

Technical Note 602: *Nanopartz™* Gold Nanoparticle Products Storage and Handling

HANDLING

Nanopartz™ GNPs have a very high surface reactivity which provides significant benefits. This sensitivity also requires greater care in handling as the nanoparticles are very sensitive to rubber, metals, dust and other impurities. The containers used for *Nanopartz™* nanoparticles are polyvinyl chloride, polyethylene, HDPE narrow-mouth bottles, or glass vials with Teflon lined caps. The cleanliness of any container used for storage is extremely critical for the stability and shelf life of the gold colloid. Consequently, all pipettes or other glassware used to handle the nanoparticles must be thoroughly cleaned. Other containers used to store the nanoparticles must be cleaned using the following procedure:

1. Rinse containers with tap water. Fill containers with water and mix in a couple drops of Micro-90. Sonicate for at least 5-15 minutes.
2. Wash containers and caps with lab brushes thoroughly.
3. Rinse DI until soap residue is completely removed. Rinse containers with DI water three to four times.
4. Hang containers on bottle rack with opening down until container is completely dry.

STORAGE

All *Nanopartz™* products should be stored at 4 degree C. The shelf life of *Nanopartz™* products is six months.

Light has also not been seen to degrade the quality of the nanoparticles. We have exposed the particles to high solar and UV (found in ambient sunlight) for weeks at a time with no ill effects.

For the larger spheres and nanorods, some settling may occur. However, this is reversible. A simple shake will resuspend the nanoparticles.

FREEZING

Rarely, during transportation, the gold nanoparticles may freeze and drop out of the solution. If this is the case, the nanoparticles cannot be resuspended in solution. For the smaller nanoparticles, a black residue appears on the bottom of the bottle. For the larger sizes (>70 nm), no residue will be visible and the vial will look clear as shown here.



NANORODZ™

TN602

At colder temperatures, the CTAB capping agent in the supernatant may produce a clouding effect. This clouding effect will not affect the performance of the nanorods.

CONJUGATIONS

Shipments are labeled with a “Refrigerate, Do not Freeze” label. These items have shelf lives of 6 months and should not be left out at room temperature.