The Effect of Fermentation Inhibitors during Dilute Sulfuric Acid Hydrolysis of Sugar Using Batch Reactor

백상우, 오경근*
단국대학교
(kkok@dankook.ac.kr*)

The effect of dilute sulfuric acid hydrolysis of the pure glucose and xylose on sugar yield and on fermentability of the hydrolysate by fermenting yeast, *Brettanomyces custersii* was investigated. The sugars was hydrolyzed in dilute sulfuric acid (0.5 - 2 wt.%) between 190-220℃ in batch reactor at a 9:1 liquid-to-solid ratio.

The conditions of reaction were showed residence time, temperature, sulfuric acid concentration and it was used. The glucose and xylose which decides a ethanol yield decreased while the temperature and the concentration of sulfuric acid increased; however, the concentration of furfural, 5-hydroxymethylfurfural(5-*HMF*), acetic acid, formic acid was increased. Specially, the yield of ethanol and volumetric productivity decreased with increasing the concentration of acetic acid, formic acid, and levulinic acid.