PRINCE WILLIAM COUNTY

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Media Release

For Immediate Release

National Battery Day-Proceed with Caution

Proper Care, Storage, and Recycling

Prince William, VA, January 22, 2024 - February 18 is National Battery Day! Batteries are so essential to our everyday life, that they have a day. However, these power packs are often taken for granted. Yes, they are all around us in mobile phones, flashlights, laptop computers, radios, tablets, watches, e-cigarettes, smoke detectors, handheld game devices, television remotes, toys, automotive vehicles, robot vacuum cleaners, garden tools, hoverboards, e-bikes, scooters, electric cars, etc.

Yet, batteries are unassumingly powerful, and if not handled with care/caution/respect, that power can be at our peril, harming people, equipment, or structures. A lithium-ion battery was identified as the cause of the fire that killed a man in Sterling, Virginia, in early February 2023. An electric bike was charging inside a home when the battery ignited. Improper battery disposal is suspected as the culprit in several recycling center fires like the ones in Georgia[1] and throughout the country, including two fires at a commercial recycling business here in Prince William County, according to the Prince William County Department of Fire and Rescue.

Lithium-ion battery packs are made up of a group of cells inside a battery compartment and contain a flammable liquid electrolyte. The more electricity needed, the higher the number of cells — EV and plug-in hybrid vehicles, for example, have about 1,000 times more cells than an e-bike. With an increased number of cells and higher energy batteries comes a greater risk during failure. [2]

"It's a chemical reaction where the heat from one cell of the battery ignites the next cell," said Andrew Klock, senior manager of training and education at the National Fire Protection Association. "If you think about it, it's like a bunch of matchsticks and if you light one and they're all touching each other, the next one will ignite." [3]

Another danger to first responders comes when thermal runaway doesn't result in fire but instead causes a phenomenon known as "off-gassing."

"When you have a thermal runaway in a battery, it gets extremely hot. It breaks down the chemicals inside and can make flammable gases," said Adam Barowy, a research engineer at the UL Fire Safety Research Institute. "If that gas doesn't ignite, as soon as it comes out of the battery, it can build up and start to develop an explosion hazard." [4]

To help people enjoy their many lithium-ion battery-powered devices safely, UL's Fire Safety Research Institute's (FSRI) new 2023 safety campaign offers consumers easy steps to Take C.H.A.R.G.E. of Battery Safety. [5]

- Choose Certified Products: Only 25% of respondents to a recent survey said they check to see if the products they purchase meet lithium-ion battery standards. When purchasing lithium-ion battery-powered devices, look for products that are listed or safety certified by a nationally recognized testing laboratory to ensure they meet important safety requirements.
- Handle Lithium-Ion Battery Powered Devices with Care: Follow the manufacturer's instructions and only use the charging equipment that comes with the product. Do not modify batteries or chargers. Store and charge batteries away from extreme temperatures, direct sunlight, exits, and anything flammable. Charge larger devices (such as e-bikes) away from your exit path, behind a closed door, away from your sleeping area, and/or outside your home, if possible. Do not charge larger devices overnight.
- Always Stay Alert for Warning Signs: Check battery-powered devices often for damage or abuse such as swelling or punctures. Listen for unusual hissing or popping sounds. Watch out for excessive heat or a strange odor. If you notice any of these warning signs, stop using the lithium-ion battery-powered device immediately. White or gray wispy smoke indicates there is immediate danger of fire.
- Recycle Devices and Batteries Properly: Responsibly dispose of old or damaged batteries and devices by taking them to the nearest battery recycling center. Never discard batteries, chargers, or battery-powered devices in regular trash bins.
- Get Out Quickly If There's a Fire: Know the warning signs to look and listen for and get out if you see – or hear – them. Follow your home fire escape plan to leave immediately, closing doors behind you as you exit, and call 9-1-1.
- Educate Others on Safe Practices: Help protect your friends and loved ones by sharing how they can Take C.H.A.R.G.E. of Battery Safety.

Even if you don't have a lithium-ion-powered vehicle, many other devices are powered by lithium-ion batteries. Plus, all types of batteries, even 9-volt, can be dangerous if handled, stored, or transported improperly. Here are some additional safety tips.

Tips for Battery Care and Storage:

- Never touch or allow anything else to touch both terminals at the same time.
- Never store batteries loose, piled, or bagged in such a way that posts can touch.
- Store batteries out of reach of children.
- Small batteries should be stored in their original packaging whenever possible.
- 9-volt batteries should be stored standing up if possible.
- Do not store batteries in "junk drawers" or boxes of assorted items.
- Do not store batteries with or around paper clips, binder clips, coins, silverware, staples screwdrivers, etc.
- Don't store different types of batteries together.
- Never burn or expose batteries to flames.
- Be aware that all batteries will eventually leak. Watch for corrosion. Avoid touching corroded batteries with bare hands.
- Even weak or dead batteries will retain enough charge to cause fires or shock, so be careful.
- Never allow batteries to contact water.
- Never allow batteries to contact metal.
- Never take apart a battery.
- Only recharge batteries that are designed to be recharged.
- Any tool used around batteries should be non-conductive.
- Never smoke around batteries.
- Recycle used batteries properly.

Battery Recycling

Batteries that are disposed of in the regular trash and decay in landfill sites could leak into the groundwater, which may pollute soil and water in a community. Proper battery disposal prevents pollution, conserves landfill space, and saves metals and minerals that can be recycled and used in new products. Proper preparation of batteries for recycling is essential to prevent fires while in transit. Batteries rubbing together create the risk of sparks and fire. This puts waste management employees, facilities, vehicles, and other property in danger.

Prince William County residents can bring various types of household batteries and lead-acid automotive batteries to the Prince William County Landfill or the Compost Facility every day for proper disposal. Importantly, these facilities do not accept hybrid/EV batteries used in electric cars. Contact a car dealership or auto parts retailer for EV battery recycling.

In addition to the two county facilities, several retail outlets or battery specialty stores like Batteries Plus and Interstate Battery also make battery recycling convenient for many types of household batteries. Great online resources for battery recycling locations are Earth 911 and Call2Recycle.

No matter what recycling location is used, tape over the terminals (ends) of household batteries to prevent them from short-circuiting and possibly causing a fire. Masking tape or non-conductive electrical tape is recommended.

On February 18, or any day, as you enjoy the power of batteries and the freedom and convenience they provide, also give batteries proper respect by handling, storing, and recycling them with care.

For more information on how to recycle and properly dispose of materials in Prince William County use the A-to-Z Disposal Guide, www.pwcva.gov/disposalguide.

1- https://www.youtube.com/watch?v=W98gRBZ_bsEhttps://www.prnewswire.com/news-releases/alarming-rise-of-fire-incidents-from-lithium-ion-batteries-inspires-take-charge-campaign-301989717.html
2- https://www.cbsnews.com/news/lithium-ion-battery-fires-electric-cars-bikes-scooters-firefighters/
3- https://www.cbsnews.com/news/lithium-ion-battery-fires-electric-cars-bikes-scooters-firefighters/
4- https://www.cbsnews.com/news/lithium-ion-battery-fires-electric-cars-bikes-scooters-firefighters/
5- https://www.prnewswire.com/news-releases/alarming-rise-of-fire-incidents-from-lithium-ion-batteries-inspires-take-charge-campaign-301989717.html