

## RSA-Pro X vial improve quantitation precision with HPLC – AppNote

### **RSA-Pro X™ – Hydrolytically stable hydrophobic glass vials & low volume glass inserts**

Silanol groups (Si-OH) on the surface of glass has been known to cause not only empirical quantitative loss but also inaccurate quantitation, vial to vial and run to run over time. Silanol sites are very reactive and can produce among other things, imprecise data, reducing the efforts of the user's preparation and care.

The data below, from our lab, shows the range of quantitative differences in silanized glass vials versus the RSA-Pro X™ vials over 72 hours, in aqueous conditions compared to “silanized” glass.

Vials were prepared with 1ppm of chlorhexidine acetate in a diluent of DI water. Samples analyzed within 24 hours show little no difference of % RSD data, whereas the quantitation over 72 hours illustrate not only that there is some sample loss but that the variability of quantitation in with time worsens and can be more and more problematic.



*Above chart shows %RSD of Quantitation with RSA-Pro X™ Vials Versus Silanized Glass Vials, post 24 hour exposure. 1 ppm Chlorhexidine Acetate*



*Above chart shows % Loss of Analyte in RSA-Pro X™ Vials Versus Silanized Glass Vials, post 72 hour exposure. 1 ppm Chlorhexidine Acetate*



*Above chart shows %RSD Quantitation with RSA-Pro X™ Vials Versus Silanized Glass Vials, post 72 hour exposure. 1 ppm Chlorhexidine Acetate*

### **Method Conditions**

**Column:** Cogent RP C18™, 5µm, 100Å

**Catalog No.:** [68518-15P](#)

**Dimensions:** 4.6 x 150mm

**Mobile Phase:** 55:45 acetonitrile / buffer (v/v)

*Buffer: 0.690g sodium di-hydrogen phosphate, 14.0 g sodium perchlorate, 0.340mL phosphoric acid 50% solution in 1 Liter of DI water.*

**Injection vol.:** 10µL

**Flow rate:** 1.0mL / minute

**Detection:** UV @ 260nm

**Sample Preparation:** 1ppm chlorhexidine acetate in DI water prepared in PPE bottle.



**Note:** *If you have seen problems with inconsistent coverage from vial to vial or loss of hydrophobicity in water or after 2 weeks, you should consider using the new and advanced technology of RSA-Pro X™ Vial Kits or Inserts. Click [Here](#) for Ordering Information.*



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