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Supercritical fluids applied to bioprocessing

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During the last decades there is an increasing interest in the use of substances obtained from biologically based raw materials. They produce natural bioactives, some of them having tremendous potential in the pharmaceutical, cosmetic and food industries. In general, supercritical fluids (SCF) have been applied in extraction and purification processes: extraction of bioproducts, fractionation and purification of bioactives, removal of biostatic products and removal of chlorinated compounds from water. However, SCF have found applications in non-thermal cell inactivation, disruption of yeasts and bacteria, permeabilization, destruction of industrial waste, treatment of lignocellulosic materials, micronization of biomolecules (SAS, RESS), and enzymatic catalysis. Supercritical fluid processing exploits the high solvation power, low viscosity, and high diffusion coefficient offered by the supercritical fluids. The fluid most used in supercritical technologies is carbon dioxide (CO₂). This is a review of the literature related to the supercritical fluids applied to bioprocessing.

Biography

Socrates Quispe-Condori has completed his Ph.D. at the age of 28 years from University of Campinas (Sao Paulo, Brazil) and postdoctoral studies from The Department of Agricultural, Food and Nutritional Science (AFNS) at the University of Alberta, Canada. He is the Director of the Research Department in the Faculty of Engineering and Architecture, Universidad Peruana Union (Lima, Peru). He has published several papers related to supercritical fluid processing and serving as reviewer for the *Journal of Supercritical Fluids*.

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