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Analysis on Availability of the Carbon Element in Alcohol Production

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摘要 According to the concept of circular economy, the mass integration of alcohol production was investigated though the analysis of the carbon element contained in raw material cassava. Through the mass integration, the distillage wastewater turned into carbon resource and produced a great deal of by-product biogas while its chemical oxygen demand (COD) was reduced from 50000 mg/L to not more than 300 mg/L, the local secondary effluent standards, and other by-products such as CO2 (liquidized) and fusel oil were recovered. In the way, the consumption of raw material was only 2.2 tons cassava to produce 1 ton alcohol (96%, j) in the case study, much lower than the average level 2.92 t/t in China. The carbon element balance for production of alcohol was made through testing the concentrations of the carbon element of all mass flows. The results showed that the mass integration helped the availability of the carbon element increased from 44.74% to 64.75%.

关键词 alcohol production,cassava,carbon element,circular economy

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