



peopleforbikes

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PeopleForBikes.org

Electric Bicycle Battery Safety FAQ

I've heard stories about electric bicycles and their batteries starting fires. Are the batteries used for e-bikes dangerous?

The batteries in regular electric bicycles are similar to the lithium ion batteries found in your phone, computer, and many other types of chargeable technology, but they are much larger and more powerful. Like all other lithium ion batteries, when high quality electric bicycle batteries are handled and charged appropriately, the risk of a fire is minimal.

Electric bicycle batteries from major brands and reputable bicycle shops are tested to a number of different safety standards, including UL 2849, UL 2271, EN 50604, and others. A complete list of acceptable battery and electric bicycle testing standards can be found below.

Fires involving batteries from e-bikes, e-scooters, and other forms of powered mobility are usually the result of low-quality manufacturing, overcharging, tampering, and other unsafe practices. These batteries may not contain adequate battery management systems or meet any testing standards and are sold directly to consumers from online mass market retailers, not reputable brands and bike businesses. In a number of incidents resulting in fires, it was found that an unsafe number of batteries were being charged from the same power cord, or that unprofessional tampering with the batteries, for repair or other reasons, was being attempted.

PeopleForBikes, in partnership with Call2Recycle, developed [best practices for safe electric bicycle charging and battery storage](#).

How do I know if an e-bike battery is safe?

Electric bicycles and batteries that have been tested by third party laboratories to recognized safety standards will usually be labeled as such. You can also find this information on a bicycle brand's website and at bicycle retailers when shopping for an electric bicycle.

How does the E-BIKE Act address lithium ion battery safety?

The E-BIKE Act, alongside other local and state electric bicycle incentives, promotes the purchase of safe electric bicycles in a number of ways:

The E-BIKE Act (H.R. 1685/S. 881) includes language that limits eligible e-bikes to ones with tested drive systems or tested batteries. It also limits eligibility to electric bicycles that meet the three-class definition, which largely overlaps with brands manufacturing safe and tested electric bicycles and batteries.

At the state and local level, most e-bike incentives are limited to local participating retailers. Unsafe, untested electric bicycle batteries are largely being sold online from mass market sellers based outside of the United States, not in reputable and participating bicycle shops. PeopleForBikes is advocating for eligibility limitations for state and local e-bike incentives to e-bikes with tested battery systems.

What are other policy solutions for e-bike battery safety?

Federally, Rep. Ritchie Torres (NY-15) and Senator Kirsten Gillibrand (NY) introduced legislation (H.R. 1797/S.1008) that would direct the Consumer Product Safety Commission (CPSC) to regulate lithium ion batteries to mitigate the distribution and use of unsafe, untested batteries for electric bicycles and other powered personal mobility devices.

Rep. Earl Blumenauer (OR-03) plans to re-introduce legislation to limit non-market economies from benefiting from certain trade provisions for low-cost imports, namely China, as a majority of the batteries and powered personal mobility devices causing fires are shipped directly to consumers at a low cost. These bicycles are much less expensive than e-bikes bought in U.S. bike shops and from reputable brands because they do not include the cost of testing to applicable battery safety standards.

New York City Mayor Eric Adams recently signed into law a bill to limit the sale of electric bicycles and scooters with untested batteries. The Council is also considering the potential for a bicycle and battery trade-in program, in partnership with delivery app companies, to ensure that a majority of riders using e-bikes for delivery work have access to affordable and safe products. Read [PeopleForBikes' statement on the NYC bill](#).

The New York state legislature is considering a bill to regulate battery testing standards for products sold statewide.

Applicable Test Standards for Electric Bicycles and Lithium Ion Batteries

PeopleForBikes supports responsible manufacturers and retailers of electric bicycles in testing and certifying their e-bikes, batteries, and chargers for their products to the full range of accepted safety standards, including UL 2271 and other applicable standards included in UL 2849. Specifically:

Electric Bicycles and Drive Systems

- UL 2849
- EN 15194

Chargers

- UL 1012 and CSA C22.2 No. 107.2
- UL 1310 and CSA C22.2 No. 223
- UL 60335-2-29/CSA C22.2 No. 60335-2-29
- UL 62368-1/CSA C22.2 No. 62368-1
- EN 60335-2-29

Batteries

- UL 2580/ULC-S2580
- UL/ULC 2271
- CSA C22.2 No. 62133-1/iUL 62133-1 or CSA C22.2 No. 62133-2/UL 62133-2+ UL 2849 Clause 11.2 requirements
- UL 2054 + UL 2849 Clause 11.2 requirements
- EN 50604

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