

Use Teflon bottles for A and B solvents in negative ion mode LCMS - Primer

Technical Advisory: Minimizing Sodium Adduct Formation in LC-MS

Preventing Sodium Contamination from Mobile Phase Reservoirs

In negative ion mode LC-MS, sodium contamination can significantly impact the detection and quantitation of anionic analytes—particularly phosphates, organic acids, and other negatively charged species. One often-overlooked source of sodium is the borosilicate glass used in standard mobile phase reservoir bottles.

To mitigate this risk, it is strongly recommended to use Teflon (PTFE) mobile phase reservoirs for both aqueous (A) and organic (B) solvents. Teflon is chemically inert and does not leach sodium or other alkali metals into the mobile phase, helping to maintain the integrity of your analysis and reduce background ion interference.

Reducing Sodium Adducts in Sample Vials

In addition to mobile phase control, sample vial selection plays a critical role in minimizing sodium adduct formation and preserving analyte stability. We recommend using **RSA™ (Reduced Surface Activity) autosampler vials**, which are specifically engineered to:

- Eliminate surface silanols and sodium silicate residues
- Prevent pH drift and ionic contamination
- Minimize adsorption of basic and polar compounds

RSA™ vials are ideal for LC-MS workflows requiring ultra-clean, low-adsorption surfaces and consistent quantitation—especially in trace-level or high-sensitivity applications.

Optimize Your LC-MS Workflow

- Use Teflon mobile phase bottles to eliminate sodium leaching from glass
- Choose RSA™ autosampler vials to reduce adduct formation and improve reproducibility

Click [HERE](#) for ordering, technical information and pictures of RSA Autosampler Vials.