

# Technology for metal resources recovery from solid waste

Environmentally friendly technology using recyclable chelating agents

## Overview

Solid wastes, including industrial wastes, rocks, and polluted soils, contain various elements such as hazardous heavy metals and rare earth metals. Conventionally, strong acids have been used as extractants to enhance the leaching of these metal ions, which are subsequently recovered using electrochemical methods. However, these methods have environmental and economic problems because they consume a large amount of chemicals and electricity. The inventors have successfully developed a process that uses a recyclable solution containing an environmentally friendly chelating agent as the extractant for metal ions and anions extraction from solid wastes, which are efficiently recovered from the extractant, enabling the regeneration and reuse of the extraction solution.

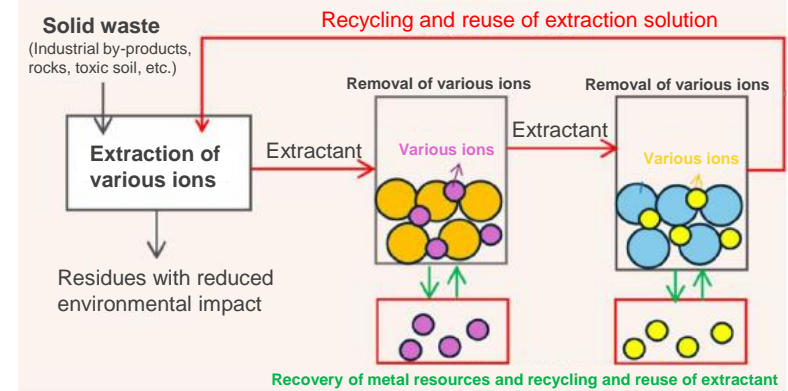
The present invention is expected to be applied to the removal of toxic ions from polluted soil. It is also expected to be used for the collection of resources such as rare earths from minerals. Furthermore, it can be combined with CO<sub>2</sub> mineralization technology using solid wastes. (E.G., Patent No. 7345791)

## Product Application

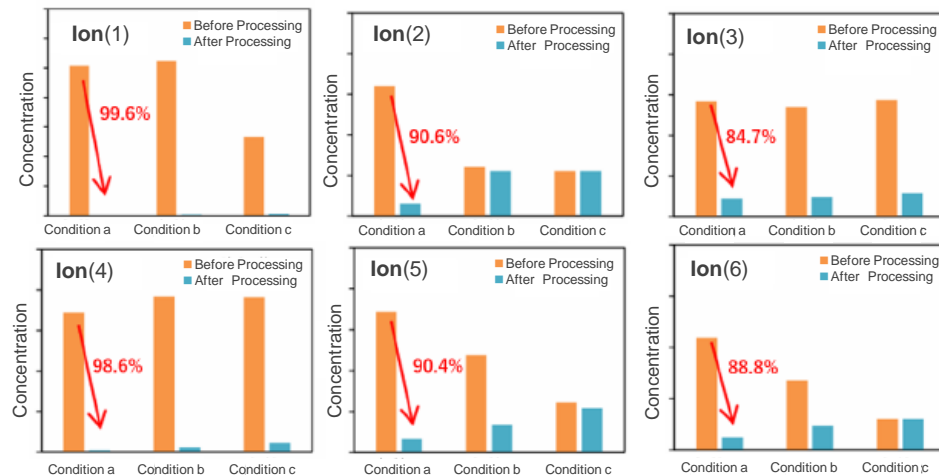
- ❑ Removal of toxic ions from polluted soil
- ❑ Collection of resources such as rare earths from minerals
- ❑ Regeneration of extraction solution for CO<sub>2</sub> mineralization

## IP Data

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## Various metal ions in the extract were collected



## Related Works

## Contact

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