

Dechlorination of Dichlorobenzene by Ni-Fe Catalyst

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Various catalysts using Ni-Fe bimetallic system, Ni-Fe incorporated LDH, nanoparticle and Ni-Fe loaded SBA-15, was synthesized. Each of catalysts were prepared according to various Ni-Fe molar ratio and characterized XRD, BET, and SEM. Dechlorination of ortho-dichlorobenzene (ODCB) by Ni-Fe catalysts was carried out in fixed bed reactor and isopropyl alcohol was used as hydrogen donor. Dechlorination efficiency was different as support material, Ni-Fe molar ratio, reaction temperature and amount of isopropyl alcohol. High Ni contents and materials with high surface area showed not only effective dechlorination but also much amount of isopropyl alcohol gave good efficiency. However, in case of reaction temperature, good efficiency was shown at 300°C.