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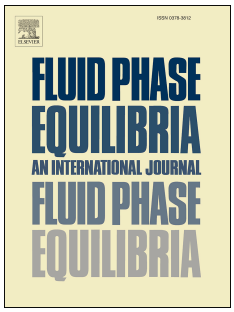

High-pressure phase equilibrium data for carbon dioxide + dichloromethane + acetone and carbon dioxide + dichloromethane + acetone + N-acetylcysteine (NAC)

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High-pressure phase equilibrium data for carbon dioxide + dichloromethane + acetone and carbon dioxide + dichloromethane + acetone + N-acetylcysteine (NAC)

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Abstract

The N-Acetylcysteine (NAC) is a thiol compound with a strong antioxidant effect and demonstrated preventive action as protector in chronic kidney disease, cancer, pulmonary insufficiency, in the treatment of AIDS and other systemic diseases. Experimental phase equilibrium data provide fundamental information for the micronization supercritical fluid SEDS technique, which is characterized by the reduction of the average particle size leads to changes in physical structure of the compounds processed. There are numerous advantages in particle size reduction and make narrower particle size distribution, the main one being the resulting increased bioavailability. Therefore, the aim of this work was to study the high pressure phase behavior of the ternary system {carbon dioxide (1) + dichloromethane (2) + acetone (3)} and for the quaternary system {carbon dioxide (1) + dichloromethane (2) + acetone (3) + NAC (4)} in order to assist the micronization process in supercritical media. The experiments were performed using a variable volume cell over the temperature range from 308 to 328 K, pressure from 4.7 to 9.87 MPa, and mass ratio dichlorometane/acetone of

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