

How do RSA autosampler vials compare against silanized vials for pharma applications - FAQ

RSA™ (Reduced Surface Activity) surface different from siliconized or silanized vials in some ways and similar in others. It depends on why you are using siliconized vials and determine if you should use RSA or [RSA-Pro X™](#) (hydrophobic, surface treated RSA vials).

If your sample is **proteins** or peptides that stick to the vials, you may need our *RSA-Pro X™ vials*. Some proteins stick to the glass and not to the silanols or the silicate layer in ordinary glass. Due to the silicate layer and "glass dust" in ordinary glass, silanizing is often not 100% effective. Customers that need silanized glass find the RSA-Pro X Vials to be more effective and offers better RSD of quantitation. The reason is much better or more complete coverage and no delamination of the surface treatment and extreme hydrolytic stability. Sample recovery is usually much better than ordinary silanized vials due the high degree of hydrophobicity and hydrolytic stability.

Some points to consider for Basic Analytes:

1. RSA™ glass eliminates the hydroxyl groups / silanols on the glass surface and reduces overall "interactions" of basic compounds including adsorption.
2. RSA vials are less hydrophilic than ordinary glass vials and have a different surface tension from ordinary borosilicate glass vials thus reducing some hydrophilic interactions. Silanized & RSA-Pro X™ vials are hydrophobic.
3. RSA vials do not need to undergo a "cleaning step" to remove the borate and silicate powder or particles that are formed with ordinary vials since the RSA precision manufacturing process does not produce any excess borate and silicate. *It is important to note that the introduction of any liquids or air into the vials during any cleaning process will only re-introduce organic contaminants that can be problematic for LCMS or any sensitive sample.*

There have been many cases where ordinary pharma grade silanized vials were used to stop the pH drift or the adsorption of basic analytes due to the hydroxyl groups / silanols and RSA™ vials perform much better in this and many other areas.



[See more information about RSA Glass Autosampler Vials](#)

Printed from the Chrom Resource Center

Copyright 2025, All Rights Apply

MicroSolv Technology Corporation

9158 Industrial Blvd. NE, Leland, NC 28451

Tel: (732) 380-8900

Fax: (910) 769-9435

Email: customers@mtc-usa.com

Website: www.mtc-usa.com