

## Reactive Extraction of VFA with Amine Extractant (Alamine 336) for Biofuel Production

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VFA (Volatile fatty acid) is an important product to make biofuels with biological and chemical methods, such as fermentation and reforming process, and the requirement of the separation of VFA from fermentative broth is growing in fermentation based industries. In our study, reactive extraction was performed to separate VFA from aqueous phase with amine extractant (Alamine 336) diluted in octanol. Artificial VFA solution was used and the volumetric ratio was 6:3:4 (Acetic acid : Propionic acid : Butyric acid). Aqueous phase (VFA and deionized water) and organic phase (Alamine 336 and octanol) was directly mixed and separated by phase separation effect. Extraction process was achieved at various VFA concentrations (30–500 g/L) and extractant compositions in the diluent (0–100 %). Distribution coefficient was calculated from the acid concentration of organic phase and aqueous phase in extraction process. In the condition of various pH values, distribution coefficient was varied and the efficiency of extractant was changed.