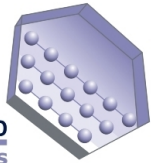




MPA 2009 - 3<sup>rd</sup> International meeting on developments in materials, processes and applications of emerging technologies

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## **Supercritical fluid-assisted materials processing**

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Supercritical fluids have been used extensively as solvent substitutes and extraction aids in both the pharmaceutical and food industries. Successful commercial applications include the decaffeination of coffee and the manufacture of particles for drug delivery as the technology provides clean, efficient and environmentally friendly solutions to both industries.

Over the last decade supercritical fluid polymer processing research activity has increased and the technology is now used in polymer synthesis, as a clean polymer foaming aid and as a plasticiser during melt processing. At SCF Processing Ltd we use supercritical fluid technology in a wide variety of applications from plastics processing to cement manufacture; as a processing aid, a controllable foaming aid and as an environmentally friendly alternative for impregnations and extractions to add value and enhance material performance.

This talk will introduce supercritical fluid technology and review how the technology has been applied to a number of manufacturing processes and materials. The talk will also look to the future as manufacturing demands are likely to dictate that 'green' processing routes and energy efficient processes are used. It is likely that supercritical fluid technology will be able to fulfill these demands with ease. The combination of supercritical fluid technology with the emerging field of ionic liquids will also be discussed and it will be shown how this technology combination can benefit materials for energy applications and biomaterials.