

# Lead-Acid Batteries

## Sustainability Snapshot



### Product Description

Lead-Acid Batteries include rechargeable energy storage devices using lead-acid chemistry for automobile applications (cars, forklifts, trucks, lawnmowers, boats).

### Mission

The mission of The Sustainability Consortium (TSC) is to improve the sustainability of products when they are made, purchased, and used, with a focus on manufacturers and the retail buyers who decide what products to carry in stores. The information in this document is drawn from our detailed research on known and potential social and environmental impacts across product life cycles. TSC acknowledges that other issues exist, but we have included here those that are most relevant to the decision making of retail buying teams and manufacturers. The topics are listed alphabetically for ease of reading; the order does not represent prioritization or other criteria.



### Use of Resources

#### Climate and Energy

Component processing and final product manufacturing of battery products consume significant amounts of electricity and energy, leading to greenhouse gas emissions. Manufacturers should procure from suppliers that help abate these impacts by measuring, tracking, and reporting energy use and greenhouse gas emissions, with a focus on reduction. They should also perform preventative maintenance on equipment, replace inefficient equipment, use renewable energy sources, and encourage efficient energy behaviors throughout their operations.

#### Disposal and End-of-Life

Lead released from batteries that are disposed of improperly or sent to poorly operated recycling facilities can be harmful to humans and other life. Manufacturers should educate consumers and participate in stewardship programs to responsibly collect and recycle batteries at end-of-life.

#### Material Efficiency

Battery component and final product manufacturing requires a significant amount of energy. Manufacturers should design batteries that use less material and more recycled materials, and that have a long useful life.

#### Pollution

Lead particulates released to the environment from battery manufacturing, recycling, and other supplier facilities can be harmful to humans and other life. Manufacturers should implement best available practices and technology to reduce and capture emissions from their facilities and work with their suppliers to do the same.

### Workers and Communities



### **Conflict Minerals**

Lead-acid batteries may contain minerals, including gold and ores of tantalum, tin, and tungsten, that are mined in places where groups responsible for human rights abuses control and profit from mining operations. Manufacturers should ensure that materials in their products are sourced responsibly and are not from these areas, and should try to help improve stability and quality of life for miners and their communities.

### **Workers**

Workers may be exposed to chemicals, dust, noise, or other industrial hazards. To help ensure worker health and safety, manufacturers should have a documented health and safety management plan, including a chemical management plan where needed, and provide safety training and personal protective equipment to workers. Manufacturers should procure materials from suppliers that address worker health and safety transparently and should perform audits when needed.