

# Inertsil® Sulfa C18

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

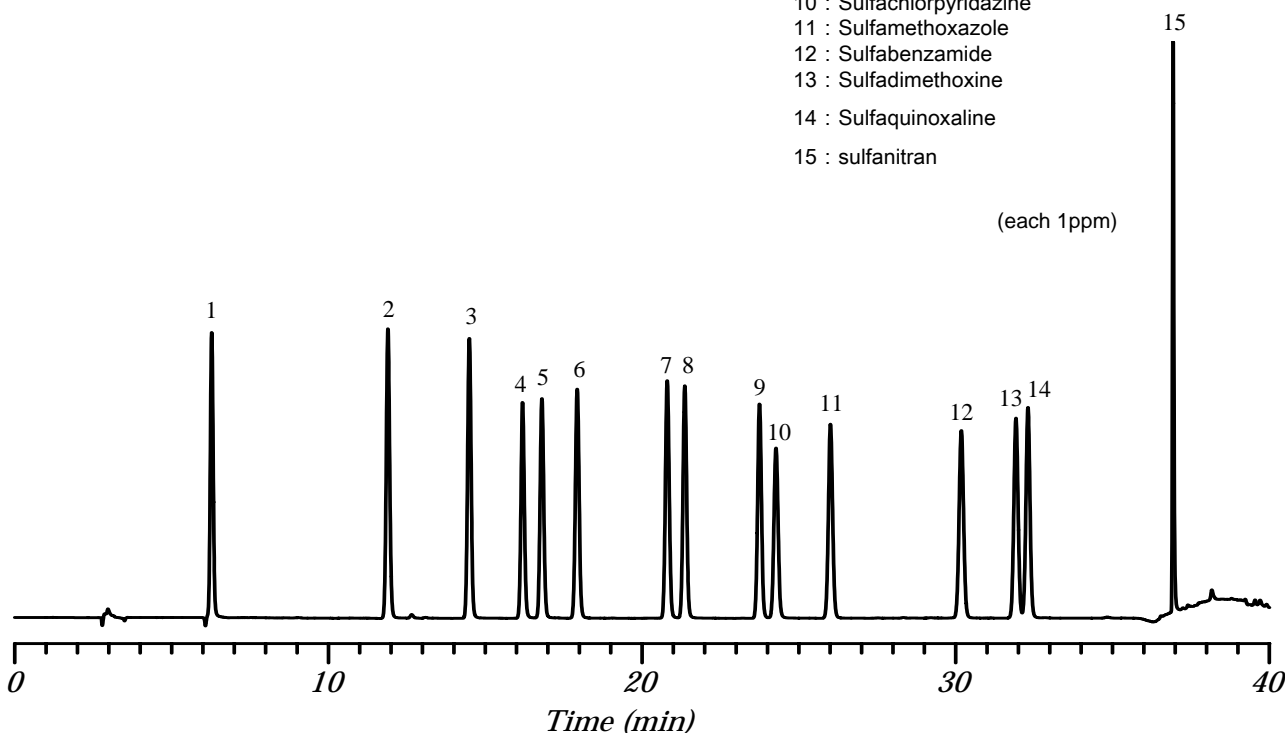
**Inertsil® Sulfa C18** is suitable not only for the analyses of sulfa drugs but also for the screening of synthetic antibacterial agents which are directed in the food safety investigative guideline.

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) CH<sub>3</sub>CN/CH<sub>3</sub>COOH = 777.66/3.15, w/w  
 B) CH<sub>3</sub>COOH/H<sub>2</sub>O = 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  
**Detection** : UV 270 nm  
**Injection Vol.** : 10 μ L

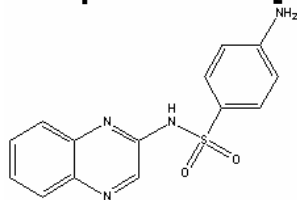
1 : Sulfanilamide  
 2 : Sulfacetamide  
 3 : Sulfadiazine  
 4 : Sulfathiazole  
 5 : Sulfapyridine  
 6 : Sulfameradine  
 7 : Sulfacymidine  
 8 : Sulfamethoxy pyridazine  
 9 : Sulfamonomethoxine  
 10 : Sulfachlorpyridazine  
 11 : Sulfamethoxazole  
 12 : Sulfabenzamide  
 13 : Sulfadimethoxine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



