

2,3-butanediol dehydration and purification from fermentation broth using Hybrid Salting out Extraction-Distillation

Junaid Haider, Muhammad Abdul Qyyum,

Hussain Arif, 이문용[†]

영남대학교

(mynlee@ac.kr[†])

Despite the fact that liquid fuels are major contributor in meeting the worldwide energy requirement, but their future is uncertain due to their continuous depletion. Among various biofuels, 2,3-BD have numerous industrial applications. 2,3-BDO in the final fermentation broth is very low, so, there is need to recover it from other components. A detailed design was proposed in this study to separate 2,3-BDO based on Hybrid salting out Extraction and Distillation. Particularly, systematic solvent selection method has been successfully implemented to determine lighter alcohols as the good solvents for the proposed HSED configuration based on numerous feature of each solvent candidate. 2,3-BDO up to 90% with 99 wt% purity in the final product was successfully achieved as of our target.

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