

Pharmafix Septa Advantages and Considerations for Headspace Analysis – Technical Information

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Selecting the correct septum type is essential for maintaining seal integrity, minimizing contamination risk, and ensuring reproducible results in headspace analysis. Pharmafix™ septa offer certain performance benefits, but they also come with trade-offs that users should understand before adopting them into routine workflows.

Improved Seal Performance

The primary advantage of using a Pharmafix™-style septum is its superior sealing capability. This design enhances closure tightness and helps maintain vial integrity throughout pressurization, heating, and multiple autosampler needle punctures.

A stronger seal can lead to:

- Reduced sample loss through vapor leakage
- Improved pressure retention stability
- More consistent headspace equilibrium conditions

Considerations About Chemical Inertness

While Pharmafix™ septa provide improved mechanical sealing, they may not be as chemically inert as traditional silicone / PTFE (duplex) septa, which are specifically engineered for headspace applications.

Potential concerns include:

- Slightly higher interaction potential between sample vapors and the septum surface
- Increased risk of extractables under aggressive chemical conditions
- Reduced suitability for ultra-sensitive analyses requiring the lowest possible background levels

When to Use Pharmafix™ Septa

Pharmafix™ septa may be a good choice when:

- Mechanical seal integrity is more critical than maximum inertness
- The application does not involve highly reactive solvents or extremely low-level analytes
- Additional sealing robustness is needed to prevent leaks at elevated temperatures

When to Choose Silicone/PTFE Septa Instead

Silicone/PTFE septa remain the preferred option when:

- Maximum inertness is required
- You are working with volatile organics, low-level contaminants, or trace-analysis workflows

- You want to minimize contact contamination as much as possible

These septa are specifically formulated for headspace analysis and have a proven performance profile for minimal sample interaction.

Click [HERE](#) for ordering information and pictures of headspace caps.

AUTOSAMPLER

VIALS AND CAPS

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