

# Team behind world's first magnetic soap makes magnetically responsive emulsions

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(Phys.org) -- Earlier this year, a team of scientists, led by Professor Julian Eastoe in the University of Bristol's School of Chemistry, announced they had created a [liquid surfactant \(soap\) that could be moved by a magnet](#).

This work meant that surfactants could be directed towards specific points or removed from a mixture just by applying a magnet.

Now, the team has expanded the use of this [surfactant](#) by making magnetically responsive emulsions with magnetic surfactant stabilisers.

Professor Eastoe said: "Compared to nanoparticle-stabilised magnetic emulsions, a major advantage of these magnetic surfactants is the simple synthesis and purification, offering new possibilities for molecular design of specialist surfactants.

"For example, replacing the surfactant alkyl tails with fluorocarbons could result in supercritical CO<sub>2</sub>-compatible [magnetic](#) responsive emulsions for oil and gas field flooding."

**More information:** 'Magnetic emulsions with responsive surfactants' by Paul Brown, Craig P. Butts, Jing Cheng, Julian Eastoe, Christopher A. Russell and Gregory N. Smith in *Soft Matter*.

[pubs.rsc.org/en/content/article...g/2012/sm/c2sm26077h](http://pubs.rsc.org/en/content/article...g/2012/sm/c2sm26077h)

Provided by University of Bristol

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