

Treatment of lead-acid battery waste liquid sulfuric acid

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.

How is sulfate and lead removed from wastewater?

The precipitation method is used to efficiently remove sulfate and lead from the wastewater. In addition, carbon dioxide gas was bubbled into the reaction to increase lead removal efficiencies as well as reduce the pH value to about 7 to meet relevant standards of environmental regulations.

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.

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 regeneration of waste lead-acid battery (LABs).

Does carbonation improve the removal efficiency of lead in battery wastewater?

The removal efficiency of lead was increased after 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 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.

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In production of lead acid battery huge amount of sulfuric acid (H₂SO₄) is used. It lowers the PH value of water when mixed up with water which raises the acidic property of water [5] [6]. If ...

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An innovative and environmentally friendly lead-acid battery paste recycling ...

The lead-acid battery is a type of rechargeable battery first invented in 1859 by French physicist Gaston Planté; is the first type of rechargeable battery ever created. Compared to modern ...

There is a growing need to develop novel processes to recover lead from end-of-life lead-acid batteries, due to increasing energy costs of pyrometallurgical lead recovery, the resulting CO₂ emissio...

Sulfur trioxide is generally a colorless liquid but can also exist as ice- or fiber-like crystals or as a gas. When sulfur trioxide is exposed to air, it rapidly takes up water and gives off white fumes. ...

This technology overcomes the kinetic limits imposed by mass transfer ...

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2013. Abstract - The following paper aims to inform the readers about various hazardous wastes like solid waste, liquid waste and air pollutant generated in lead acid battery industries, harmful ...

This research proposes a low-cost method for treating spent lead-acid battery wastewater by quicklime and slaked lime which are generally cheap due to their abundance in ...

This research proposes a low-cost method for treating spent lead-acid ...

form of waste such as liquid waste and air pollution. Exide industries have well equipped effluent treatment ... lead acid battery, waste management, ... process by using lead, sulphuric acid ...

Product name : Lead-acid battery filled with diluted sulphuric acid Type of product : Note: This product is an 'article' and is not an object that is required to issue Safety Data Sheets (SDS) ...

Disposal: Lead-acid batteries are hazardous waste and should be disposed of properly. Contact your local waste management facility or battery retailer for information on ...

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 ...

ORIGINAL ACID WASTE TREATMENT SYSTEM A schematic flowsheet of the original acid waste treatment system is illustrated in Figure 1. Waste battery acid from the crushing plant, ...

Sulfuric acid, often called battery acid, is the critical ingredient for the function of lead-acid batteries, and it is standard in cars and many industrial applications. This strong electrolyte is ...

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Recycling lead from waste lead-acid batteries has substantial significance in environmental protection and economic growth. Bearing the merits of easy operation and large ...

Most of lead secondary smelter deliver the spent acid to recyclers of liquid hazardous waste, after payment of a disposal fee. In-site neutralization process is not a viable ...

Against this background, sodium carbonate (Na_2CO_3) was proposed as a ...

Web: <https://centrifugalslurrypump.es>