

BIOACTIVE PARTICLE'S FORMATION BY SUPERCRITICAL FLUIDS: EXAMPLES OF APPLICATIONS

Sandra R. S. Ferreira

Chemical and Food Engineering Department
Federal University of Santa Catarina
EQA/CTC – UFSC, BRAZIL

Natural products are a large source of components with biological activities. Those substances normally present high aggregated value and are important to different areas such as medicinal, food and nutritional supplements. There are different forms to use the bioactive components or extracts and one way to increase its bioavailability and/or preservation, during process and storage, is the particle formation and the encapsulation of the biological material. Conventional processes for particulation/encapsulation present disadvantages like poor control of the particle size produced. Therefore, supercritical fluids rise as an interesting alternative to improve the functionality of the particles. Nowadays several high pressure processes are available in order to particulate and/or encapsulate biological materials: SAS, GAS, RESS, PGSS and SFEE. Some examples of applications are the use of SEDS method to encapsulate β -carothene in PHBV or the SFEE method to produce shrimp residue extract particles encapsulated in Pluronic F127, among other products.

*Corresponding author: sandra@enq.ufsc.br