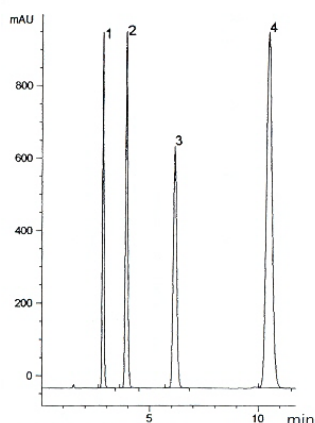


# APPLICATION NEWS

## Spherisep™ HPLC Columns

**Spherisep™** – The Spherisep line is an equivalent to Waters Spherisorb®. The most popular is the ODS2; ES Industries offers the Spherisep ODS2 column with identical selectivity in 3, 5 or 10 micron particles. In addition, to the ODS2 Spherisep is available as ODS1, ODSB, C8, C6, C1, NH2, Phenyl, W Silica, CN (nitrile), SAX and SCX. Excellent efficiencies, peak shape and resolution are obtained for virtually all Waters Spherisorb® HPLC applications from high quality Spherisep HPLC columns. Range of particle sizes offers amazing versatility for capillary and LC/MS to prep and process scale applications. Several applications on Spherisep are shown below.

Spherisep ODS(2) 5μ

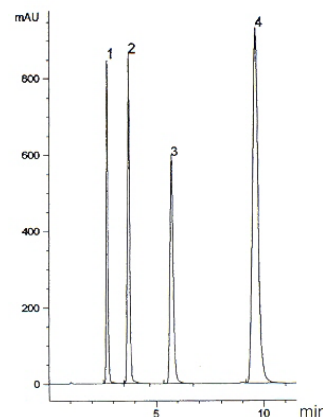


### 4-HYDROXYBENZOATES

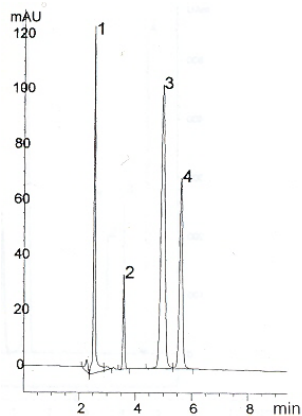
**Dimensions:** 150 x 4.6mm  
**Mobile Phase:** Water/Acetonitrile (40:60)  
**Flow Rate:** 1.0 mL/min  
**Detection:** UV @ 254nm  
**Sample:**

1. Methyl 4-hydroxybenzoate
2. Ethyl 4-hydroxybenzoate
3. Propyl 4-hydroxybenzoate
4. Butyl 4-hydroxybenzoate

Spherisorb ODS(2) 5μ



Spherisep ODS(2) 5μ

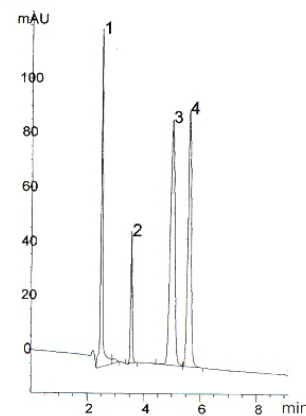


### POLAR COMPOUNDS

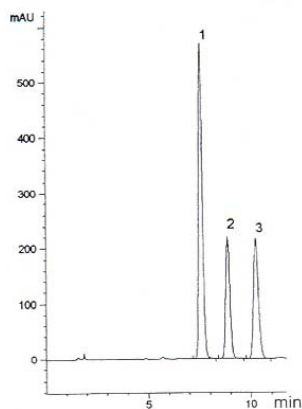
**Dimensions:** 250 x 4.6mm  
**Mobile Phase:** 25mM KH<sub>2</sub>PO<sub>4</sub>, pH 2.5  
**Flow Rate:** 1.0 mL/min  
**Temperature:** 40°C  
**Detection:** UV @ 230nm  
**Sample:**

1. L-Cysteine
2. L-Ascorbic Acid
3. Glutathione
4. Uric Acid

Spherisorb ODS(2) 5μ



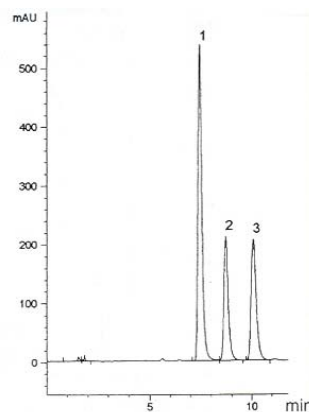
## Spherisep ODS(2) 5 $\mu$



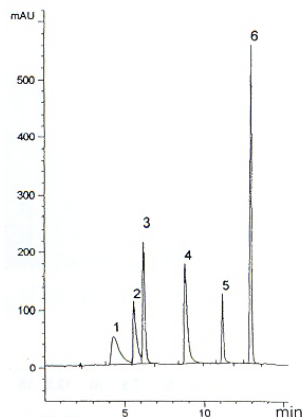
### TOCOPHEROLS

**Dimensions:** 150 x 4.6mm  
**Mobile Phase:** Acetonitrile/Methanol (85:15)  
**Flow Rate:** 1.0 mL/min  
**Detection:** UV @ 295nm  
**Sample:** 1.  $\delta$ -Tocopherol  
 2.  $\gamma$ -Tocopherol  
 3.  $\alpha$ -Tocopherol

