

Clean or Washing HPLC Column For Extended Useful Lifetime - Tips and Suggestions

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Overview

Routine cleaning of HPLC columns helps remove contaminants that accumulate on frits or stationary phases during use. While columns running clean standards rarely require washing, more complex matrices—especially biological, physiological, or partially purified samples—can introduce materials that degrade performance over time.

Proper cleaning practices and preventative filtration strategies significantly extend column life and maintain chromatographic consistency.

Cleaning Guidelines

When working with complex samples that are prone to depositing particulates or chemical residues, the following cleaning routine is recommended:

- After approximately every 10 injections, flush the column with 50:50 methanol/DI water.
- After cleaning, re-equilibrate the column with the starting mobile phase before resuming analysis.
- Cleaning is advised when you observe signs such as:
 - Shifts in retention time repeatability
 - Gradual increase in backpressure
 - Deteriorating peak shape or unexpected peak broadening

Implementing consistent wash cycles helps prevent long-term buildup and preserves the column's chromatographic integrity.

Preventive Measures

Preventing contamination is more effective than addressing it after problems arise. The following practices help minimize fouling:

Guard Columns

- Guard columns protect analytical columns from chemical contaminants that adsorb onto the stationary phase.
- They are especially important when analyzing complex sample matrices.

Mobile Phase Recommendations for ANP Methods

- For Aqueous Normal Phase (ANP) chromatography, include 50% methanol or isopropanol in mobile phase A.

- This helps reduce contamination by improving solubilization of matrix components.

Use of Cogent Column Filters

- A Cogent Column Filter should always be installed to prevent large, undissolved particles from reaching the column.
- Every Cogent HPLC column is supplied with a free Cogent Column Filter.
- These filters are cost-effective, disposable, and significantly extend the service life of the column by protecting the inlet frit from irreversible clogging.

Additional Information

Click [HERE](#) for more information on these economical column-protection filters.



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