

Ejector refrigeration cycle의 세가지 유체(R11, R141b and R123)의 Eco-indicator기반
전과정평가

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The study presents the life cycle environmental impact of jet-ejector refrigeration cycle (JERC). The Eco-indicator 99 (H) method are used to assess the endpoint impacts from 'cradle to gate'. The environmental impact (EI) of the working fluid is allocated to each component of the JERC according to the exergy destruction of the corresponding component. R11, R141b and R123 are selected as the working fluids. The EI's of the working fluids and components are analyzed, and the thermoenvironmental impact factors of the components are discussed. The results showed that the environmental impact of the working fluid cannot be neglected. The EI's of R11, R141b and R123 are 32.02 %, 12.53 % and 1.98 % in the EI's of overall system, respectively. Acknowledgments : This work was supported by the National Research Foundation of Korea (NRF) grant funded by the Korea government (MSIT). (No. 2017R1E1A1A03070713).