

If the results obtained with a EnviroSep-PP, EnviroSep-CM or Ultracarb column do not meet your separation requirements or do not provide you with at least equivalent separations as compared to competing HPLC columns of comparable dimensions, send in your comparative data within 45 days and keep the EnviroSep-PP, EnviroSep-CM or Ultracarb column for FREE.

Columns for Environmental Analysis

- EnviroSep ABC-GPC sample clean-up column
- EnviroSep CM-Carbamate analysis column (EPA-632)
- Ultracarb ODS(20)-Explosives analysis (EPA-8330)
- EnviroSep PP-PAH analysis column (EPA-610)
- Available in microbore to preparative sizes

ENVIROSEP-PP

Sample Analysis of Priority Pollutants

- Polymeric bonded phase excellent for PAH analysis (EPA-610)

Besides PAHs, EnviroSep™-PP columns can also resolve phenols, triazines, phthalate esters and pesticides.

Envirosep - PP Applications

| Application Title | App. ID |
|--|---------|
| Benzidines on Envirosep-PP (EPA 605)* | 5302 |
| Phenols on Envirosep-PP (EPA 604)* | 5304 |
| Phthalate Esters on Envirosep-PP (EPA 606)* | 5303 |
| Carbamate/Urea Pesticides on Envirosep-PP (EPA 632)** | 5301 |
| Herbicides** | 13239 |
| PAH with Surrogate Standards on Envirosep-PP (Fluor)** | 5300 |
| PAH with Surrogate Standards on Envirosep-PP (UV)** | 5299 |
| Phenols** | 13243 |
| Phthalates** | 13242 |

* Dimensions: 125 x 3.2 mm ** Dimensions: 125 x 4.6 mm

ENVIROSEP™-CM

Carbamate Analysis

This column shows excellent resolution and separation times of carbamate pesticides under easy-to-use mobile phase conditions.



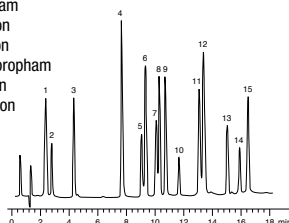
See p. 21 for our line of extraction columns and disks for environmental sample clean-up.

App ID 5305

Carbamates on EnviroSep-CM (EPA 632)

Column: EnviroSep-CM
Dimensions: 175 x 3.2 mm
Part No.: 00V-3133-R0
Mobile Phase: A: Water B: Acetonitrile. Equilibrate column with A/B (82:15), run a gradient following injection to 50 % B in 14 minutes
Flow Rate: 1 mL/min
Temperature: 45 °C
Detection: UV @ 254 nm
Sample: Carbamate mixture 15 µL

- | | |
|----------------|------------------|
| 1. Oxamyl | 10. Propham |
| 2. Methomyl | 11. Siduron |
| 3. Fenuron | 12. Linuron |
| 4. Monuron | 13. Chlorpropham |
| 5. Propoxur | 14. Barban |
| 6. Carbofuran | 15. Neburon |
| 7. Carbaryl | |
| 8. Fluometuron | |
| 9. Diuron | |



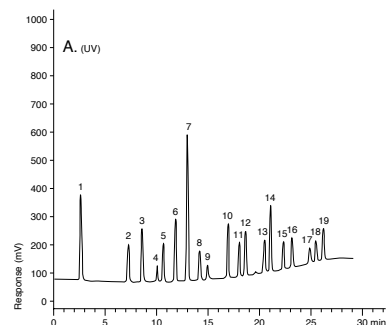
PAH with Surrogate Standards on EnviroSep-PP (EPA 610)

Column: EnviroSep-PP
Dimensions: 125 x 4.6 mm
Part No.: 00E-3029-E0
Flow Rate: 2.0 mL/min
Mobile Phase: A: Water
 B: Acetonitrile. Equilibrate column with (60:40) A/B, run isocratic under this condition for 2 minutes following injection. Then run a linear gradient to 100 % B in 25 minutes.
Detection: A: UV @ 254 nm
 B: Programmed fluorescence; 0 minutes Exλ: 240 nm Emλ: 425 nm; 16 minutes Exλ: 254 nm Emλ: 395 nm
Sample: 16 component PAH mixture with 3 surrogates, 20 µL
Peaks:

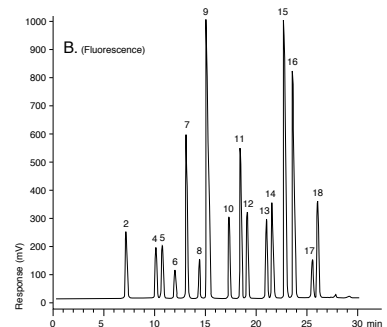
| | |
|-------------------|----------------------------|
| 1. Nitrobenzene* | 10. p-Terphenyl* |
| 2. Naphthalene | 11. Benz[a]anthracene |
| 3. Acenaphthylene | 12. Chrysene |
| 4. Acenaphthene | 13. Benzo[e]pyrene* |
| 5. Fluorene | 14. Benzo[b]fluoranthene |
| 6. Phenanthrene | 15. Benzo[k]fluoranthene |
| 7. Anthracene | 16. Benzo[a]pyrene |
| 8. Fluoranthene | 17. Dibenzo[a,h]anthracene |
| 9. Pyrene | 18. Benzo[g,h,i]perylene |
| | 19. Indeno(1,2,3-cd)pyrene |