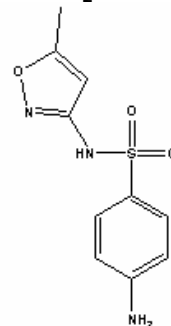
**ISO14001: Save Energy and Resources!!**  
**Reduce Amount of Eluent with Smaller ID Inertsil Columns!!**

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

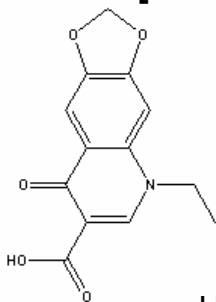
### Sulfaquinolone [59-40-5]



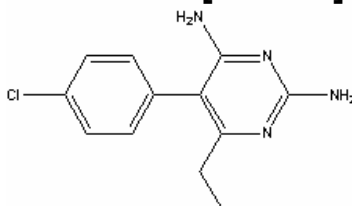
### Sulfamethoxazole [723-46-6]



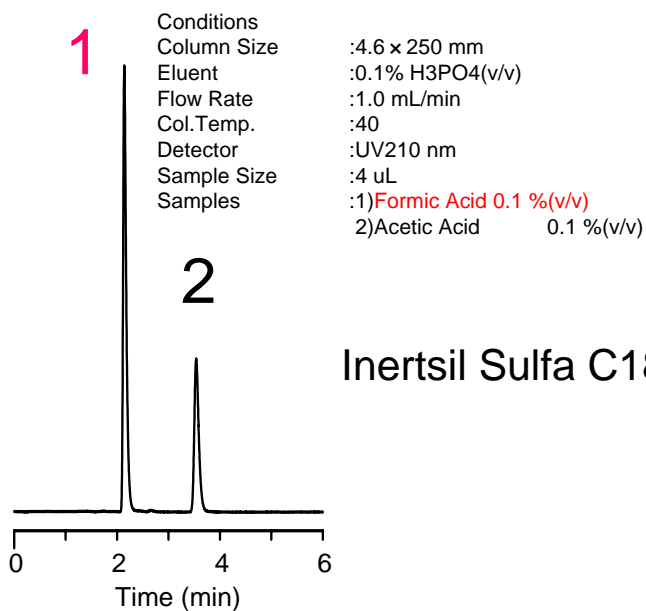
### oxolinic acid [14698-29-4]



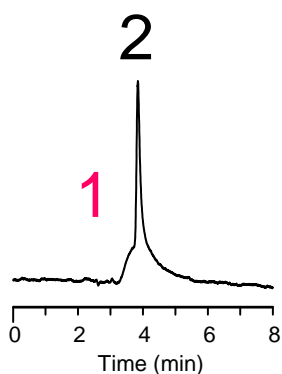
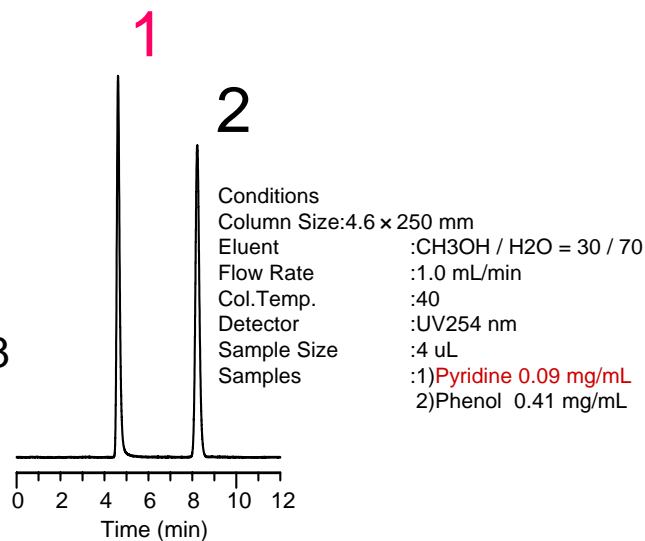
### Pyrimethamine [58-14-0]



