Production of PCL micro particles by ASES in Supercritical carbon dioxide

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PCL is degraded by hydrolysis of its ester linkages in physiological conditions (such as in the human body) and has therefore received a great deal of attention for use as an implantable biomaterial. In particular it is especially interesting for the preparation of long term implantable devices, owing to its degradation which is even slower than that of polylactide. PCL is an Food and Drug Administration (FDA) in America approved material that is used in the human body as (for example) a drug delivery device, suture (sold under the brand name Monocryl or generically), or adhesion barrier.
We can produce micro particles of PCL by SAS(Supercritical Anti Solvent) for using DDS. ASES, sort of SAS, method provides uniform particle size. So we can choose particle size by ASES because of easy size control. The object of this study was to investigat the effect of the various process parameters such as temperature, pressure, injection rate of solution.