

High pressure phase behavior of lactate esters in supercritical carbon dioxide

조동우, 신정인, 배 원¹, 신문삼², 권정민, 김화용*
서울대학교; ¹미원스페셜티케미칼(주); ²청운대학교
(hwayongk@snu.ac.kr*)

Lactate esters are interesting chemicals which made from bio-source. Various industries, from the fine chemical industry to pharmacy, use them for the solvent, ingredient, and additive. However, Some parts of them have a difficulty of general separation process due to chemical characters of lactate esters. The problem can be solved with SCF extraction. To design and operate SCF extraction for removing lactate ester from products, high pressure phase behavior data are needed. High pressure phase behavior of methyl lactate, ethyl lactate, propyl lactate, and n-butyl lactate in CO₂ is measured from 363.2 K to 323.2 K with variable volume view cell. The correlation is performed with Peng-Robinson Equation of state (PR-EOS). The critical constants and the acentric factor for PR-EOS are estimated by Constantinou /Gani method.