



# Low pH High-Pressure Liquid Chromatography

**IP Status:** Issued US Patent; **Application #:** 10/385,904

## Silica Materials for Low pH High-Pressure Liquid Chromatography

A silica-based substrate which is stable at low pH has been developed for use as a substrate in high-pressure liquid chromatography (HPLC). The processing method for these materials significantly improves their stability under acid conditions; the materials are useful as stationary phases in HPLC for pH ranges from 7 down to 0.5 and temperatures up to 150 °C. This improvement makes the materials ideal for the separation of biologically important materials such as pharmaceutical compounds, peptides and proteins.

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## Silica Materials and HPLC

Silica-based materials are widely used as the solid phase substrates in HPLC experiments due to the high mechanical stability, monodisperse particle sizes, high surface area and easily tailored pore sizes. However, the stability of silica columns under acidic conditions inhibits their use in phase separation.

### BENEFITS OF SILICA MATERIALS STABLE AT LOW pH FOR HPLC APPLICATIONS:

- Stable from pH 7 down to 0.5 and temperatures of up to 150 °C.
- Ideal for the separation of biologically important materials such as basic drugs, peptides and proteins.
- High mechanical stability, monodisperse particle sizes, high surface area and easily tailored pore sizes.

**Phase of Development** Materials have been made and tested in the laboratory.

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**Technology ID**

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