

## R&D Approach to Commercialization for SCF Technology

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The technologies for the scCO<sub>2</sub> extraction and the hydrolysis by using scH<sub>2</sub>O have been commercialized in Japan. At present, the market needs for commercialization is growing up in the domain of fine particle formation and cleaning as similar as extraction, which are mainly depending on the circumstances concerning to the environmental load reduction and the expectations for SCF technology as an innovational technology. In this paper, the way for the basic process design of SFE plant and some topics for R&D approach to commercialization for SCF technology are summarized. SFE technology is an old and new technology. Recently, the plan of SFE plant for the expansion and new factory are dramatically increasing in the food and pharmaceutical industries with the regulation for the organic solvent use in their production process. Regarding the basic process design of SFE, determination of high-pressure vessel size, CO<sub>2</sub> pump capacity, piping and PFD are required. These data are mainly determined from basic experimental data such as the relation between extraction yield and CO<sub>2</sub> flow rate. This way is useful also for the other technology using scCO<sub>2</sub>.