Preparation, stability and thermophysical properties of nanofluid

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Abstract

Nanofluid, a suspension of nanoparticles, has excellent thermal conductivity and rheological characteristics, making it a viable heat transfer fluid for improving heat transmission. This study reviews the research that has gone into optimizing heat transmission using nanofluid and highlights the most recent developments in this field. Recent advancements in both the capacity to prepare and increase stability were discussed. Nanofluid thermophysical and heat transmission properties were discussed, as were the effects of variables like particle size, shape, surfactant, temperature, etc. Potential uses of nanofluids are shown in the current research, including heat exchangers, transportation cooling, refrigeration, electronic equipment cooling, transformer oil, industrial cooling, nuclear systems, machining operations, solar energy.

Keywords: Thermal conductivity, SEM, specific heat, concentration, stability