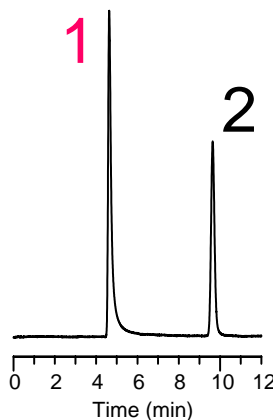
High inertness to basic and acidic compounds enables **Inertsil Sulfa C18** to effectively analyze antibacterial agents



### Inertsil Sulfa C18



### Waters' Xterra RP-C18



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

## Standard Reagent

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

## Standard Reagent

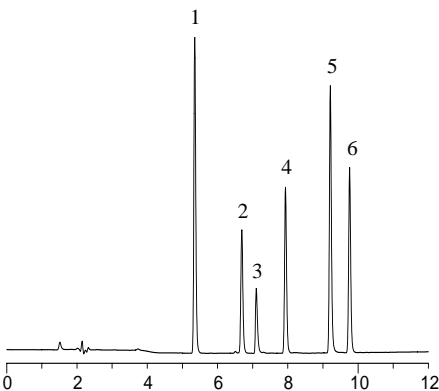
- |                        |                             |
|------------------------|-----------------------------|
| 1 : Trimethoprim 5ppm  | 5 : Pyrimethamine 5ppm      |
| 2 : Ormetoprim 5ppm    | 6 : <b>Difurazone</b> 10ppm |
| 3 : Carbadox 2ppm      | 7 : Nalidixic Acid 3ppm     |
| 4 : Thiamphenicol 5ppm |                             |

## Standard Reagent

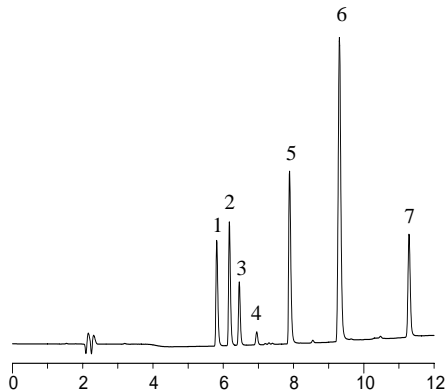
- |                       |                           |
|-----------------------|---------------------------|
| 1 : Olaquinox 3ppm    | 4 : Sulfaquinoxaline 3ppm |
| 2 : Sulfacycline 2ppm | 5 : Piromidic Acid 2ppm   |
| 3 : Furazolidone 3ppm | 6 : Nicarbazine 3ppm      |

## HPLC Conditions

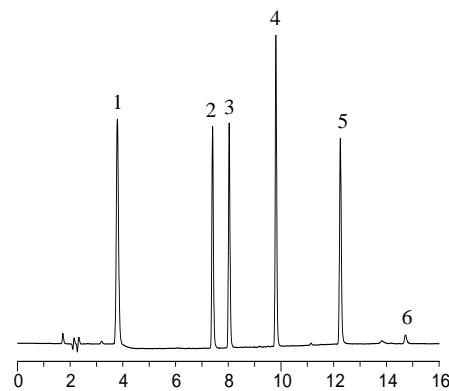
- System** : GL-7400 HPLC system  
**Column** : Inertsil Sulfa C18 (3 μm, 150 x 4.6 mm I.D.)  
**Eluent** : A) CH<sub>3</sub>CN/H<sub>2</sub>O /CH<sub>3</sub>COOH = 10/90/0.3, v/v/v  
 B) CH<sub>3</sub>CN/H<sub>2</sub>O /CH<sub>3</sub>COOH = 60/40/0.3, v/v/v  
 A/B = 100/0 -10 min- 0/100 -10 min- 0/100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



Standard Reagent



Standard Reagent



Standard Reagent

## 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.    |
| 3μm          | 100        | 5020-07504 | 5020-07514 | 5020-07524 | 5020-07534 |
|              | 150        | 5020-07505 | 5020-07515 | 5020-07525 | 5020-07535 |
| 5μm          | 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 & 1Holder) |
|--------------------------------|---------------------------|-----------------------------|-------------------------------------|--------------------------------------------------------------|
| Analytical Column I.D. mm Size | Guard Column I.D. mm Size | Guard Column Length mm Size | Cat.No.                             | Cat.No.                                                      |
| 2.1mm                          | 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.

