

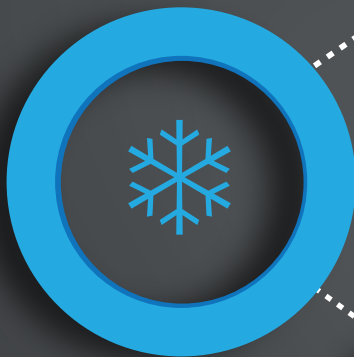
5 Bead Blunders

START



FREEZING

Freezing of microsphere suspensions typically causes irreversible aggregation. Small particles have so much surface area and the packing is so efficient that they become irreparably agglomerated when frozen.



EXTREME HEAT

Different bead types have varying thresholds softening points, so if your protocol pushes the limits, you may find that beads begin to get a bit sticky, and you may hear us using terms such as "anneal," "sinter," or "polymer chain re-arrangement" when you call to talk with us about it.



SOLVENTS

In the most aggressive PS solvents (e.g. toluene, acetone, etc.) beads will swell or dissolve, while alcohols (e.g. methanol, ethanol) may have little or no discernible effect. Before throwing caution to the wind, we suggest you consult our solvent/non-solvent listing. See *TSD 0023 Solvents & Non-Solvents of Polystyrene*.



CONTAMINATION

Though most of our products contain an antimicrobial agent, and we specify refrigerated storage, suspensions can become contaminated with opportunistic microorganisms as they are opened and used over time. Correct storage conditions and use of as-near-to-aseptic-handling as possible (working in a hood, use of gloves, keeping benches clean, use of clean glassware and pipets, etc.) will aid in minimizing the risk of contamination. See *TSD 726 Decontaminating Microspheres*.



OVER-CENTRIFUGATION

Centrifugation is the most common separation method that is used in microsphere washes and buffer exchanges. If the protocol is too rigorous, however, beads can become too tightly packed, i.e. irreversibly aggregated. This is especially the case for smallest diameters (e.g. $\leq 0.5\mu\text{m}$). Togetherness is good, but we all have our limits. See *TSD 0026 Centrifugation Chart*.



GAME OVER