Abstract

This research aims to evaluate the environmental impact of condenser which is a part of cooling unit in automobile and is predominantly made with aluminum. By collecting data from actual plants and related agencies, the research focused on 3 stages of product life cycle; inbound raw material transportation, production, and outbound raw material transportation. The tool and database used for analyzing data was Simapro 7.1 which utilized the principle of Environmental Design of Industrial Products (EDIP).

The findings revealed three classifications of environmental impact; the impact on human health, impact on ecosystem, and impact on the use of resources. Results showed that the impact of causing toxicity in the air to human (Human Toxicity Air) was mainly caused by both inbound and outbound transportation processes, and production process (95.18%). This is followed by reduction in plant ozone formation (7.79%). The last group of environmental impact was caused by the poisoning of water (Ecotoxicity Water Chronic) at 1.06%. The findings helped identify the main causes of environmental impacts in each stage of product life cycle and could be used to improve environmental performance.