CLAIMS

1. A method of preventing formation of a water and oil emulsion in a downhole formation containing oil, the method comprising:

preparing a dispersion of water and a plurality of non-functionalized nanoparticles, each nanoparticle in the plurality of nanoparticles having a size of at least 300 nanometres; and

injecting the dispersion downhole into contact with the oil downhole,

in which presence of the plurality of nanoparticles prevents formation of an emulsion between the injected water and the oil.

2. A method according to Claim 1, in which the plurality of non-functionalized nanoparticles comprise silica and have respective surfaces that are free of any surface modification.

3. A method according to Claim 2, in which the respective surfaces of the plurality of non-functionalized nanoparticles lack any chemical groups which modify the surface properties of the silica.

4. A method according to Claim 1, in which the water is distilled, and the plurality of nanoparticles are dispersed in the water at a concentration of 0.2 weight percent.

5. A method according to Claim 1, in which the water contains salt, and the plurality of nanoparticles are dispersed in the water at a concentration of 1.6 weight percent.

6. A method according to Claim 5, in which the water has a salt concentration of up to 3.5 weight percent.

7. A method according to any preceding claim, in which each of the nanoparticles in the plurality of nanoparticles has a size in a range of 300 to 500 nanometres.