

## Cellulosic ethylene glycol - economic potential, contaminants and process concepts

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Ethylene glycol, an important commodity intermediate, could be readily made from carbohydrates. We review here recent developments to produce it via pre-treatment and hydrogenolysis of lignocellulose. We address the economic potential of this hydrogenolysis route vs. sugar fermentation to ethanol and vs. market prices. We review the detrimental impact of lignocellulose contaminants – lignin, ash and extractives – on the hydrogenolysis reaction. We then present two different process concepts with their strength, weaknesses and opportunities for improvement, namely a first concept based on thorough pre-treatment and cellulose hydrogenolysis in aqueous medium, and a second concept based on much simpler deashing and re-optimized hydrogenolysis in aqueous-organic medium.