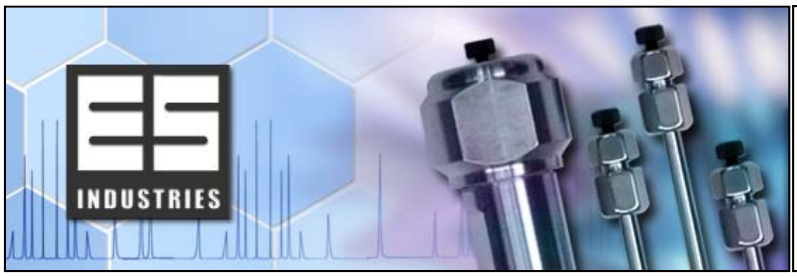
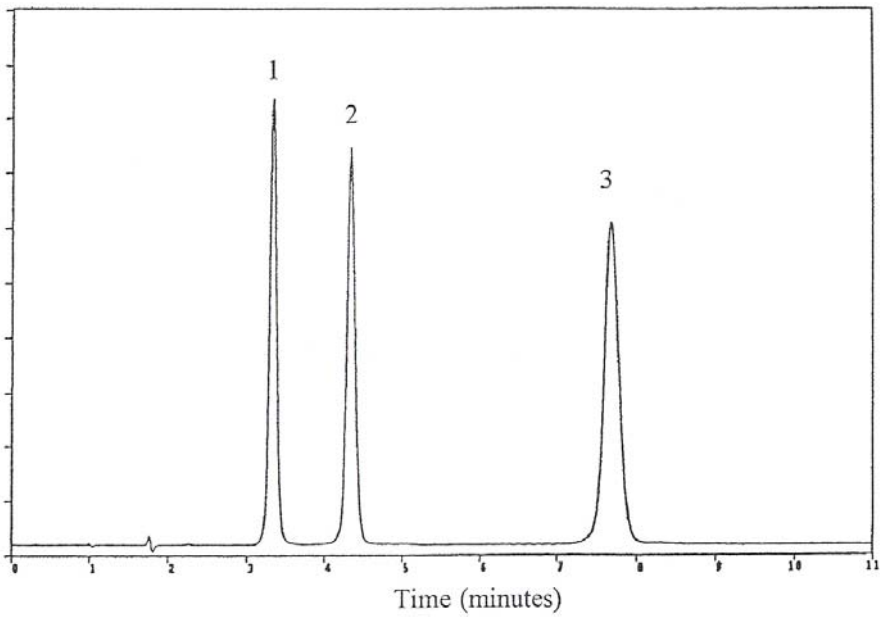



# APPLICATION NEWS

## GreenSep™ PFP SFC Columns

GreenSep™ *PFP* – Supercritical fluid chromatography (SFC) is a powerful chromatographic technique for the separation of complex mixtures. It has been useful in the areas of preparative chromatography and rapid analysis chromatography. Many SFC separations have been forced to utilize older types of stationary phases from "normal phase" HPLC such as unmodified silica, diol, amino and cyano. These phases are poorly adapted to SFC and present a number of limitations for SFC separations. Limitations include: low capacity, poor selectivity, and poor peak shape for SFC separations.

At ES Industries we have developed a new line specifically engineered SFC stationary phases called GreenSep SFC, one of these phases is GreenSep PFP, a fluorinated aromatic stationary phase. GreenSep PFP stationary phase has proven superior to conventional stationary phases (such as diol, cyano etc...) in the areas of separation selectivity, peak shape and loading capacity. The chromatogram shown below is a prime example of the superior performance obtainable with the GreenSep PFP column with SFC. The chemicals separated in this chromatogram are aromatic. GreenSep PFP is best suited to compounds containing aromatic groups and/or halogen groups. This stationary phase provides the SFC chromatographer with excellent tool for the separation geometrical aromatic isomer and diastereomers. GreenSep PFP can easily replace conventional stationary phases used in SFC and deliver superior performance.




