Supercritical fluids debinding in ceramic injection molding

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Ceramic Injection Molding (CIM) process requires the use of binders to confer such properties as cohesion, flexibility and workability in the green state. Extraction of binder from CIM, it is very important to keep original shape of CIM while removing binder in a short extracting time. Supercritical fluids have many advantages as a solvent for extraction. Binder can be eliminated without defect. Extracted binder can be reused without any refinement. For these reasons, recently, new method of extraction such as supercritical fluids extraction (SFE) is tried to remove binder from CIM. In this work, CIM was used as a material for extraction, supercritical CO_2, CO_2 + propane were selected as a solvent. As a result, the addition of propane improves the binder removal rate and time, in comparison with using pure supercritical CO_2.