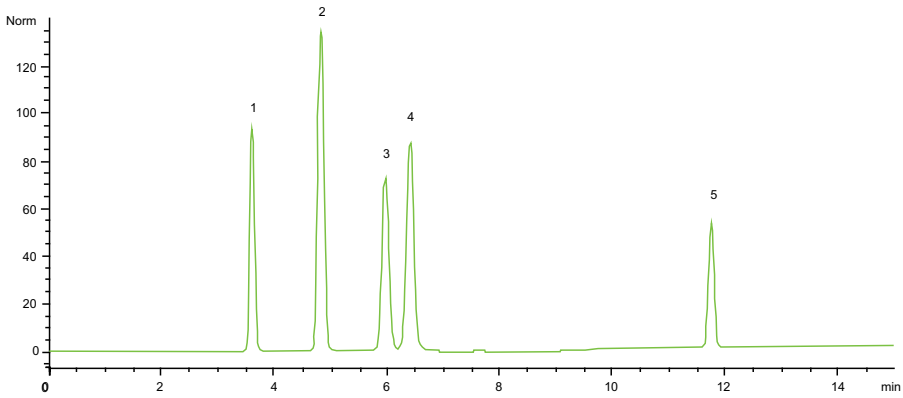
1. Phenol
2. 4-Nitrophenol
3. 2-Chlorphenol
4. 2,4-Dinitrophenol
5. 2-Nitrophenol
6. 2,4-Dimethylphenol
7. 4-Chloro-3-methyl-phenol
8. 2,4-Dichlorophenol
9. 2-Methyl-4,6-dinitro-phenol
10. 2,3,5-Trichlorophenol
11. 2,4,6-Trichlorophenol
12. Pentachlorophenol

Column phase: GROM-SIL 100 ODS-2 FE, 1,5µm
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)

Grace Davison Discovery Sciences

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

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