Effects of insoluble solid contents in fermentation broth on recovery efficiency of microfiltration

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2,3-Butanediol(2,3-BD) has potential applications in specialty chemicals as raw material of cosmetics, growth promoting agents for crops, and antifreeze substances and can be produced from simultaneous saccharification and fermentation(SSF) of liquefied cassava powder using Klebsiella oxytoca. Microfiltration(MF) is a process to separate insoluble solids such as cells and cassava powder from fermentation broth and the recovery ratio is affected by insoluble solid contents. In this work, filtration efficiency of fermentation broth in the presence of cassava powder was investigated using lab-scale MF equipment with 0.015 m2 membrane area and 0.05㎛ pore size. With cassava powder, the maximum recovery ratio attained was 90% and the recovery ratio drastically reduced with the cassava contents over 0.3 wt%. [This work was supported by the Industrial Strategic Technology Development Program (No. 10050407) funded by the Ministry of Trade, Industry & Energy (MOTIE. Korea).]