



Recycling

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Special Issue Reprint

Emerging Technologies in the Hydrometallurgical Recycling of Critical Metals

Edited by: Ana Paula Paiva

The number of identified critical materials included in the lists published by the European Union every three years, since 2011, has been steadily increasing. Metals occupy a major part of those materials, since many of them hold significant importance for key sectors in the European economy, are difficult to replace, and have a highly threatened supply. It is crucial to invest in the creation and development of sustainable technologies to reuse and recycle metals from end-of-life devices, residues, gaseous and liquid effluents, wastes, and scraps to effectively establish a circular economy and protect the future of the planet and all living species.

In recent years, hydrometallurgy has been playing a key role in the sustainable recycling of metals from several secondary sources. Therefore, emerging hydrometallurgical approaches for recovering critical metals from permanent magnets, photovoltaic panels, electronic waste, various slag dusts, single-use medical devices, superalloys and batteries, and vanadium-bearing waste, can be found in this Reprint, excellently described in nine research articles and critically discussed in two review articles.

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