

Thermal Decomposition of HFC-134a from ELVs(End of Life Vehicles)

노선아*, 김우현, 홍병권¹, 박영수
한국기계연구원; ¹현대자동차
(sos@kimm.re.kr*)

HFCs has been considered as an eco-friendly refrigerants due to the absence of Cl which is the destruction material of the ozone layer. However, Global Warming Potential is high and HFCs has been regulated by Kyoto protocol and Bali Roadmap. HFC-134a has been used as refrigerants of air conditioner for the Korean vehicles from 1996. Therefore, the efficient treatment has been needed for the ELVs management. Absorption, thermal treatment and plasma treatment etc. have been researched. Thermal treatment of HFC-134a has been known as one of the effective methods to destroy HFC-134a. In this study, thermal treatment of HFC-134a from ELVS(end of life vehicles) has been performed in a 5 ton/day shaft-type gasification-melting pilot plant. The certain amount of HFC-134a has been injected to gasification melting reactor with air and sampling has been performed after main reactor and produced gas has been analyzed with IR and GC-MS.