

SolGel-1ms™

- Non-polar MS-Grade Capillary Column
- Maximum Temperature 360 °C



Environmental



Fuels and
Petrochemical



Forensic



www.sge.com

AUSTRALIA & PACIFIC REGION

CHINA

EUROPE

INDIA

JAPAN

MIDDLE EAST

USA

Why use a 100 % methyl phase?

The main mechanism of separation for 100 % methyl columns is based on boiling point. A higher boiling point component will elute later compared with a lower boiling component. This leads to reasonable predictions of relative retention times for a non-polar column. Non-polar columns will generally be more resistant to oxygen impurity in the carrier gas and are generally more robust compared with polar columns. This results in longer column lifetimes.

SolGel-1ms™

SolGel-1ms™ is a bonded polydimethylsiloxane (100 % methyl) stationary phase encapsulated in synthetic glass (sol-gel material) and the whole matrix is itself bonded to the surface of the fused silica capillary. The anchoring of the matrix to the glass surface using this unique technology leads to a very inert, high-temperature column. The SolGel-1ms™ column is represented schematically in Figures 1 a and b. A conventional non-polar 100 % methyl column is coated onto the surface of the fused silica but does not contain the glass (sol-gel) element which gives the column extra robustness and thermal stability.

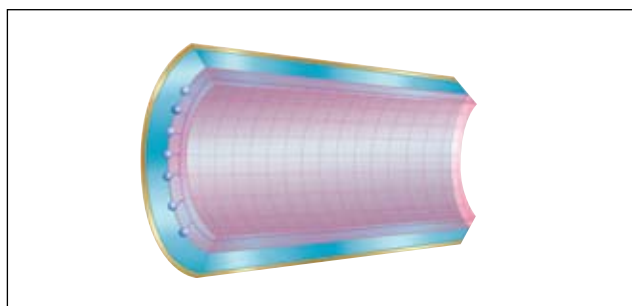


Figure 1a. SolGel-1ms™ phase anchored to the surface of the fused silica.

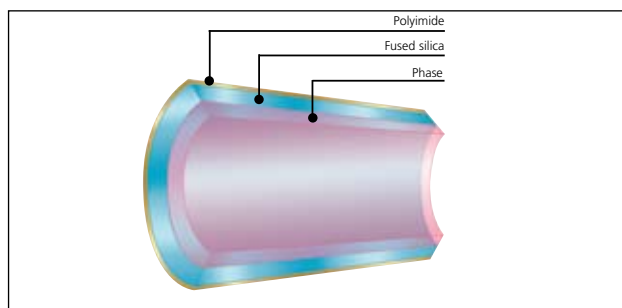


Figure 1b. Conventional 100 % methyl column with the phase coated onto the surface of the fused silica — no anchoring.

SolGel-1ms™ (100 % methyl) columns are ideal for:

- Essential oils
- Pharmaceuticals
- Food additives
- Industrial solvents
- Hydrocarbons (petroleum products)

Column bleed for SolGel-1ms™ at ≤ 320 °C is significantly lower compared with competitor columns (Figures 2a and 2b). This lower bleed results in better sensitivity (increased signal-to-noise ratio) for compounds eluting at higher oven temperatures (Figure 2a). Also, lower bleed will result in less ion source maintenance of the mass spectrometer due to less phase deposition on mass spectrometer components.

Even though this column is designated “MS” it can be used successfully with all other GC detectors.

