Lead-acid battery treatment technology

How do lead-acid batteries reduce environmental impact?
It is evident that the segregation and independent treatment of the most polluting effluents from dismantling and washing lead-acid batteries means that much of the rest of the effluents can be discharged; this therefore simplifies their treatment and minimises the environmental impact.

How pyrometallurgy is used in recycling lead-acid batteries?
The method has been successfully used in industry production. Recycling lead from waste lead-acid batteries has substantial significance in environmental protection and economic growth. Bearing the merits of easy operation and large capacity,pyrometallurgy methods are mostly used for the regenerationof waste lead-acid battery (LABs).

What is a lead-acid battery?
Lead-acid batteries (LABs) have been undergoing rapid development in the global market due to their superior performance , , . Statistically, LABs account for more than 80% of the total lead consumption and are widely applied in various vehicles .

Are conventional effluent purification processes used for the recovery of lead acid batteries?
The purpose of this article is to describe the conventional effluent purification processes used for the recovery of materials that make up lead acid batteries, and their comparison with the advanced processes already being implemented by some environmental managers.

Does carbonation improve the removal efficiency of lead in battery wastewater?
The removal efficiency of lead was increasedafter using a carbonation step with 68% for quicklime and 69% for slaked lime. The carbonation process not only enhanced the lead removal efficiency in the battery wastewater but also reduced pH to meet requirements of environmental regulations.

Can slaked lime remove lead sulfate from Battery wastewater?
Multiple requests from the same IP address are counted as one view. In this study,we present a low-cost and simple method to treat spent lead-acid battery wastewater using quicklime and slaked lime. The sulfate and lead were successfully removedusing the precipitation method.

In this study, a strong acid gel cation exchanger (C100) impregnated with hydrated ferric hydroxide (HFO) nanoparticles (C100-Fe) was synthesized, characterized, and validated for application as a novel adsorbent to remove lead (Pb 2+) from industrial lead-acid battery wastewater.

[40] Zhu X. 2012 Study on Leaching Process of Spent Lead Acid Battery Paste with Organic Acid and Preparation of Ultrafine Lead Oxide by Calcination at Low Temperature (Huazhong University of Science and Technology) Google Scholar [41] Sun Z. et al 2017 Spent lead-acid battery recycling in China-A review and

sustainable analyses on mass flow ...

Physical treatment methods can remove (up to 90-99%), chemical treatment methods can remove (up to 95-99%), and biological treatment methods can remove (up to ...

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The results indicated that mixed smelting technology (MST), pre-desulfurization and multi-chamber smelting technology (PD-MCST), and direct smelting technology (DST) were found to perform well and were therefore ...

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