Harmless treatment technology for waste lead-acid batteries

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).

Can lead-acid batteries be recycled?
Because lead is toxic to the environment and to humans,recycling and management of waste lead-acid batteries has become a significant challenge and is capturing much public attention. Various innovations have been recently proposedto recycle lead and lead-containing compounds from waste lead-acid batteries.

Is waste lead-acid battery disposal a safety hazard?
Improper waste lead-acid battery (LAB) disposal not only damages the environment,but also leads to potential safety hazards.

What is the impact of lead-acid batteries on the environment?
Accordingly,the amount of waste lead-acid batteries has increased to new levels; therefore,the pollutioncaused by the waste lead-acid batteries has also significantly increased.

How do you recycle lead from a battery?
Li W. et al 2023 Recycling lead from waste lead-acid batteries by the combination of low temperature alkaline and bath smelting. Separation and Purification Technology 123156 Pan J. et al 2016 Preparation of high purity lead oxide from spent lead acid batteries via desulfurization and recrystallization in sodium hydroxide.

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 .

Incineration is widely adopted in municipal solid waste management, which produces large amounts of municipal solid waste incineration (MSWI) fly ash. The harmless treatment of MSWI fly ash requires the ...

Various innovations have been recently proposed to recycle lead and lead-containing compounds from waste lead-acid batteries. In this mini ...

Sustainability 2022, 14, 4950 4 of 18 Figure 2. Reverse recycling diagram of lead-acid battery manufacturers. Figure 3. Third-party social recycling model. 2.1.2. Alliance Recovery Mode

Harmless treatment technology for waste lead-acid batteries

Keywords Spent lead-acid battery · Waste lead paste · Secondary lead · Combined electrolysis Introduction Lead is an important nonferrous metal that has good duc-tility and corrosion resistance. It is widely utilized in many industries, such as LABs, cable sheaths, machine manufac - turing, ships, and military projects. Recently, the applica-

Lead extraction from spent lead-acid battery paste in a molten Na2CO3 salt containing ZnO as a sulfur-fixing agent was studied. Some influencing factors, including smelting temperature, reaction time, ZnO and salt dosages, were investigated in detail using single-factor experiments. The optimum conditions were determined as follows: T = 880°C; t = 60 min; ...

The invention belongs to the technical field of waste lead-acid battery treatment, and particularly relates to a harmless regeneration method of a waste lead-acid battery shell, which comprises the following steps: (1) crushing the waste lead-acid battery to a granularity of less than 50mm by using a sealed hammer crusher, and injecting weak alkali liquor in the crushing process; (2 ...

Overview Approximately 86 per cent of the total global consumption of lead is for the production of lead-acid batteries, mainly used in motorized vehicles, storage of ...

The growing of collected waste lead-acid batteryLead-Acid Battery (LAB) quantity means the growing demand for secondary lead (Pb) material for car batteries, both needed for increased cars& #8217; production and for replacing of ...

Improper waste lead-acid battery (LAB) disposal not only damages the environment, but also leads to potential safety hazards. Given that waste best available ...

Study on the process of harmless treatment of residual electrolyte in battery disassembly ... Potential environmental and human health impacts of rechargeable lithium batteries in electronic waste. Environmental Science & Technology 47: ... Temporal and spatial characteristics of lead emissions from the lead-acid battery manufacturing industry ...

Study on the process of harmless treatment of residual electrolyte in battery disassembly ... Potential environmental and human health impacts of rechargeable lithium batteries in electronic waste. Environmental Science & Technology 47: 5495 ... Chen L, et al. (2017) Temporal and spatial characteristics of lead emissions from the lead-acid ...

Web: https://vielec-electricite.fr