

Bimetallic Co-Mo/KIT-6 Catalysts for Water-gas Shift Reaction

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Co-Mo bimetallic materials widely have been investigated as catalysts for various kinds of field due to their high catalytic activity. Co-Mo bimetallic catalysts also show considerable activity for Water-gas shift reaction. Water-gas Shift reaction is essential for purifying H₂ gas used for fuel cell. KIT-6 supported Co-Mo bimetallic catalysts were prepared by co-precipitation with different Co/Mo atomic ratios(0:10, 1:9, 3:7, 5:5, 7:3, 9:1 and 10:0) and heat treatment temperature(450°C, 550°C, 650°C). The mesopores of KIT-6 were used for active sites of Co-Mo bimetallic catalyst. The characteristics of the catalysts were analyzed by N₂ adsorption/desorption isotherm, XRD, SEM, H₂-TPR and XPS and the catalytic activity for Water-gas shift reaction was measured.