

HPLC Columns Designed for analysis of Sulfa drugs

Inertsil® Sulfa C18

Analysis of antibiotic drugs and drug residues in products of animal origin has become an important element of ensuring food safety.

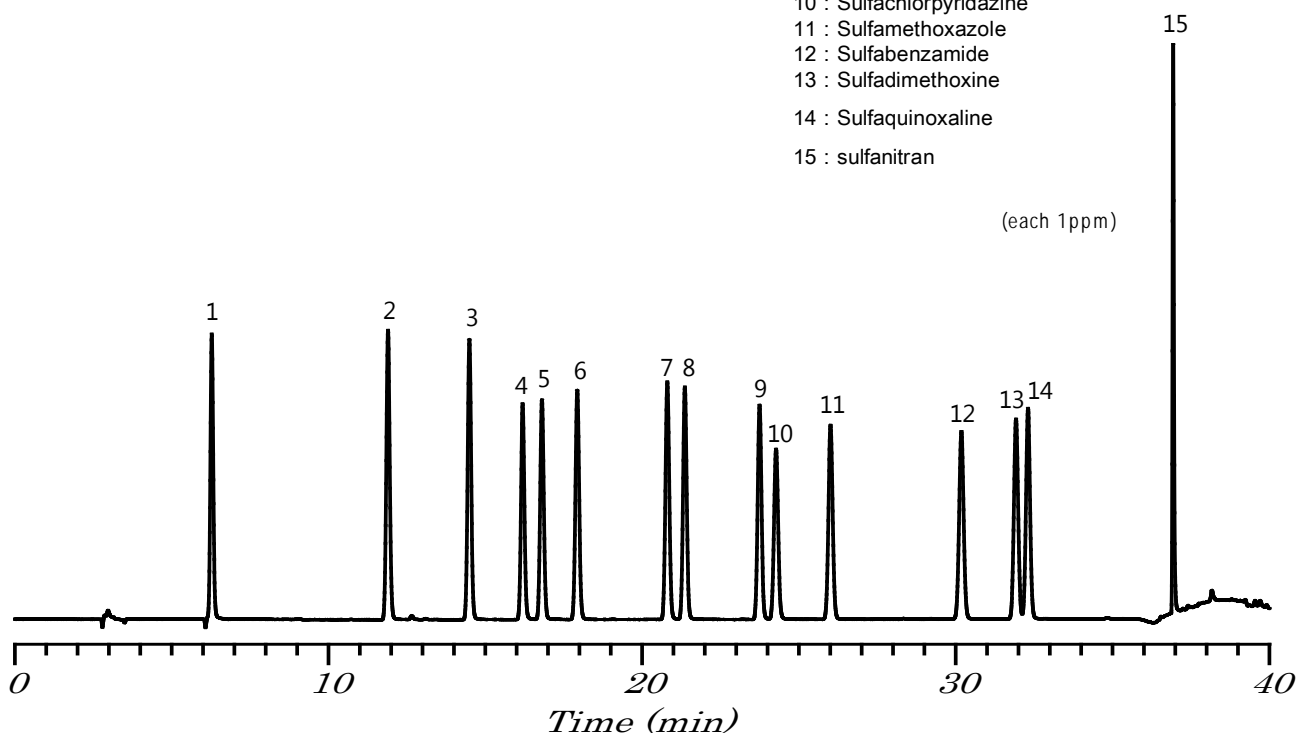
Inertsil® Sulfa C18 is suitable not only for the analyses of sulfa drugs but also for the screening of synthetic antibacterial agents which are directed in the food safety investigative guideline.

Each batch of Inertsil® Sulfa C18 is tested for the effective separation of sulfa drugs, as shown below, and is provided with a copy of the chromatogram.

