Care and Use for ChromCore™ Reversed-Phase HPLC Columns

Description

ChromCore Reversed-Phase HPLC columns are based on a novel monodispersed particle technology that delivers excellent mechanical strength and high column efficiency. Combined with advanced column chemistry which results in desired selectivity, high resolution and good column-to-column consistency, ChromCore columns are suited for a broad range of applications, including pharmaceutical, food and beverage, clinical mass spectrometry, chemical, environmental, consumer products, and more.

Main Features:

- Advanced monodispersed particle technology for high column efficiency and mechanical strength
- Versatile column chemistries for broad range of selectivity
- Excellent chromatographic peak shape for acidic, basic and neutral analytes
- Low column bleed for MS compatibility
- Good column-to-column consistency

Product Information

Product Name	ChromCore Reversed-Phase Columns
Functional Group	C18, C18-T, AR C18, BR C18, AQ C18, Polar C18, C8, AQ C8, C4, C4-T, C30, Phenyl, PFP, Biphenyl
Substrate	Monodispersed, high-purity, spherical silica particles
Particle Size	1.8, 3 & 5 µm
Pore Size	120, 180 & 300 Å
Pressure Limit	5000 psi for 5 µm 6000 psi for 3 µm 12000 psi for 1.8 µm
Temperature Limit	60 ℃ (*50 ℃ for C4, C4-T, Phenyl, PFP, Biphenyl)
pH Range	pH2-10 for C18, AQ C18, Polar C18, C8, AQ C8, C30 pH2-9 for C4-T, Biphenyl pH2-8 for C4, Phenyl, PFP pH1.5-11 for BR C18 pH1.5-10 for C18-T pH1-8 for AR C18
Aqueous Compatibility	100% aqueous: AQ C18, AR C18, Polar C18, AQ C8, C30 95% aqueous: C18, C18-T, BR C18, C8, C4, C4-T, Phenyl, PFP, Biphenyl

Tips: *To obtain optimal separation, minimize extra column volume in areas such as the connection tubing, detector flow cell and connections. For columns with small volume, such as 2.1-mm id and/or short length (i.e., 30 or 50 mm), a semi-micro flow cell is often required.*

Column Care

- Operate the column within its specifications (i.e., pressure, flow rate, pH, temperature).
- Flow should follow the direction of the arrow on the column.
- Avoid physical shock to the column.
- Avoid pressure surge during use.
- Always use high-quality HPLC solvents, water, buffer salts, or other additives (i.e., acids, bases, ion-pairing agents).
- Always filter the mobile phase to prevent particulates from contaminating the LC system and the column.
- Good sample clean-up before injection.
- Use an in-line filter and/or a guard column for real-life samples.

Cleaning and Regeneration

After certain time of use, if there are indications of column contamination (i.e., changes in peak broadening, tailing, or splitting, shifts in retention, change in resolution or increasing backpressure), wash the column as follows:

Procedure:

1. 5 column volumes of 50% D.I. water / 50% methanol or acetonitrile.
2. 5 column volumes of 80% D.I. water / 20% methanol or acetonitrile.
3. 10 column volumes of 80% 0.1% EDTA (aq.) / 20% methanol or acetonitrile.
4. 5 column volumes of 80% D.I. water / 20% methanol or acetonitrile.
5. 5 column volumes of 100% methanol or acetonitrile.
6. 10 column volumes of 100% isopropanol.
7. 5 column volumes of 100% methanol or acetonitrile.

Tips*: During column cleaning, disconnect the flow cell from the column outlet to prevent contamination to the LC system.*
Tips*: During column cleaning, use 10-50% of normal flow rate to avoid pressure surge.*
Tips*: When high backpressure is the issue, back flush the column using above procedure can be tried.*

Column Storage

Short-term storage: Mobile phase
Long-term storage: Above 80% acetonitrile or methanol in D.I. water (Note: pure acetonitrile or methanol for C4, C4-T, and PFP)
Caution*: Make sure that all buffers are washed out of the column before flushing with organic solvent. The precipitation of buffer salts in organic solvent can cause blockage in the capillaries and the column.*
Tips*: When the mobile phase is below pH3 or above pH7, use long-term storage condition.*

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