

CHEM+PROTECT™ as a Package for HPLC Grade Water

The Chem+Protect™ Packaging System is a polymeric container, manufactured using a special, patented process that virtually guarantees inertness. Tests at Chata Biosystems, Inc. have shown that the Chem+Protect™ Packaging System is the equivalent of glass bottles for a variety of solvents including Acetonitrile, Methanol, Tetrahydrofuran (THF) and Hexane. In addition, our tests have shown that the Chem+Protect™ Packaging System is equivalent to glass for the storage of HPLC water.

Chata Biosystems, Inc.'s R&D Department investigated the best way to determine equivalency between packaging HPLC Water and settled on a method found in the ACS Reagent Chemical Specifications and Procedures Handbook¹. This method is a HPLC gradient method that loads the column for the first 30 minutes and then elutes any contamination on the column in the last 30 minutes. The gradient is performed using the HPLC instrument to mix a solvent with the HPLC water. The procedure begins with a very high water content to potentially load the column with contaminants from the water and then ends with a 100% solvent to elute any contamination. Two common solvents were used because it is possible that different solvents would elute contamination differently. The specification for pass is that there are no peaks greater than 5 mAU.

The following chromatograms represent the latest data available from Chata Biosystems. In these chromatograms, water (from the same source) has been stored in glass and in the Chem+Protect™ Packaging System for the same time period and run using the named solvent for elution. The detection wavelength was 254 nm. The glass chromatogram is in black and the chromatogram arising from water stored in the Chem+Protect™ Packaging System is in red.

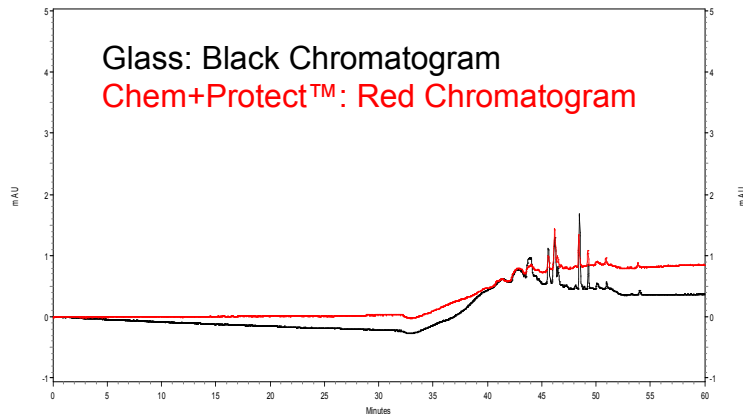


Figure 1 HPLC Grade Water in Chem+Protect™ versus Glass
(The eluting solvent is Acetonitrile)

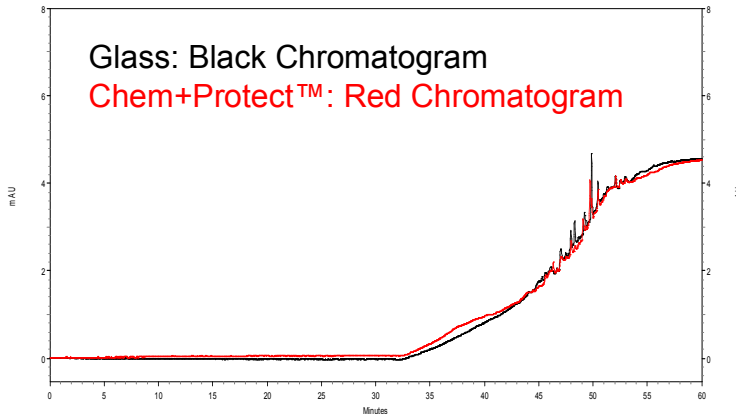


Figure 2 HPLC Grade Water in Chem+Protect™ versus Glass
(The eluting solvent is Methanol)

The above chromatograms demonstrate that the Chem+Protect™ Packaging System is the equivalent (if not superior to) Glass as a container for HPLC Grade Water.

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