Analysis of 15 sulfa reagents

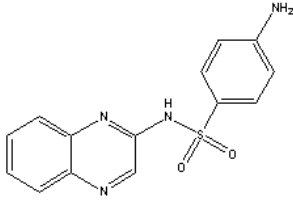
System : GL-7400 HPLC system
Column : Inertsil Sulfa C18 (3 μ m, 150 x 4.6 mm I.D.)
Eluent : A) CH₃CN/CH₃COOH = 777.66/3.15, w/w
 B) CH₃COOH/H₂O = 3.15/997, w/w
 A/B = 0/100 -33min- 33/67 -3min- 90/10 -4min-
90/10
Flow rate : 1.0 mL/min
Col. Temp. : 40 °C
Detection : UV 270 nm
Injection Vol. : 10 μ L

- 1 : Sulfanilamide
- 2 : Sulfacetamide
- 3 : Sulfadiazine
- 4 : Sulfathiazole
- 5 : Sulfapyridine
- 6 : Sulfameradine
- 7 : Sulfacymidine
- 8 : Sulfamethoxy-pyridazine
- 9 : Sulfamonomethoxine
- 10 : Sulfachlorpyridazine
- 11 : Sulfamethoxazole
- 12 : Sulfabenzamide
- 13 : Sulfadimethoxine
- 14 : Sulfaquinoxaline
- 15 : sulfanitran

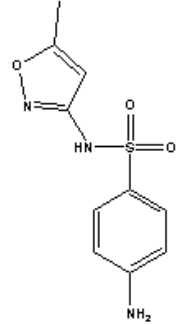


Antibacterial agents including sulfa drugs consist of polar functional groups which can cause adsorption on the packing material.

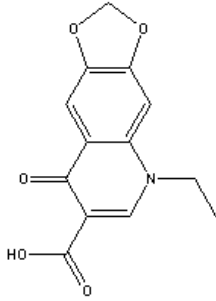
Sulfaquinoxaline [59-40-5]



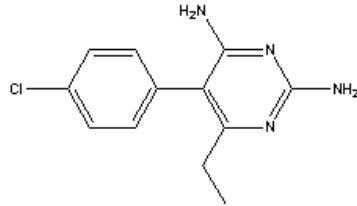
Sulfamethoxazole [723-46-6]



oxolinic acid [14698-29-4]