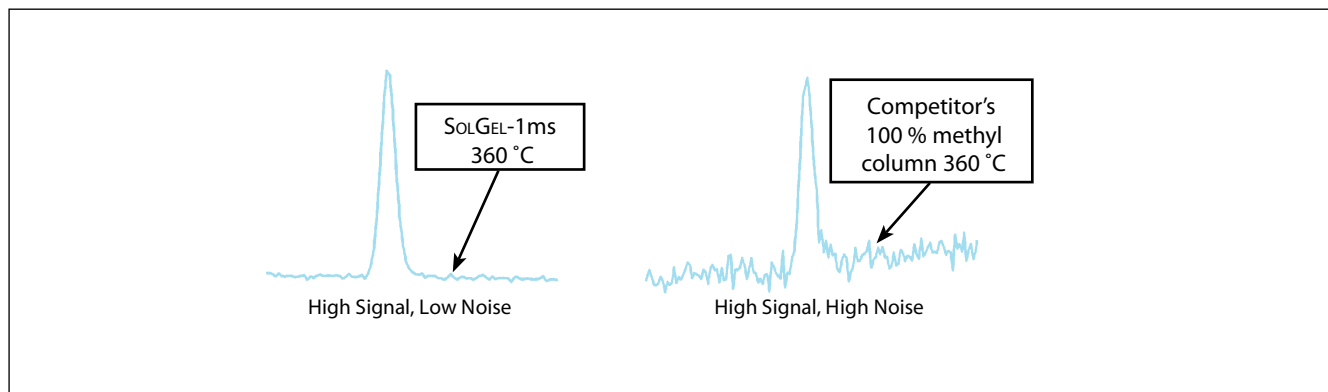


Figure 2a. The effect of lower bleed can be seen in better sensitivity using a SolGel-1ms™ column.

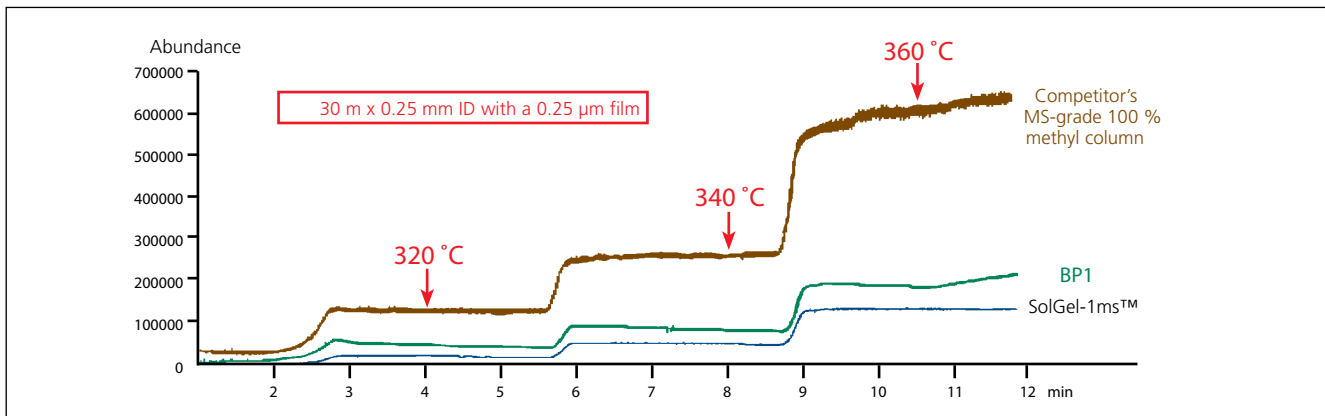


Figure 2b. Bleed profile of a competitor's MS-grade 100 % methyl column, BP1 and SolGel-1ms™.

The following figures demonstrate:

- Polarity comparison (Figure 3)
- Analysis of Organochlorine Pesticides (OCP) on SolGel-1ms™ (Figure 4)
- Analysis of Polynuclear Aromatic Hydrocarbons (PAH) on SolGel-1ms™ (Figure 5).

