



### ***Dispersion of Carbon Nanotubes with Nanospense AC***

Nanospense AC is a surfactant for the preparation of polar, solvent-based suspensions of carbon nanotubes (CNTs). Without the addition of Nanospense AC, unfunctionalized carbon nanotubes will sediment out rapidly. Dispersions made with Nanospense AC, are very stable for weeks requiring only ultrasonication before use.

Follows is our recommended incorporation procedure for lab scale work:

1. Place 0.1 g of powdered MWCNTs in a 100 ml flask.
2. Add 10ml Nanospense AC solution to the flask.
3. Add 90 ml of acetone, MEK, or other polar, nonaqueous solvents. For ethanol and DMF, we use NanoSpense AQ.
4. Immerse the flask in an ultrasonic bath for 10 minutes. If available, use an ultrasonic probe, which is both more effective and faster than any ultrasonic bath. We use a Sonics model VC-505 probe for all dispersion work.
5. Dispersion is ready to use and can be used immediately. If dispersion is to be used later, please resonicate for several minutes to ensure adequate mixing.

The color of the solvent should darken to black as the suspension is being produced. This product has been developed for use with carbon nanotubes from NanoLab, and the particular surface characteristics of this product line. The NanoSpense AC may also work well with nanotubes from other suppliers, but this is not guaranteed, and the concentrations in this procedure may need adjustment if sediments are observed.

Please call NanoLab technical service for further assistance.

We hope these instructions are helpful, please call us if you have any further questions. We are most happy to serve.

Best regards,

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