

### Catalytic Dehydrofluorination of 1,1,1,2,3-Pentafluoropropane (HFC -245eb) to Environment -Friendly Refrigerant 1,1,1,2-Tetrafluoropropane (HFO -1234yf)



It is important to produce the environment -friendly refrigerant with lower global warming factors. The dehydrofluorination of 1,1,1,2,3-pentafluoropropane (HFC -245eb) to 1,1,1,2-tetrafluoropropane (HFO -1234yf) was studied using the catalysis. HFO -1234yf is an advanced refrigerant particularly for the automobiles. We confirmed that the conversion of HFO -1234yf was maintained above 60% for at least 30 hours with less deactivation. The surface -fluorinated metal oxide catalysts were prepared by modified sol -gel method and verified as highly dispersed porous catalytic materials. The structures of catalysts were observed using XPS, XRD, and TG.