# WORLDWIDE Ordering Information

Inertsil® HPLC columns are available through our authorized distributors in the following countries.

 **■ ARGENTINA**  
Omnilab Srl.  
Virey Atredondo 2850  
C1426EAB-Buenos Aires,  
Argentina  
Tel: 11-4553-1100  
Fax: 11-4555-1584

 **■ AUSTRALIA**  
Wintlab Pty Ltd.  
5/2 Pinnacle Street Brendale  
Queensland, Australia 4500  
Tel: 07-3205-5233  
Fax: 07-3205-1231

 **■ AUSTRIA**  
CP Analytica GmbH  
Am Pulverturm 17  
A-2130 Mistelbach  
Tel: 2572-4381  
Fax: 2572-20791

 **■ BELGIUM**  
Achrom, n.v./s.a  
Philippstraat 5  
9870 Machelen-Zulte  
Tel: 9-380-06-47  
Fax: 9-386-08-06

 **■ BRAZIL**  
Cromacon Comercio Importacao E  
Exportacao Ltda  
Av. Indianapolis, 2790-PI Paulista  
Sao Paulo-SP-04062-005 Brazil  
CGC:02.496.452/0001-31  
Tel: 11-5581-1766  
Fax: 11-5071-6573

 **■ CANADA**  
Life Science  
365 Lansdowne Street East  
Peterborough,  
Ontario, K9J 6X9 Canada  
Tel: 705-749-9557  
Fax: 705-749-9139

 **■ CHINA**  
Dikma Co.  
Rm.2511-2513, Kequn Bldg, Xueyuan  
Rd., Haidian District, Beijing,  
100083, P.R.China  
Tel: 010-6231-7719  
Fax: 010-6231-7723

 **■ CZECH REPUBLIC**  
Watrex Praha S.R.O.  
Hostalkova 42 169 00 Praha 6  
Czech Republic  
Tel: 02-220-513-446  
Fax: 02-220-513-448

 **■ DENMARK**  
Mikrorab Aarhus A/S  
Axel Kiær Vej 34 8270 Højbjerg  
Denmark  
Tel: 86-29-61-11

 **■ FINLAND**  
Noriab Oy  
P.O.Box 44  
Vanhankyläntie 12/4 Hameenkylän  
katkano 01721 Vantaa, Finland  
Tel: 09-8545-510  
Fax: 09-8545-5151

 **■ FRANCE**  
Interchim  
211 bis, avenue JF Kennedy  
BP1140  
03103 Montluçon cedex  
Tel: 04-70-03-88-55  
Fax: 04-70-03-82-60

 **■ GERMANY**  
MZ Analysentechnik GmbH  
Wöhlerstr. 2-6, D-55120 Mainz,  
Germany  
Tel: 6131-686619  
Fax: 6131-686620

 **■ HONG-KONG**  
South East Chemicals & Instruments Ltd.  
1210 Choi Wan Industrial City Phase 1, 6D  
Wing Tai Road Choi Wan, Hong Kong  
Tel: 2802-6333  
Fax: 2807-0642

 **■ INDIA**  
LCGC Super Market  
12-5-149/11/1, Vijaypuri, Tamaka,  
Hyderabad-500 017, India  
TOLL FREE 1600 33 5242(LCGC)  
Tel: 040-2700 7062/2700 0418  
Fax: 040-2701 4044

 **■ INDONESIA**  
P.T. Batuwaris Dinamika  
Cahaya Palmerah Building, 3Th  
Floor, Room 305 JL. Palmerah Utara 3/9  
Jakarta Barat 11480, Indonesia  
Tel: 021-530-7069  
Fax: 021-530-7069

 **■ IRELAND**  
Carl Stuart Limited  
Tallaght Business Park, Whitestown,  
Dublin 24 Ireland  
Tel: 01-4523432 / 4523222  
Fax: 01-4523967

 **■ ISRAEL**  
Optilr Analytical Ltd.  
6, Hamelaha  
P.o.Box 11616 St Park-Afek  
Rosh-Haayn 48091, Israel  
Tel: 972-3902-2277  
Fax: 972-3902-2488

 **■ ITALY**  
CPS Analytica S.R.L.  
Via Neera B/A  
20141 Milano - Italy  
Tel: 02 8954201  
Fax: 02 89542022

Microcolumn S.R.L.  
Via Carlo Porta-20035 Lissone MI-Italy  
Tel: 039-2143470  
Fax: 039-2143472

