

Purification of sulfuric acid from lead-acid battery fluid

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 removed using the precipitation method.

What is the purity of a lead-acid battery?

Primary recoveries of 96.2% for lead and 98.9% for sulfur were obtained. The purity of the crude lead bullion was 98.6 wt.%. Sulfur was fixed in the solidified matte as FeS and NaFeS₂. Spent lead-acid batteries (LABs) are widely scrapped from automobiles and electric bicycles in urban areas.

How was a lead-acid battery wastewater sample collected?

The raw lead-acid battery wastewater sample was generated from a lead-acid battery company and kept in plastic bottles. The battery company had no recycling system; therefore, the sulfuric acid from the used lead-acid battery was directly poured into a storage tank.

Can a cleaner pyrometallurgical lead-acid battery recycling system reduce SO₂ generation?

This study proposed a cleaner pyrometallurgical lead-acid battery (LAB) recycling method for lead extraction and sulfur conservation without an excessive amount of SO₂ generation. A reducing atmosphere was introduced to the lead paste recycling system to selectively reduce PbSO₄ to PbS.

Can quicklime remove sulfate from Battery wastewater?

Author to whom correspondence should be addressed. 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 removed using the precipitation method.

Can lead-acid battery paste be recycled?

An innovative and environmentally friendly lead-acid battery paste recycling method is proposed. The reductive sulfur-fixing recycling technique was used to simultaneously extract lead and immobilize sulfur. SO₂ emissions and pollution were significantly eliminated.

2 ???· What Is a Lead Acid Battery? Lead-acid or flooded batteries are among the oldest car battery technologies. They feature plates submerged in a liquid electrolyte (a mix of sulfuric ...

Product code : Battery Acid Pack (Sulfuric Acid) Other means of identification : Battery Fluid, Sulphuric Acid, Electrolyte, Battery Acid 1.2. Relevant identified uses of the substance or ...

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Purification of sulfuric acid from lead-acid battery fluid

Water Purification H₂SO₄ Industrial Sulfuric Acid US\$120.00-210.00 / Ton

The process comprises (a) breaking the batteries to remove the acid, (b) separating the plastic from the lead bearing materials, (c) smelting the lead bearing materials in a reverberatory...

Electrolyte Solution: The electrolyte in a car battery is a mixture of sulfuric acid and water, which facilitates the movement of ions between the electrodes, enabling the chemical reaction that generates electricity. Battery ...

The electrolyte solution in a lead-acid battery consists of approximately 35% sulfuric acid and 65% water. The acid concentration is usually between 4.2-5 mol/L, and the ...

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To recover the lead-acid battery, the lead sulfate is converted back to active material by chemical oxidation before the main stage of charging happens. At both chemical ...

The present invention discloses a process of extraction and filtration for removing metallic impurities from the acid in used lead-acid batteries. Produced is a reclaimed battery acid...

The main reaction in a lead-acid battery is: $\text{Pb(s)} + \text{PbO}_2\text{(s)} + 2 \text{H}_2\text{SO}_4\text{(aq)} \rightarrow 2\text{PbSO}_4\text{(s)} + 2\text{H}_2\text{O}$. When discharging, lead and lead dioxide react with acid. This makes lead ...

The ideal type of water for maintaining a lead acid battery is distilled water. Types of Water Ideal for Lead Acid Batteries: - Distilled Water - Deionized Water - Tap Water ...

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