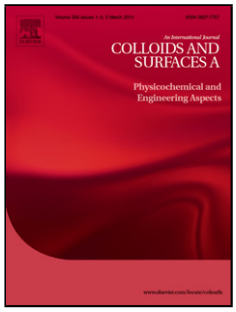

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Re-dispersion Ability of Multi Wall Carbon Nanotubes Within Low Viscous Mineral Oil

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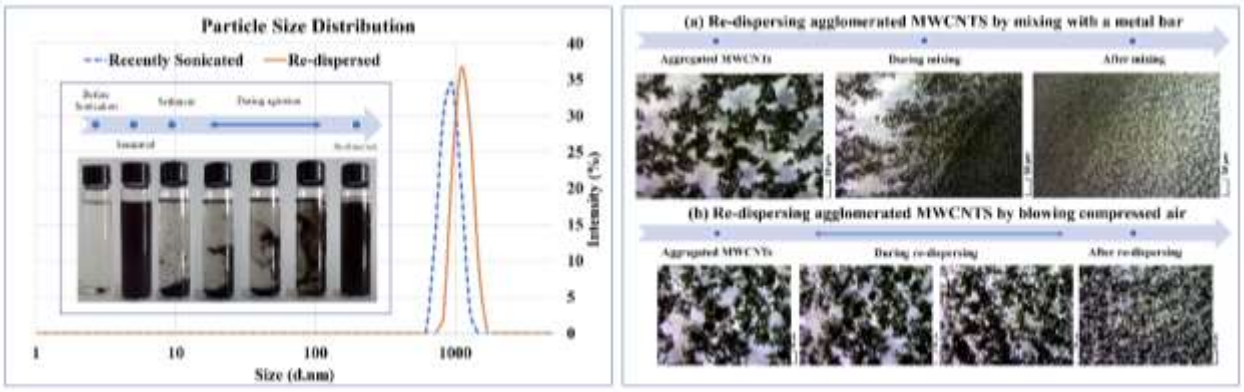
Graphical Abstract



Highlights

- MWCNTs acquired the ability of re-desperation in mineral oil after sonication.
- Microscopic video clarifies the MWCNTs' behavior during the re-dispersion process.
- Shaking was able to fully deagglomerate the clustered MWCNTs within oil.
- PSD, k and μ results confirm quantitatively the re-dispersibility of the MWCNTs.

Abstract

The main purpose of this study is to focus the light for the first time on the recognized re-dispersion ability of the sonicated MWCNTs within low viscous mineral oil. For that, pure MWCNTs, without any special treatment, were dispersed in mineral oil by sonication without using any stabilization method. After full agglomeration, it was realized that agitating, shaking or even blowing compressed air on the agglomerated nanolubricant is able to break down the aggregation of the MWCNTs. Microscopic video is presented to clarify the behavior of the tubes during the re-dispersion process. Quantitatively, particle size distribution (PSD) was employed to evaluate the

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