 **■ JORDAN**  
Dijla Est. For Laboratory Consumables,  
P.O.Box 2737 Amman 11953 Jordan  
Tel: 079-5557012

 **■ KOREA**  
International C.S.  
RM713, WOODLIM E-BIZ CENTER, 170-5  
GURO-DCONG GURO-GU, SEOUL, KOREA  
Tel: 02-2108-2350  
Fax: 02-2108-2354

 **■ MALAYSIA**  
Alpha Analytical (M) Sdn. Bhd.  
No. 47A, Jalan Anggerik Vanilla N31/M  
Kota Kemuning, 40460 Shah Alam  
Selangor Darul Ehsan  
Tel: (603)-5124-6088  
Fax: (603)-5124-6088

 **■ The Netherlands (Benelux)**  
Varian B.V.  
Herculesweg 8 4338 PL Middelburg  
Tel: 0118 67 1000  
Fax: 0118 62 3193

 **■ PORTUGAL**  
CRITSEP  
Rua de Santa Clara, 160 1º esq,  
2775-737, Carcaveiros  
Tel: 351-21-453-25-93  
Fax: 351-21-453-83-04

 **■ SAUDI-ARABIA**  
ZALMA for Medical/Laboratory Supplies  
Al-dekheil Center Office No.56, Falasteen  
Street, Jeddah, Kingdom of Saudi Arabia  
Tel: 2-6655352  
Fax: 2-6655958

 **■ SINGAPORE**  
Alpha Analytical(S) Pte Ltd  
30 Toh Guan Road, #08-02, CDC  
District Centre, Singapore 608840  
Tel: 6567-8885  
Fax: 6567-2977

 **■ SPAIN**  
Akady  
Calle De Sants 387 5º 3ª  
08028 Barcelona, Spain  
Tel: 93-449-34-51  
  
Teknokroma S.C.C.L.  
08190 Sant Cugat Del Valles,  
Barcelona, Spain  
Tel: 93-674-88-00  
Fax: 93-675-24-05  
  
Sugelabor, S.A.  
Calle Sicilia, 36, 28039 Madrid, Spain  
Tel: 91-501-39-36  
Fax: 91-501-39-38

 **■ SWEDEN**  
Scantec Lab AB  
Box 238, S-433 24  
Partille, Sweden  
Tel: 31-336-90-00  
Fax: 31-336-90-36

 **■ SWITZERLAND**  
BGB Analytik AG  
Rohmatsstrasse 4  
4461 Boecklen  
Tel: 61-991-00-46  
Fax: 61-991-00-25

 **■ TAIWAN**  
Vercotech Inc.  
6F No.7-1 An Hsing Road,  
Hsin Tien, Taipeihsien,  
Taiwan 231 R.O.C.  
Tel: 02-2211-3939  
Fax: 02-2211-5522

 **■ THAILAND**  
Bana Scientific Co., Ltd.  
U Chu Liang Building, Floor 7 968 Rama 4  
Road, Bangkok, Bangkok 10500, Thailand  
Tel: 02-6324300  
Fax: 02-6375496-7

 **■ UNITED KINGDOM**  
Hichrom Limited  
1 The Markham Centre, Station  
Road, Theale, Reading, Berkshire, RG7  
4PE, England  
Tel: 0118-930-3660  
Fax: 0118-932-3484

Capital HPLC Limited  
Drovers Road  
East Mains Industrial Estate  
Broxburn  
Scotland, EH52 5ND  
Tel: 1506-858505  
Fax: 1506-858506

 **■ UNITED STATES**  
GL Sciences Inc. U.S.A  
4733 Torrance Blvd., Ste 255  
Torrance, CA 90503  
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Fax: (310) 265-4425

 **GL Sciences Inc.**

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Shinjuku-ku, Tokyo, 163-1130 Japan  
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Fax: +81-3 (5323) 6621

e-mail: world@glsc.co.jp

URL: <http://www.inertsil.com> or

[http://www.glsc.co.jp/index\\_e.html](http://www.glsc.co.jp/index_e.html)

Concerning the countries that are not listed above,  
please contact us directly.