## Spherisorb ODS(2) 5 $\mu$



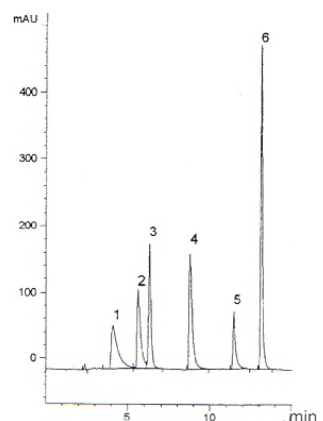
## Spherisep ODS(2) 5 $\mu$



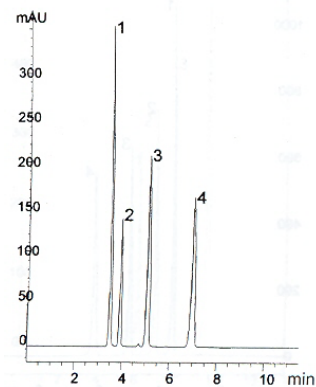
### WATER-SOLUBLE VITAMINS

**Dimensions:** 150 x 4.6mm  
**Mobile Phase:** A: 5mM Sodium 1-Pentanesulfonate in 0.1% H<sub>3</sub>PO<sub>4</sub>  
 B: 5mM Sodium 1-Pentanesulfonate in 0.1% H<sub>3</sub>PO<sub>4</sub> in 80% Acetonitrile  
 A:B - 97.5:2.5 to A:B - 70:30 in 20 min.  
**Flow Rate:** 1.0 mL/min  
**Temperature:** 40°C  
**Detection:** UV @ 254nm  
**Sample:** 1. Niacinamide  
 2. Pyridoxal  
 3. p-Aminobenzoic Acid  
 4. Thiamine  
 5. Folic Acid  
 6. Riboflavin

## Spherisorb ODS(2) 5 $\mu$



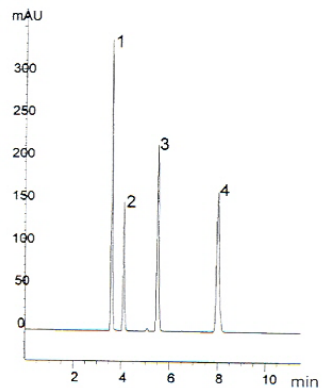
## Spherisep ODS(1) 5 $\mu$



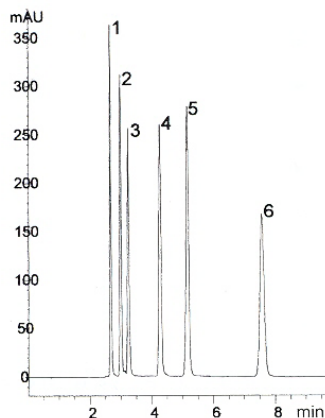
### PHTHALATES

**Dimensions:** 250 x 4.6mm  
**Mobile Phase:** Acetonitrile/Water (70:30)  
**Flow Rate:** 1.0 mL/min  
**Detection:** UV @ 230nm  
**Sample:** 1. Dimethylphthalate  
 2. Anisole  
 3. Naphthalene  
 4. Dibutylphthalate

## Spherisorb ODS(1) 5 $\mu$



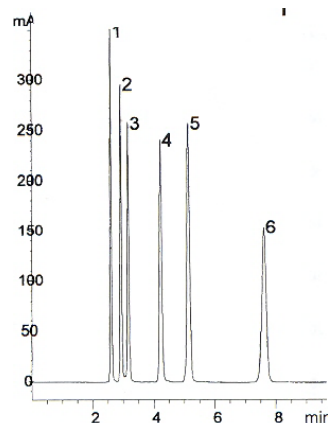
## Spherisep NH<sub>2</sub> 5μ



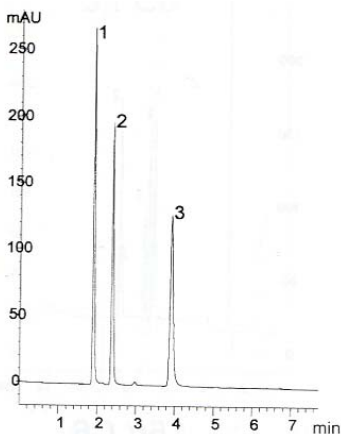
### CORTICOSTEROIDS

**Dimensions:** 250 x 4.6mm  
**Mobile Phase:** Dichloromethane/Methanol (95:5)  
**Flow Rate:** 1.0 mL/min  
**Detection:** UV @ 254nm  
**Sample:** 1. Deoxycorticosterone Acetate  
 2. Desoxycorticosterone  
 3. Hydrocortisone 21-Acetate  
 4. Corticosterone  
 5. Cortisone  
 6. Hydrocortisone

