

When and why use Teflon bottles for your mobile phase reservoirs – FAQ

For most HPLC applications, mobile phase reservoirs made of standard borosilicate glass are suitable. There are certain circumstances in which Teflon® bottles may be required instead and that is LCMS or LCMS/MS.

Borosilicate glass is made with boron, sodium, and other elements to make it malleable enough to form a bottle. During the glass forming process, these elements migrate to the bottle's surface and can go into solution with the water in the mobile phase. This is a problem for most mass spectrometry (MS) applications as sodium and boron adducts are formed with certain types of compounds. These compounds gain the molecular weight of the elements and can be missed by the analysts.

Teflon bottles to minimize the adducts goes hand in hand with the [RSA™ glass vials](#). Vials and mobile phase bottles are the two leading sources of adducts in LCMS.

*In addition to reducing sodium and potassium adduct formation for electrospray-MS, the reduction of sodium also improves compound peak shape for ANP chromatography. This is especially noticeable for di-acid containing compounds such as **aspartic acid** and **glutamic acid**.*

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