Inconsistent peak heights obtained for glucosamine in HPLC - Tips & Suggetions

Issue: I am running an HPLC method for glucosamine. However, my peak heights are inconsistent from run to run. What is causing this?

Solution: One possibility that could account for this behavior is chelation of glucosamine with trace metals in the HPLC system. A prominent source of metals is the mobile phase reservoir bottle, which is typically made of glass. Sodium from the bottle's glass walls can leach into the solvent. In most analyses, this sodium will not present any problem. However, some analytes may be susceptible to chelation, which can result in phenomena such as inconsistent response and poor peak shape.

If you see this behavior, consider trying Teflon mobile phase reservoir bottles as a first step and use PEEK tubing whenever possible. Try to eliminate Na as much as possible from your system.

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