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10 mm ammonium formate buffer preparation

10 mm ammonium formate preparation. 10 mm ammonium acetate buffer preparation. 10 mm ammonium formate. Ammonium formate buffer capacity.

Consistency is key when it comes to chromatography results, and that starts with mobile phases. Order of operations might seem like a math thing, but in this case, it's about more than just numbers. Each component, including the mobile phase, plays a crucial role in achieving robust results. Preparing mobile phases may seem straightforward, but nuances can make a big difference, especially when working with HILIC. A tiny change in composition can lead to significant changes in retention time, as shown by comparing chromatograms. Isocratic separation of a toluene, cytosine, and uracil mix used for QC on AdvanceBio MS Spent Media columns highlights the importance of precision. Methods for the AdvanceBio MS Spent Media column often specify mobile phases with specific pH levels and solvent ratios. It might be tempting to simplify this by making a 20 mM ammonium formate solution directly, but there are reasons to prepare the mobile phases as described: making a stock solution of ammonium formate (or any salt) at a higher concentration, then diluting it ten-fold with either water or acetonitrile for each phase. This approach minimizes solubility challenges and ensures both phases have the same ionic strength, crucial for HILIC separations to avoid ion exchange effects. Moreover, preparing stock solutions is more convenient than making separate mobile phases repeatedly. Filtered and refrigerated salt solutions can be stored for weeks. Some labs even go as far as preparing their mobile phases gravimetrically, weighing solvents in addition to salts. This ensures extreme consistency. For HILIC separations, it's also important to maintain a minimum of 3% water in the mobile phase to ensure an aqueous layer on the surface of the stationary phase is maintained. Including water in the organic mobile phase guarantees this requirement is met. Mixing 90/10 acetonitrile and buffer: avoiding ambiguities in mobile phase preparation To ensure consistent results, follow these steps to prepare a 90/10 acetonitrile and buffer mixture: 1. 100 mM ammonium acetate stock solution: Weigh 3.854 g of ammonium acetate and transfer it to a 500 mL volumetric flask. Dilute with DI water to make a 100 mM solution. 2. 10 mM ammonium acetate buffer solution: Pipet 100 mL of the stock solution into a 1000 mL volumetric flask and dilute with DI water to make a 10 mM solution. 3. Mobile phase mixture: Mix 100 mL of the 10 mM ammonium acetate buffer solution with 900 mL of acetonitrile in a 1000 mL volumetric flask.