

Brooks Bradley wrote:

We checked for particle size as a major parameter. Second, the power level in watts driving the ultrasonic cleaner transducer and it DOES affect the particle size (at least we found it so).

The higher the power, the smaller the majority of the particles (condition held until power levels of our largest lead zirconate-titanate transducers went beyond 1000 watts per transducer.)

No effective reduction occurred beyond these power levels (Power Spectral Density evaluations).

However, it WAS NOT necessary to reach these power levels to obtain excellent nano-size liposomes.

200 watts driving a transducer at 38K Hertz....yielded excellent results.....even with the high-power lead zirconate units.

The larger 2.5 liter Harbor Freight unit does, in fact, yield smaller particle liposomes (but the particle size from the small unit was perfectly acceptable for our experiments---and the results gained were, also, quite acceptable as effective in our in-vitro evaluations).

It should be noted; to get reliable population density numbers, the samples had to be dehydrated completely before viewing with the scanning electron microscope (the same problem is encountered with colloidal silver particle evaluation!).

Ultrasonic energy agitating does facilitate the increased creation of nano-size particles. In fact, Ultrasonic energy was the FIRST energy source to actually achieve this level of size reduction (so I am informed by staff members more conversant with this technology...than am I).

Diffraction grating came later."