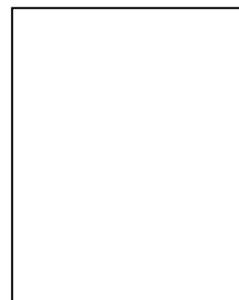


Recovery of bio-based butanol

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Description

Product recovery is crucial for fermentative butanol production. In-situ product recovery can be applied to minimize the impact of butanol inhibiting during fermentation. This study addresses product recovery methods applicable to butanol recovery. Two techniques were investigated in more detail, namely liquid demixing based-recovery and, in particular, adsorptive recovery. 1-Butanol was adsorbed efficiently by hydrophobic high-silica zeolites. These were heated to desorb the butanol. This work further provides a basis for process optimization for integrated product recovery and finally determines the economic potential of butanol production systems.

Zeolite pellet and powder used for butanol adsorption



Dissertation

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