*Surrogate Standards

App ID 5299



App ID 5300



ENVIROSEP™ - ABC

Columns for GPC Clean-up

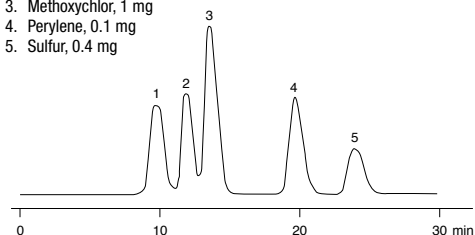
- Fast sample processing (< 30 minutes)
- Substantial reduction in solvent consumption (up to 50 %)
- Very high loading capacity, with >85 % lipid removal as per EPA method requirements

EnviroSep-ABC size exclusion columns separate environmental samples on the basis of molecular size and provide a rapid, reliable and automated mechanism for the removal of lipids, polymers, resins and other high molecular weight compounds that interfere with GC/MS analysis of organic pollutants.

App ID 5307

EPA Calibration Standard for GPC Using EnviroSep™-ABC High Efficiency Columns

Column: EnviroSep-ABC + EnviroSep-ABC Guard
Dimensions: 350 x 21.2 mm + 60 x 21.2 mm (Guard)
Part No.: See ordering information
Mobile Phase: Methylene Chloride
Flow Rate: 5 mL/min
Detection: UV @ 254 nm
Sample: Injected 5 mL EPA calibration standard containing:
 1. Corn oil, 125 mg
 2. Diethylhexphthalate, 5 mg
 3. Methoxychlor, 1 mg
 4. Perylene, 0.1 mg
 5. Sulfur, 0.4 mg



ULTRACARB 5 µm ODS(20)

For Explosive Analysis, EPA Method 8330

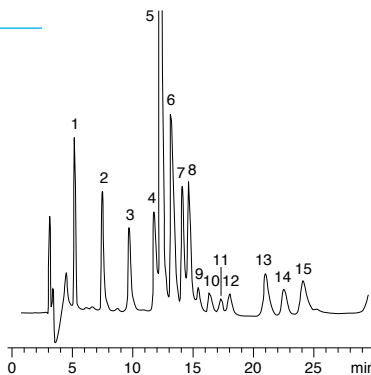
App ID 5306

Explosives on Ultracarb 5 µm ODS(20)

(Chromatogram of Solid-Phase Extraction sample)

Column: Ultracarb 5 µm ODS(20)
Dimensions: 250 x 4.6 mm
Part No.: 00G-0206-E0
Mobile Phase: Methanol/Water (v/v)(55:45)
Flow Rate: 0.8 mL/min
Temperature: Ambient
Detection: UV @ 250 nm
Sample:

| | |
|-----------------|---------------------|
| 1. HMX | 9. 4-Amino-2,6-DNT |
| 2. RDX | 10. 2-Amino-4,6-DNT |
| 3. 1,3,5-TNB | 11. 2,6-DNT |
| 4. 1,3-DNB | 12. 2,4-DNT |
| 5. Tetryl | 13. 2-NT |
| 6. Nitrobenzene | 14. 4-NT |
| 7. 3,4-DNT | 15. 3-NT |
| 8. 2,4,6-TNT | |



ORDERING INFORMATION

EnviroSep-PP

| Part No. | Size (mm) | Price |
|-------------|------------------|-------|
| 03A-3029-R0 | 30 x 3.2 (Guard) | |
| 03A-3029-E0 | 30 x 4.6 (Guard) | |
| 00E-3029-B0 | 125 x 2.0 | |
| 00E-3029-R0 | 125 x 3.2 | |
| 00E-3029-E0 | 125 x 4.6 | |

EnviroSep-CM

| Part No. | Size (mm) | Price |
|-------------|------------------|-------|
| 03A-3133-R0 | 30 x 3.2 (Guard) | |
| 00V-3133-B0 | 175 x 2.0 | |
| 00V-3133-R0 | 175 x 3.2 | |
| 00V-3133-E0 | 175 x 4.6 | |

EnviroSep™ -ABC

| Phenomenex Part No. | ABC Lab Part No. | Description | Size (mm) | Price |
|---------------------|------------------|--------------------|------------|-------|
| 03R-3035-P0 | 417-250 | Preparative Guard | 60 x 21.2 | |
| 00W-3035-P0 | 417-150 | Preparative Column | 350 x 21.2 | |
| 03B-3035-K0 | 417-200 | Analytical Guard | 50 x 7.8 | |
| 00H-3035-K0 | 417-151 | Analytical Column | 300 x 7.8 | |

Ultracarb ODS(20) Explosive Analysis

| Part No. | Size (mm) | Price |
|-------------|------------------|-------|
| 03A-0206-E0 | 30 x 4.6 (Guard) | |
| 00G-0206-R0 | 250 x 3.2 | |
| 00G-0206-E0 | 250 x 4.6 | |



See pp. 344-345 for Column Heaters.