## Spherisorb NH<sub>2</sub> 5μ



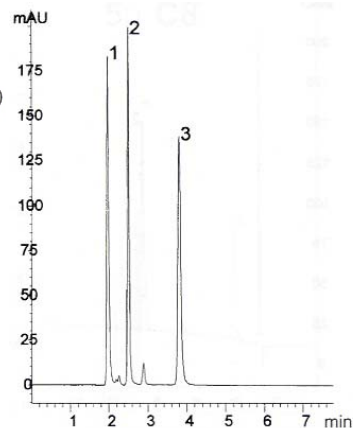
## Spherisep NH<sub>2</sub> 5μ



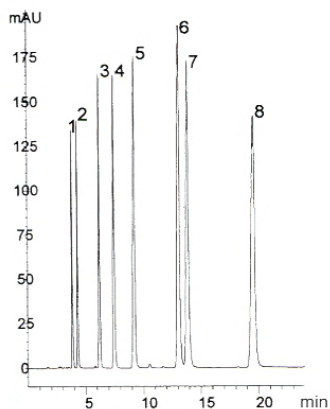
### VITAMINS

**Dimensions:** 250 x 4.6mm  
**Mobile Phase:** 10mM KH<sub>2</sub>PO<sub>4</sub>, pH 2.0:Methanol (90:10)  
**Flow Rate:** 1.0 mL/min  
**Detection:** UV @ 254nm  
**Sample:** 1. Thiamine  
 2. Niacinamide  
 3. Niacin

## Spherisorb NH<sub>2</sub> 5μ



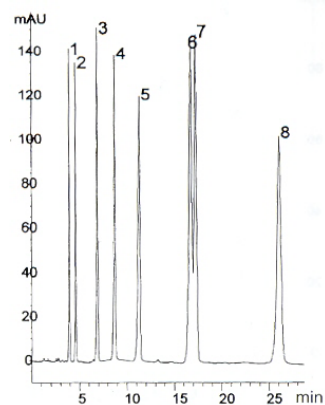
## Spherisep Phenyl 5μ



### AROMATIC KETONES

**Dimensions:** 250 x 4.6mm  
**Mobile Phase:** Acetonitrile/Water (33:67)  
**Flow Rate:** 1.0 mL/min  
**Detection:** UV @ 254nm  
**Sample:** 1. Benzamide  
 2. Benzyl Alcohol  
 3. Acetophenone  
 4. Methyl Benzoate  
 5. Phenetole  
 6. Naphthalene  
 7. Benzophenone  
 8. Biphenyl

## Spherisorb Phenyl 5μ



<u>Catalog #</u>	<u>Description</u>
135271-SSP-ODS1	Spherisep ODS(1) 5 $\mu$ 150 X 4.6mm
155271-SSP-ODS1	Spherisep ODS(1) 5 $\mu$ 250 X 4.6mm
135271-SSP-ODS2	Spherisep ODS(2) 5 $\mu$ 150 X 4.6mm
155271-SSP-ODS2	Spherisep ODS(2) 5 $\mu$ 250 X 4.6mm
135271-SSP-ODSB	Spherisep ODS(B) 5 $\mu$ 150 X 4.6mm
155271-SSP-ODSB	Spherisep ODS(B) 5 $\mu$ 250 X 4.6mm
135271-SSP-C8	Spherisep C8 5 $\mu$ 150 X 4.6mm
155271-SSP-C8	Spherisep C8 5 $\mu$ 250 X 4.6mm
135271-SSP-C6	Spherisep C6 5 $\mu$ 150 X 4.6mm
155271-SSP-C6	Spherisep C6 5 $\mu$ 250 X 4.6mm
135271-SSP-C1	Spherisep C1 5 $\mu$ 150 X 4.6mm
155271-SSP-C1	Spherisep C1 5 $\mu$ 250 X 4.6mm
135271-SSP-NH2	Spherisep NH2 5 $\mu$ 150 X 4.6mm
155271-SSP-NH2	Spherisep NH2 5 $\mu$ 250 X 4.6mm
135271-SSP-PH	Spherisep Phenyl 5 $\mu$ 150 X 4.6mm
155271-SSP-PH	Spherisep Phenyl 5 $\mu$ 250 X 4.6mm
135271-SSP-SI	Spherisep Silica 5 $\mu$ 150 X 4.6mm
155271-SSP-SI	Spherisep Silica 5 $\mu$ 250 X 4.6mm
135271-SSP-CN	Spherisep Cyano 5 $\mu$ 150 X 4.6mm
155271-SSP-CN	Spherisep Cyano 5 $\mu$ 250 X 4.6mm
135271-SSP-SAX	Spherisep SAX 5 $\mu$ 150 X 4.6mm
155271-SSP-SAX	Spherisep SAX 5 $\mu$ 250 X 4.6mm
135271-SSP-SCX	Spherisep SCX 5 $\mu$ 150 X 4.6mm
155271-SSP-SCX	Spherisep SCX 5 $\mu$ 250 X 4.6mm