Environmental impact assessment of lead-acid battery production

What are the environmental impacts of lead based batteries?
Lead-based batteries LCA Lead production (from ores or recycled scrap) is the dominant contributor to environmental impacts associated with the production of lead-based batteries. The high recycling rates associated with lead-acid batteries dramatically reduce any environmental impacts.

How important is lead production in battery production?
For all battery technologies,the contribution of lead production to the impact categories under consideration was in the range of 40 to 80 % of total cradle-to-gate impact,making it the most dominant contributor in the production phase (system A) of the life cycle of lead-based batteries.

Do lead-acid batteries have an environmental risk assessment framework?
The environment risk assessment was presented in this paper particularly,the framework of environmental risk assessment on lead-acid batteries was establishedand methods for analyzing and forecasting the environmental risk of lead-acid batteries were selected.

Are lead-acid batteries good for the environment?
The high recycling rates associated with lead-acid batteries dramatically reduce any environmental impacts. In terms of global warming potential,the environmental advantage of improved and advanced technology lead-based batteries during the use phase far outweighs the impacts of their production.

What is a lead acid battery life cycle analysis?
Literature may vary according to geographic region, the energy mix, different times line and different analysis methods. Life Cycle Analysis (LCA) of a Lead Acid Battery made in China by the CML2001Dec07 process reveals that the final assembly and formation stage is the major emission contributing elements Gao et al. .

What is a lead battery LCA?
The lead battery LCA assesses not only the production and end of life but also the use phase of these products in vehicles. The study demonstrates that the technological capabilities of innovative advanced lead batteries used in start-stop vehicles significantly offset the environmental impact of their production.

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With the increase in battery usage and the decommissioning of waste power batteries (WPBs), WPB treatment has become increasingly important. However, there is little ...

Life cycle assessment is applied to analyze and compare the environmental ...

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Landfilling lead-acid and lithium-ion batteries showed significant negative environmental impacts. Lead recovery for lead-acid batteries waste also had negative impacts due to slag generation. ...

Based on aforementioned battery degradation mechanisms, impacts (i.e. emission of greenhouse gases, the energy consumed during production, and raw material ...

DOI: 10.1016/J.JCLEPRO.2016.12.171 Corpus ID: 157299073; Environmental impact and economic assessment of secondary lead production: Comparison of main spent ...

The single-biggest environmental issue with lead-acid batteries involves the lead component of the battery. Lead is a heavy metal with potentially dangerous health impacts.

Environmental Risk Assessment of Lead-acid Batteries Based on âEURoeTechnical Guidelines for Environmental Risk Assessment on ProjectsâEUR Ë,,HJ/T169-2004Ë...and in ...

studies to assess the environmental impact of lead metal pro-duction and two of the products ...

Lead industry life cycle studies: environmental impact and life cycle assessment of lead battery and architectural sheet production Alistair J. Davidson1 & Steve P. Binks1 & Johannes ...

The LCA of a recycling plant for spent lead-acid batteries presented shows that this methodology allows all of the major environmental consequences associated with lead ...

China is the largest lead-acid battery (LAB) consumer and recycler, but suffering from lead contamination due to the spent-lead recycling problems. This paper describes a ...

Landfilling lead-acid and lithium-ion batteries showed significant negative environmental ...

Lead-acid batteries are the most widely used type of secondary batteries in the world. Every step in the life cycle of lead-acid batteries may have negative impact on the environment, and the ...

The lead industry, through the International Lead Association (ILA), has ...

Lead acid battery (LAB) scrap management is an important issue both environmentally and economically. The recovery of lead from battery scrap leads to a ...

The LCA of a recycling plant for spent lead-acid batteries presented shows that this methodology allows all of the major environmental consequences associated with lead recycling using the ...

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