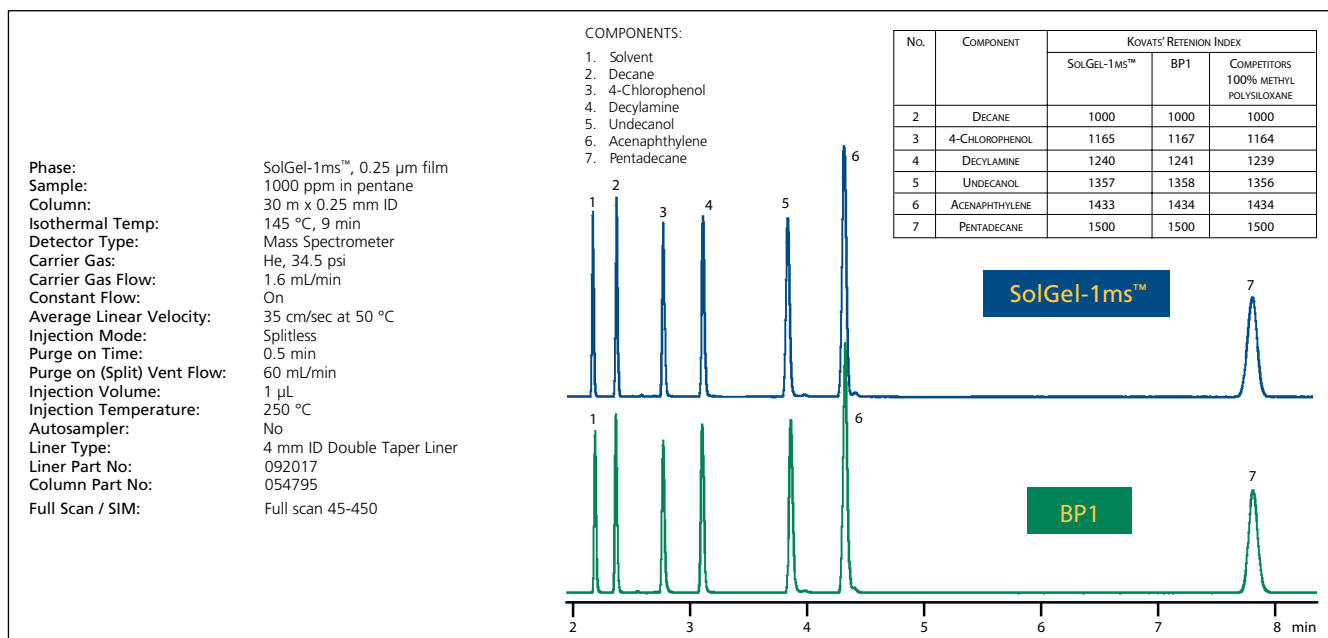


Figure 3. Polarity comparison of SolGel-1ms™ vs BP1 (100 % methyl column).

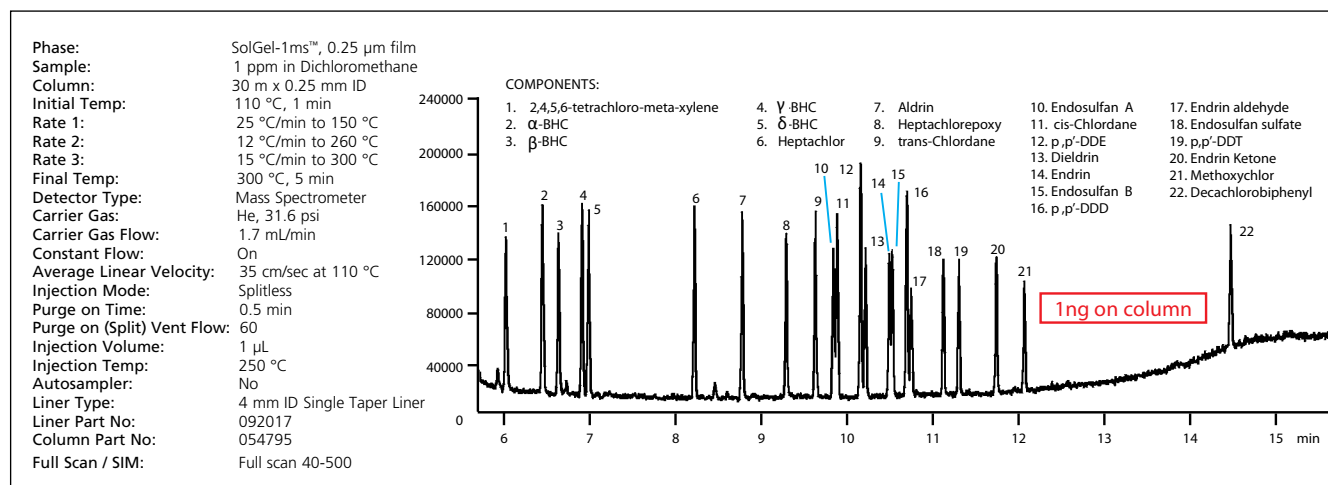


Figure 4. Analysis of Organochlorine Pesticides (OCP) on SolGel-1ms™.

