Innovation in manufacturing for new process of sustainable resource recycle

Recycling process development of halogen containing material through novel halogen circulation system

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Summary :

The chlorine used for PVC and others is supplied as a by-product during the production of sodium hydroxide at present. However, as the demand for chlorine exceeds that for sodium hydroxide, the supplement of the related products is depended on oversea sources.
Also, considering the influence of chlorine on the environment, it is important to position halogen containing PVC properly in the resource circulation system both economy-wise and environment-wise.

In such circumstances, the recycling of chlorine and other useful objects from ineffectively-used waste plastics is noticed. Nevertheless, using current dechlorination technology, it will cause a large energy consumption, corrosion on the facilities, and chlorine mix into the recycled products during processing. Thus the resources circulation has not been established.
In this study, we aim at developing the wet type chemical separation method as a new dechlorination technology with its possible application to the metal collection technology and to establish the high-level cycling technology and process using the plastic.