

## Product Information

### Mol Sieve 5A GC PLOT Capillary Columns

#### Supelco PLOT Columns

Supelco PLOT columns are an ideal choice for many permanent gas and light hydrocarbon analyses in the petrochemical/chemical industry. Supelco PLOT columns are prepared using a proprietary patented adhesive technology that firmly bonds the adsorbent particles to the wall of the capillary column. The adhesive also bonds the particles to each other, eliminating particle loss during routine analysis or rapid temperature programming. A significant feature of the adhesive is its high temperature limit, greater than 360°C, which makes the operating temperature of the column a function of the particles used, not the adhesive.

Supelco PLOT columns are individually tested for efficiency, inertness, and retention. Each column is shipped with a chromatogram demonstrating column performance that can be expected.

#### Mol Sieve 5A PLOT Columns

Mol Sieve 5A PLOT columns are useful for the separation of oxygen, nitrogen, carbon monoxide, and methane. More difficult

separations, such as argon from oxygen, can be achieved by using subambient temperatures (15°C or below).

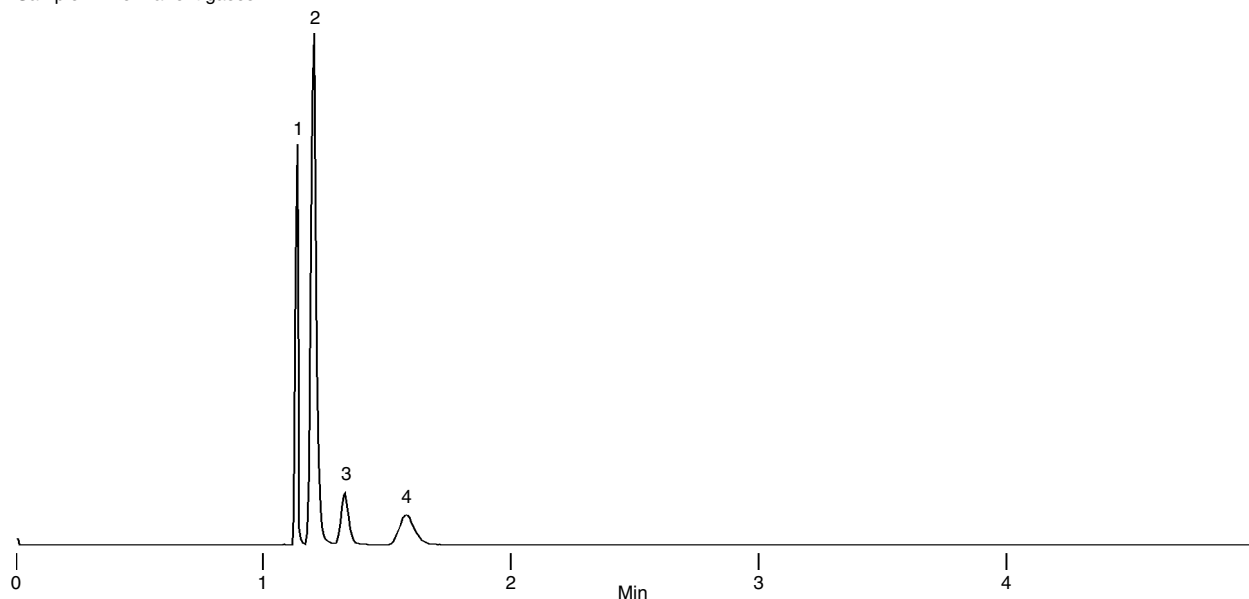
Supelco Mol Sieve 5A PLOT columns are prepared from granular zeolite (aluminosilicate) particles. These particles possess the strongest adsorption strength of all the columns in the Supelco PLOT column line due to their 5Å monopore diameter.

Because the surface chemistry of the Mol Sieve 5A PLOT column is hydrophilic, water and/or carbon dioxide present in samples will strongly adsorb to the inner pore walls, reducing the pore capacity of the PLOT column, and resulting in a decrease in analyte retention. Carbon dioxide and larger molecules will also clog the pores because of their molecular size and should not routinely be analyzed with this column. If water, carbon dioxide, or other large molecules are introduced into the PLOT column, then removal of these contaminants must be routinely performed by thermal conditioning of the column at temperatures between 280°C and 320°C for extended times.

**Figure A. Mol Sieve 5A PLOT Column Permanent Gas Analysis**

Column: Mol sieve 5A PLOT, 30m x 0.53mm ID  
Cat. No.: 25463  
Oven: 65°C isothermal  
Inj.: 200°C  
Det.: TCD, 230°C  
Flow: Helium, 10.0mL/min  
Inj.: 10.0µL direct valve injection  
Sample: Permanent gases

1. Oxygen (1.0%)
2. Nitrogen (bulk)
3. Methane (1.0%)
4. Carbon monoxide (1.0%)



795-0367

Ordering Information:

Mol Sieve 5A PLOT<sup>1</sup>

Dimension	Max. Temp.	Cat. No.
30m x 0.32mm ID	300°C	24243
30m x 0.53mm ID	300°C	25463

<sup>1</sup> A proprietary procedure fixes particles to the fused silica tubing and ensures they will not be dislodged in normal use. Manufactured under US patents 5,599,445; 5,607,580; 5,609,756; 5,620,603; and 5,630,937.

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