

## **Smart Nanogels**

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Colloidal nanogels are often described as “smart” due to their ability to undergo quite dramatic conformational changes in response to a change in their environmental conditions (e.g. temperature, pH). Small changes in environmental stimuli can bring about a dramatic change in particle size, which corresponds to a large change in particle volume due to uptake or expulsion of the dispersion medium. This behaviour of nanogels can be used for smart drug delivery e.g. when incorporated in wound dressings. Another possible application of nanogels is blocking the flow of fluids in capillaries 1-5 micrometers in diameter due to dramatic swelling or flocculation which can find the application e.g. in oil recovery or the pharmaceutical industry.