GreenSep PFP 5µm
250 X 4.6mm ID

Mobile Phase:
CO2/Methanol
(95/5 v/v)
Temp: = 25℃
Flow: 2 mL/min
Detection: UV @ 254nm

1. Naphthalene
2. Phenanthrene
3. Pyrene

ES Industries • 701 S. Route 73 • West Berlin, NJ 08091 USA
856-753-8400 • 800-356-6140 • Fax 856-753-8484 • info@esind.com • www.esind.com

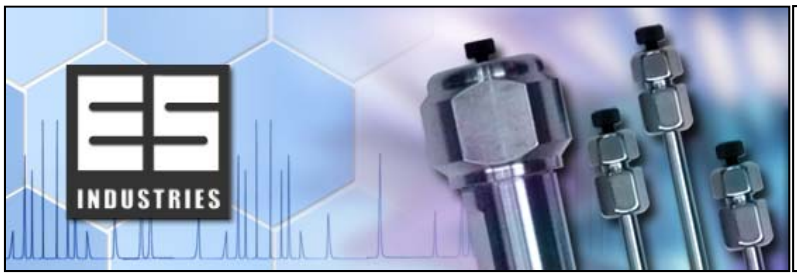
***Leaders in Innovative HPLC Column Technology for over 40 years***

GreenSep™ PFP 5u 120A

| | 4.6mm (ID) | 4.0mm (ID) | 3.2mm (ID) | 2.1mm (ID) |
|---|---|---|---|---|
| 5cm | 115291-GS-PFP | 114291-GS-PFP | 11d291-GS-PFP | 112291-GS-PFP |
| 10cm | 125291-GS-PFP | 124291-GS-PFP | 12d291-GS-PFP | 122291-GS-PFP |
| 15cm | 135291-GS-PFP | 134291-GS-PFP | 13d291-GS-PFP | 132291-GS-PFP |
| 25cm | 155291-GS-PFP | 154291-GS-PFP | 15d291-GS-PFP | 152291-GS-PFP |

GreenSep™ PFP 10u 120A

| | 4.6mm (ID) | 4.0mm (ID) | 3.2mm (ID) | 2.1mm (ID) |
|---|---|---|---|---|
| 10cm | 125391-GS-PFP | 124391-GS-PFP | 12d391-GS-PFP | 122391-GS-PFP |
| 15cm | 135391-GS-PFP | 134391-GS-PFP | 13d391-GS-PFP | 132391-GS-PFP |
| 25cm | 155391-GS-PFP | 154391-GS-PFP | 15d391-GS-PFP | 152391-GS-PFP |
| 30cm | 165391-GS-PFP | 164391-GS-PFP | 16d391-GS-PFP | 162391-GS-PFP |

