



## Golden Oil: Reagent, Processes, and Applications of Oil Coated with Gold Particles

For more information  
contact:

Office of Technology  
Management

[www.otm.msstate.edu](http://www.otm.msstate.edu)

p: 662-325-9263

OTM #:0890

This invention pertains to a series of reagents and processes for the fabrication of “golden oil”, oil completely covered by gold particles. Depending on the structures, compositions, and speed of mixing of the compounds, oil, and the AuNPs (gold nanoparticles), the AuNP film formation process can be as short as seconds, or as long as two or three days. And since the AuNP film is highly reflective and has an intense gold hue, the oil covered by the gold particle film is referred to as “golden oil.”

### Advantages

- The “golden oil” process provides an exceedingly simple and economic method for producing gold coated materials.

### Usage

- *Decoration and Art* – Gold has been used extensively in decoration and art. The “golden oil” can be shaped to any form of the container.
- *Education* – As an educational tool “golden oil” can be used to visualize the illustration of AuNPs self-assembly and the buoyant forces.
- *Ultrathin Surface Coating* – “Golden oil” is an oil completely covered by an ultrathin layer of gold film.

### Inventors

**Dongmao Zhang, Manuel Gadogbe** and **Siyam Mohamed Ansar** are from the Department of Chemistry, College of Arts and Sciences.