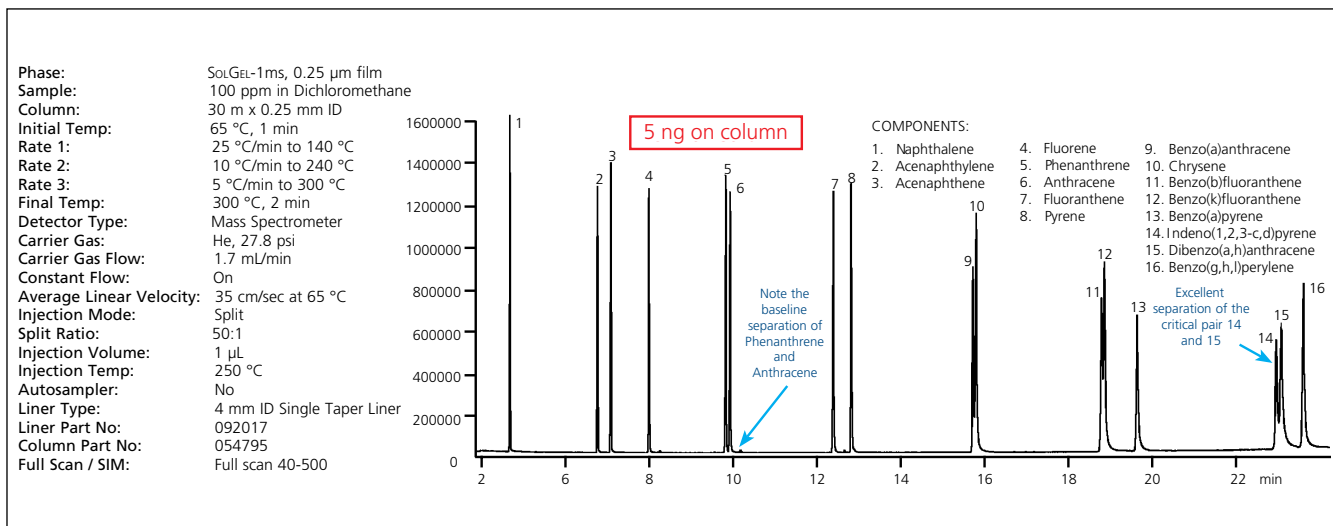


Figure 5. Analysis of Polynuclear Aromatic Hydrocarbons (PAH) on SolGel-1ms™.

Ordering Information

Description	Maximum Temperature	Part No.
30 m x 0.25 mm x 0.25 µm SolGel-1ms™	340/360 °C	054795
30 m x 0.32 mm x 0.25 µm SolGel-1ms™	340/360 °C	054798
60 m x 0.25 mm x 0.25 µm SolGel-1ms™	340/360 °C	054793
60 m x 0.32 mm x 0.25 µm SolGel-1ms™	340/360 °C	054794

For further examples of applications using SolGel-1ms™ visit www.sge.com.

AUSTRALIA & PACIFIC REGION

SGE Analytical Science Pty Ltd
 Toll Free: 1800 800 167
 Tel: +61 (0) 3 9837 4200
 Fax: +61 (0) 3 9874 5672
 Email: support@sge.com

CHINA

SGE Shanghai Representative Office
 Tel: +86 21 6407 9382
 Fax: +86 21 6407 9386
 Email: china@sge.com

MIDDLE EAST

SGE Gulf
 Tel: +971 6 557 3341
 Fax: +971 6 557 3541
 Email: gulfsupport@sge.com

EUROPE

SGE Europe Ltd
 European Head Office
 Toll Free: 00800 2790 8999
 Toll Free Fax: 00800 2626 2609
 Tel: +44 1908 568 844
 Fax: +44 1908 566 790
 Tel France: +33 1 69 29 80 90
 Fax France: +33 1 69 29 09 25
 Tel Germany: +49 (0) 6155 / 60746 0
 Fax Germany: +49 (0) 6155 / 60746 50
 Email: europe@sge.com

INDIA

SGE Laboratory Accessories Pvt Ltd
 Tel: +91 22 24715896
 Fax: +91 22 24716592
 Email: sgeindia@vsnl.com

UNITED STATES OF AMERICA

SGE Incorporated
 Toll Free: (800) 945 6154
 Tel: +1 512 837 7190
 Fax: +1 512 836 9159
 Email: usa@sge.com

JAPAN

SGE Japan Inc
 Tel: +81 45 222 2885
 Fax: +81 45 222 2887
 Email: japan@sge.com

 **SGE Analytical Science**
www.sge.com