

# Discover Smart Materials

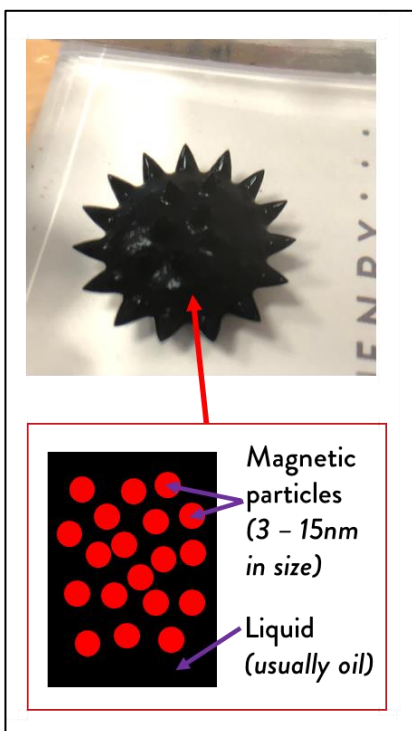
## Ferrofluids

Small magnetic particles can line up with a magnetic field - you may have done an experiment using iron filings in a container (or even on top of a piece of paper).



Ferrofluids are tiny nanoparticles that contain iron and are suspended in a liquid (known as **colloidal suspension**). The nanoparticles in a ferrofluid are 3-15 nm\* in size!

\*1 nanometre (nm) = 0.000000001 m. One strand of hair is about 0.0001 m (0.1 mm) wide!



Because the particles in the suspension are so small the ferrofluid behaves just like a liquid and because the particles contain iron the fluid can be moved by using a magnet.

Ferrofluids were developed to move fuel around in spacecraft (where there is no gravity) but have also been studied for use in **medicine** and even as **liquid robots!**

*The future is what you make it...*

*...but it is also what you make it out of*

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