Storage and Condition Guide for Cogent TYPE-C HPLC Columns - Tech Information

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How to Store and Condition Cogent TYPE-C™ HPLC Columns (RP, ANP, and NP)

This guide consolidates best practices for first-time preparation, mode switching, and short-/long-term storage of Cogent TYPE-C™ silica hydride columns so you preserve performance, avoid phase incompatibilities, and minimize downtime when moving between Reversed Phase (RP), Aqueous Normal Phase (ANP), and Organic Normal Phase (NP) methods.

Recommended Storage Solvents — Pick by Your "Next Use"

- If your next use is RP or ANP: store the column in 100% acetonitrile (ACN). This keeps the bed wet, protects the bonded phase, and provides a fast start for aqueous-containing gradients.
- If your next use is Organic NP: store in 100% hexane (or another suitable non-polar NP solvent) and label the tube for NP so the team knows what's inside.
- Why this matters: TYPE-C silica exhibits minimal water adsorption, so it equilibrates much faster than Type-A/Type-B silica when you change organic/aqueous composition or pH — but you still must avoid immiscible solvent shocks during mode switches.

Critical Storage Rules (Applies to All Modes)

1. Room temperature only — do not refrigerate or heat columns during storage.
2. Never let the column dry out — always leave an appropriate liquid inside and cap both ends.
3. Do not store RP columns in DI water unless it contains ~0.1% formic acid; plain water can shift surface chemistry and invite microbial growth.

Overnight vs. Long-Term Storage Procedures

For RP or ANP use (stored in ACN)

- Overnight: Flush 8–10 column volumes with 100% ACN, then cap both ends with the supplied plugs.
- Long-term: Flush 15–20 column volumes with 100% ACN, cap both ends, put the column back in its box, and store at room temperature.

For Organic NP use (stored in Hexane)

- Overnight: Flush 8–10 column volumes with 100% hexane (or the non-polar solvent in use), then cap.

- Long-term: Flush 15–20 column volumes with 100% hexane, cap and box for room-temperature storage; label the column as NP and note the solvent.

Note: Diamond Hydride™ columns follow a special storage protocol; refer to the dedicated procedure linked from the KB article before storing those SKUs.

Safe Mode Switching (RP/ANP ↔ NP) Without Precipitation or Frit Gelling

Because aqueous RP/ANP solvents are immiscible with many NP solvents, always insert a mutually miscible intermediate before changing modes. A simple ~30-minute procedure prevents phase boundary issues and gets you back to equilibrium quickly.

RP → NP

1. Pump 100% methanol for ~15 min at ~1 mL/min.
2. Pump 100% methylene chloride for ~15 min.
3. Equilibrate in your NP mobile phase.

NP → RP (or ANP)

1. Pump 100% methylene chloride for ~15 min at ~1 mL/min.
2. Pump 100% methanol for ~15 min.
3. Equilibrate in your RP/ANP mobile phase.

Thanks to the TYPE-C surface, equilibration is fast after the switch (minimal water adsorption), so you'll reach stable retention and baseline in fewer column volumes than with ordinary silica phases.

First-Use & Between-Runs Conditioning Tips

- On receipt / first use: If the column ships in an organic solvent, bring it to your starting composition via gradual steps (e.g., ACN → starting mix) to minimize pressure or baseline excursions, then run 5–10 column volumes at the starting condition before your first injection. (This respects the same immiscibility logic above.)
- Between sequences: If you're pausing overnight in RP/ANP, a quick ACN rinse (8–10 CV) and capping prevents evaporation and salt crystallization; for NP, do the same with hexane.

Troubleshooting After Storage or Mode Change (Quick Checks)

- High backpressure at startup? You may have hit an immiscible boundary or left salts behind. Re-apply the intermediate solvent sequence above, then re-equilibrate.
- Retention drift in first run or two? TYPE-C settles quickly, but give several CVs at the exact starting composition; verify additive levels and temperature.
- Baseline noise after a salt method? Ensure the column was rinsed with volatile, salt-free solvent (ACN or hexane per mode) prior to storage, then start with a few blanks.

***** Diamond Hydride™ columns have a special storage protocol, given click HERE.***

COGENT HPLC Columns™

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