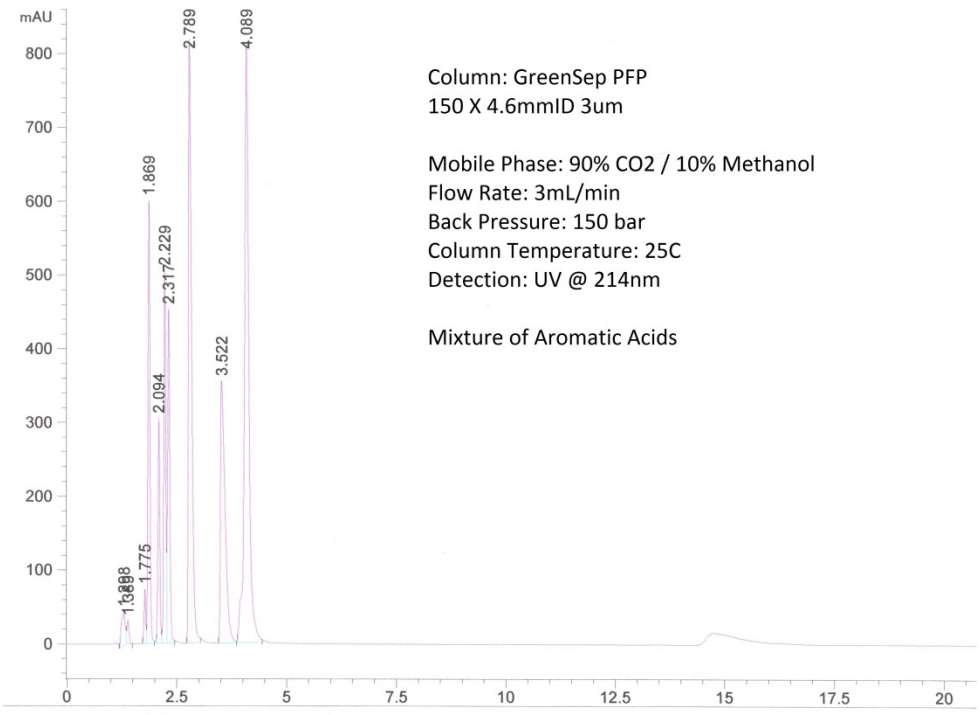



# APPLICATION NEWS

## GreenSep™ PFP 3 micron SFC Columns

GreenSep™ PFP – Supercritical fluid chromatography (SFC) is a powerful chromatographic technique for the separation of complex mixtures. It has been useful in the areas of preparative chromatography and rapid analysis chromatography. Many SFC separations have been forced to utilize older types of stationary phases from "normal phase" HPLC such as unmodified silica, diol, amino and cyano. These phases are poorly adapted to SFC and present a number of limitations for SFC separations. Limitations include: low capacity, poor selectivity, and poor peak shape for SFC separations.

At ES Industries we have developed a new line stationary phases specifically engineered for SFC separations, one of these phases is GreenSep PFP 3um. This stationary phase has proven superior to conventional stationary phases (such as diol, cyano etc…) in the areas of separation selectivity, peak shape and loading capacity. GreenSep PFP 3um is fluoro aromatic chemistry providing a highly selective character for as a stationary phase for SFC separations. The chromatogram shown below for a mixture of geometrically aromatic acid isomers is a prime example of the superior separation performance and separation capacity obtainable with the GreenSep PFP column with SFC. GreenSep PFP 3um is ideally suited to high performance/high speed SFC preparative chromatography applications. GreenSep PFP offers the chromatographer greater flexibility in developing separations. GreenSep PFP is the SFC column is ideally suited for the retention and rapid separation of chemicals containing a wide variety of aromatic functional groups. GreenSep PFP can easily replace conventional stationary phases used in SFC and deliver superior performance.

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GreenSep™ PFP 3u 120A

| | 4.6mm (ID) | 4.0mm (ID) | 3.2mm (ID) | 2.1mm (ID) |
|---|---|---|---|---|
| 5cm | 115191-GS-PFP | 114191-GS-PFP | 11d191-GS-PFP | 112191-GS-PFP |
| 10cm | 125191-GS-PFP | 124191-GS-PFP | 12d191-GS-PFP | 122191-GS-PFP |
| 15cm | 135191-GS-PFP | 134191-GS-PFP | 13d191-GS-PFP | 132191-GS-PFP |
| 25cm | 155191-GS-PFP | 154191-GS-PFP | 15d191-GS-PFP | 152191-GS-PFP |

GreenSep™ PFP 5u 120A

| | 4.6mm (ID) | 4.0mm (ID) | 3.2mm (ID) | 2.1mm (ID) |
|---|---|---|---|---|
| 5cm | 115291-GS-PFP | 114291-GS-PFP | 11d291-GS-PFP | 112291-GS-PFP |
| 10cm | 125291-GS-PFP | 124291-GS-PFP | 12d291-GS-PFP | 122291-GS-PFP |
| 15cm | 135291-GS-PFP | 134291-GS-PFP | 13d291-GS-PFP | 132291-GS-PFP |
| 25cm | 155291-GS-PFP | 154291-GS-PFP | 15d291-GS-PFP | 152291-GS-PFP |

GreenSep™ PFP 10u 120A

| | 4.6mm (ID) | 4.0mm (ID) | 3.2mm (ID) | 2.1mm (ID) |
|---|---|---|---|---|
| 10cm | 125391-GS-PFP | 124391-GS-PFP | 12d391-GS-PFP | 122391-GS-PFP |
| 15cm | 135391-GS-PFP | 134391-GS-PFP | 13d391-GS-PFP | 132391-GS-PFP |
| 25cm | 155391-GS-PFP | 154391-GS-PFP | 15d391-GS-PFP | 152391-GS-PFP |
| 30cm | 165391-GS-PFP | 164391-GS-PFP | 16d391-GS-PFP | 162391-GS-PFP |