

Penggunaan Metode Gas Injeksi dengan NH₃ dan CO₂ sebagai Precipitating Agent pada Preparasi Katalis CuO/ZnO/Al₂O₃

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Abstrak

Performance of hydrogenation catalyst at lower pressure and temperature to produce methanol from CO₂ is expected to be improved. It is needed to utilize a preparation method such as gas injection to give effect in preparation step. Gas injection method can improve the diffusion property of the precipitating agent and gives more smaller particle size of active site.

In this work, catalyst CuO/ZnO/Al₂O₃ (50:45:5 wt%) was prepared by co-precipitation to combine with injection of NH₃ to the preparation step. As precipitating agent, NH₃ came from evaporation of its solution heated at 60° C in CO₂ flow or precipitating agent of CO₂ with N₂ carrier.

As a result, mixture of NH₃ and CO₂ or with N₂ carrier deposited metal cations (Cu, Zn and Al) at ambient temperature and pressure. Injection of NH₃ and CO₂ gave deposit as carbonate or hydroxide soft, on the other hand injection of NH₃ gave hydroxide salt. This method resulted catalyst with higher surface area but lower dispersion in comparison to conventional co-precipitation method.