

Safe



Lead batteries are a safe, reliable and trusted technology for everyday energy storage. Many newer energy storage chemistries do not have the safety track record that lead batteries have maintained.

Safe for Employees

The lead battery industry puts employee health and safety first, meeting or going above and beyond federal and state requirements, including OSHA standards.

- ⊕ The **U.S. industry has made substantial voluntary investments** in progressive safety training, on-site hygiene, modern equipment and advanced engineering controls.
- ⊕ Manufacturers and recyclers use high-efficiency air filtration systems to **ensure a safe workplace.**
- ⊕ Since 1999, Battery Council International's members have committed to keeping the blood lead levels (BLLs) of workers at levels **well below those required by OSHA.**
- ⊕ At the end of 2019, average BLLs were **more than 80% below what OSHA requires.**
- ⊕ The Sustainability Consortium recognizes the industry for its **strong record on worker health and safety.**

Safe for Our Communities

The lead battery industry strives to continually advance processes to protect communities and the environment.

- ⊕ Lead battery manufacturing is one of the most **highly regulated industries in the U.S.**, subject to strict air and water release limits that protect public health.
- ⊕ Air emissions from lead battery production and recycling are each **less than 1%** of total U.S. lead emissions.
- ⊕ Best Available Control Technologies (BACT) and Best Management Practices (BMP) are standard to achieve the **highest levels of prevention control** from potential releases to air, water and land.
- ⊕ The lead battery industry has developed a Global Materials Stewardship Program to **share best practices** in the responsible management of lead throughout the lifecycle of automotive and industrial batteries worldwide.

In the U.S., lead batteries maintain a 99% recycling rate using a closed-loop recycling network that keeps **130 million lead batteries** from landfills annually.





Safe for
Employees

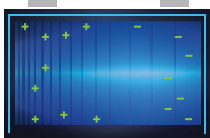
Safe for
Communities

Safe for
**Diverse
Applications**

Safe for Diverse Applications

For decades, lead batteries have safely powered essential industries, including transportation, telecommunications, data security, medical, and now, green energy.

- ⊕ The world **entrusts 70% of its rechargeable energy storage** needs to lead batteries.
- ⊕ Lead batteries provide **nearly 90%** of the **backup power** required for 24/7 telecommunications.
- ⊕ Lead batteries are one of the **preferred solutions** for **data center** uninterruptible power supply (UPS) systems.
- ⊕ Lead batteries help to safely transport Americans via **public transportation 34 million times** each weekday.
- ⊕ When used properly, lead batteries are a **safe energy source**, able to withstand up to 167°F and conditions as cold as -22°F.



The lead battery is a well-understood system with an aqueous electrolyte that is non-flammable and inherently safe – making battery fires and explosions extremely rare.

“

The lead acid battery ... is legendary. It's a **very safe chemistry** ... [and] we understand how to use it very, very well.”

— Dr. Venkat Srinivasan, Director,
Argonne Collaborative Center
for Energy Storage Science



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