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Supercritical Fluid Chromatography with TYPE-C Columns - Tech Information

DATE: 14-APRIL-2020 Last Updated: 27-JANUARY-2026

Can Cogent TYPE-C HPLC Columns Be Used in SFC? | Compatibility & Performance Overview

Short Answer: Yes

Cogent TYPE-C™ HPLC columns are fully compatible with Supercritical Fluid Chromatography (SFC) in terms of both hardware durability and stationary phase stability.

⚙️ Hardware & Material Compatibility

- Column hardware (stainless steel tubing, frits, and end fittings) is resistant to the pressures and chemical environment typical of SFC systems.
- The TYPE-C™ silica-based stationary phase is chemically bonded and thermally stable, making it suitable for exposure to supercritical CO_2 and common SFC co-solvents (e.g., methanol, ethanol, isopropanol).
- No degradation or swelling of the packing material is expected under standard SFC operating conditions.

🧪 Application Suitability

While the columns are physically and chemically compatible with SFC, we currently do not maintain SFC instrumentation in-house and therefore cannot provide validated SFC application data or method development support.

However, based on the unique surface chemistry of TYPE-C™ silica (featuring a covalently bonded silicon-hydride surface), these columns may offer distinct selectivity advantages in SFC, particularly for:

- Polar and moderately polar compounds
- Compounds that exhibit poor retention or peak shape in traditional silica or C18 SFC columns
- Applications requiring orthogonal selectivity to standard reversed-phase or bare silica SFC phases

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📌 Summary

Feature	Cogent TYPE-C™ Columns in SFC
Hardware compatibility	✅ Yes

Stationary phase stability	✅ Yes
Application support	⚠️ Limited (no in-house SFC)
Selectivity potential	✅ Unique, especially for polar analytes

We welcome inquiries and are happy to provide technical guidance on column selection and method considerations, but we currently do not offer validated SFC methods or performance guarantees in this mode.

🔗 Contact Us for more information or to discuss your specific application.

COGENT HPLC Columns™

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