What Can Compromise the Surface Treatment of Silanized Glass Vials - FAQ

OVERVIEW

Silanized glass vials are commonly used to reduce surface activity and minimize analyte adsorption. However, the integrity of the silanized surface can degrade under certain conditions, impacting analytical performance and reproducibility.

Factors That Can Damage Silanized Surfaces

1. High Ionic Strength, Low pH Solutions
   Exposure to strongly acidic or high-salt environments can accelerate the breakdown of silanized coatings, leading to increased surface reactivity and potential analyte loss.

2. Prolonged Aqueous Exposure
   Silanized surfaces are inherently unstable in water over time. Hydrolysis of the silane layer can occur, especially under ambient or elevated temperatures, reducing the effectiveness of the surface treatment.

3. Thermal Limitations
   The maximum recommended temperature for silanized vials is 200 °C (392 °F). Exceeding this threshold can cause thermal degradation of the surface coating.

RSA-Pro X™: A Superior Alternative for Aqueous and Long-Term Applications

For applications involving extended exposure to aqueous solutions or long-term sample storage, **RSA-Pro X™ vials** offer a significant advantage. These vials are engineered with a hydrophobic, hydrolytically stable surface that:

- Maintains integrity in water-rich environments
- Resists degradation for at least one year under standard aqueous conditions
- Provides consistent performance for sensitive analyte

Recommended Use Cases for RSA-Pro X™

RSA-Pro X™ vials are ideal for:

- Hydrophobic analytes, including proteins, peptides, and enzymes
- Long-term sample storage in aqueous or buffered solutions
- Applications requiring minimal adsorption and maximum recovery

Learn more about RSA-Pro X surface treated glass vials

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