Pyrimethamine [58-14-0]



~~~~~

# Analyses of Antibacterial Agents directed in the Food Sanitation Investigation Guideline

## Standard Reagent I

1 : Clopidol 5ppm      3: Sulfamonomethoxine 3ppm  
2 : Sulfamerazine 2ppm      4 : Oxolinic Acid 2ppm  
Morantel Citrate 5ppm      5 : Sulfadimethoxine 3ppm

## Standard Reagent II

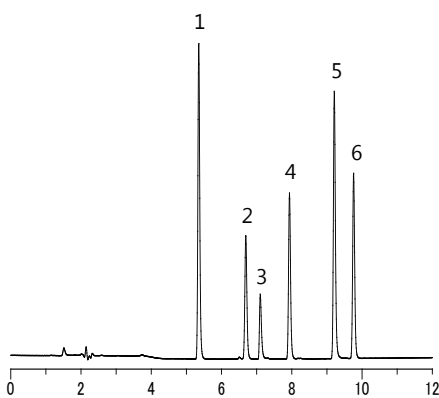
1 : Trimethoprim 5ppm      5 : Pyrimethamine 5ppm  
2 : Ormetoprim 5ppm      6 : Difurazone 10ppm  
3 : Carbadox 2ppm      7 : Nalidixic Acid 3ppm  
4 : Thiamphenicol 5ppm

## Standard Reagent III

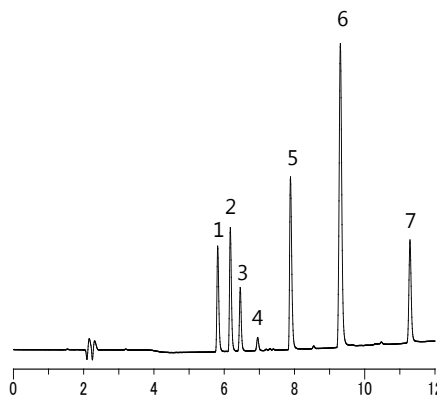
1 : Olaquinoxaline 3ppm      4 : Sulfaquinoxaline 3ppm  
2 : Sulfacymidine 2ppm      5 : Piroimidic Acid 2ppm  
3 : Furazolidone 3ppm      6 : Nicarbazin 3ppm

## HPLC Conditions

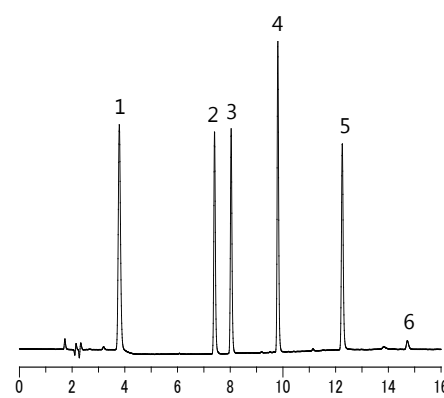
**System** : GL-7400 HPLC system  
**Column** : Inertsil Sulfa C18 (3 $\mu$ m, 150 x 4.6 mm I.D.)  
**Eluent** : A) CH<sub>3</sub>CN/H<sub>2</sub>O /CH<sub>3</sub>COOH = 10/90/0.3, v/v/v  
B) CH<sub>3</sub>CN/H<sub>2</sub>O /CH<sub>3</sub>COOH = 60/40/0.3, v/v/v  
A/B = 100/0 -10 min- 0/100 -10 min- 0/100  
-0.5 min- 100/0 -15 min- 100/0  
**Flow rate** : 1.0 mL/min  
**Col. Temp.** : 40 °C  
**Detection** : UV 265 nm  
UV 350nm (GL-7452 PDA Detector)  
(6) Nicarbazin is usually detected at 350nm  
**Injection Vol.** : 10  $\mu$ L



Standard Reagent I



Standard Reagent II



Standard Reagent III

## Column Ordering Information

| Packing Size | I.D.(mm)   | 2.1        | 3.0        | 4.0        | 4.6        |
|--------------|------------|------------|------------|------------|------------|
|              | Length(mm) | Cat.No.    | Cat.No.    | Cat.No.    | Cat.No.    |
| 3 $\mu$ m    | 100        | 5020-07504 | 5020-07514 | 5020-07524 | 5020-07534 |
|              | 150        | 5020-07505 | 5020-07515 | 5020-07525 | 5020-07535 |
| 5 $\mu$ m    | 150        | 5020-07545 | 5020-07555 | 5020-07565 | 5020-07575 |
|              | 250        | 5020-07546 | 5020-07556 | 5020-07566 | 5020-07576 |

\* End-fitting is Waters 1/16" type. \* For other column sizes, please give us an enquiry. (Upon request)

| Cartridge Guard Column E       |                           |                             | Cartridge Guard Column E (2EA./Set) | Cartridge Guard Column E Holder Set (2 Cartridges & 1 Holder) |
|--------------------------------|---------------------------|-----------------------------|-------------------------------------|---------------------------------------------------------------|
| Analytical Column I.D. mm Size | Guard Column I.D. mm Size | Guard Column Length mm Size | Cat.No.                             | Cat.No.                                                       |
| 2.1 mm                         | 3.0 mm                    | 10 mm                       | 5020-08515                          | 5020-08525                                                    |
| 3.0 mm                         |                           | 20 mm                       | 5020-08565                          | 5020-08575                                                    |
| 4.0 mm                         | 4.0 mm                    | 10 mm                       | 5020-08510                          | 5020-08520                                                    |
| 4.6 mm                         |                           | 20 mm                       | 5020-08560                          | 5020-08570                                                    |

\* When ordering, please specify the packing material and the particle size.

\* Only Waters 1/16" end-fitting type is compatible for our Cartridge Guard Column E.

\* Conventional Guard Columns and GL-Cart Guard Columns are also available. For more information, please feel free to contact us.

● The specification and the column type are subject to change without notice due to continual improvements.

● All brand names and product names are trademarks or registered trademarks of GL Sciences Inc.