



Carole Tolmachewich & Fred Stanger Middlesex County Solid Waste Management

## Thermal runaway

E-scooter battery fire

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# The Problem



Over the last few years in NJ, improper battery disposal caused fires in recycling processing and waste facilities as well as garbage trucks resulting in millions of dollars in damage and putting workers' lives in danger.



We need to do a better job educating residents on how to properly manage batteries.



There are different types of batteries requiring different methods of management, which can confuse the public.



- According to a 2021 EPA report, between 2013-2020, there were 64 fires at waste management facilities, 23 of which were MRF/IPFs
- July 2020 fire at Giordano IPF in Newark destroyed the single stream recycling line
- November 2020 there was a fire in an ACUA garbage truck
- January 2021 fire at Atlantic Coast IPF in Passaic destroyed facility
- August 2021 fire at Republic Services Transfer Station in Tinton Falls
- Fall 2021 fire at Burlington County IPF
- In NYC, E-scooter fires jumped from 13 in 2019 to 44 in 2020 to 130 in 2022, a 900% increase. Five people have been killed and 73 injured.





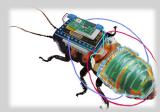






# Lithium-ion batteries are becoming cheaper to make, are in more devices, and people have more devices

- Chemistries of these types of batteries allow products to be lighter while also holding higher charges for longer periods of run-time
- Expect a 400% increase in lithium-ion battery manufacturing across the globe from 2018-2028
- US Battery capacity expected to go from 44 gigawatt hours in 2021 to 91 gigawatt hours by 2025
- IOT (Internet of Things) projects an increase from 10 up to 75 billion devices worldwide between 2020-2025
- Power tools, cellphones, laptops, powerbanks, e-scooters, e-bikes, toys
- Aftermarket batteries seem to be the biggest contributor to fires



Alkaline, zinc carbon (heavy duty) and zinc chloride batteries

- Typical single use batteries purchased by residents can be found in remote controls, flashlights, clocks, and other household items.
- These batteries fall below Federal and State hazardous waste standards.
- Should be discarded in the regular trash.
- It is recommended that these be individually bagged or have their terminals covered, prior to placing into the trash to minimize the risk of fire, especially with 9-volt batteries.

Single use lithium, zinc air, and other button cells

Lead-acid batteries

- Can be found in hearing aids, watches, calculators, toys, key fobs.
- Should be brought to a household hazardous waste disposal program. Visit <u>www.njhazwaste.com</u> for information about your County's program.
- It is recommended that these be individually bagged or have their terminals covered, prior to disposal to minimize the risk of fire.

# Rechargeable Batteries

- Nickel Cadmium (Ni-Cd), Nickel Metal Hydride (Ni-MH), Lithium Ion (Li-ion), and Small Sealed Lead (Pb) - less than 11 lbs.
- Can be found in power tools, portable electronics, cordless phones, cell phones, ride on toys and laptops.
- Should be recycled through the Call2Recycle program. County household hazardous waste programs also accept these types of batteries.
- These batteries must be individually bagged or have their terminals covered, prior to bringing them to a collection site.

# Educational Partnership

- Association of New Jersey Household Hazardous Waste Coordinators (ANJHHWC)
- Association of New Jersey Recyclers (ANJR)
- Call2Recycle
- Recycle Coach
- NJ Recycling Facilities
- NJDEP

## .....AND YOU!



### Prevent fires, keep people and property safe.

DO NOT throw rechargeable batteries in the trash or curbside recycling bin.

Be battery safety smart and responsibly manage your batteries at their end of life.

Find a battery drop-off location near you: call2recycle.org/locator

For more information: avoidthespark.com | njhazwaste.com | anjr.com | Recycle Coach app | recycle.nj.gov

f 😏 @NewJerseyDEP



Join the 'Avoid the Spark' conversation and promote battery safety awareness across New Jersey by sharing these ready-made social media posts.

### TWITTER

 No rechargeable batteries (especially lithium-ion or damaged batteries) should ever be thrown in the trash or curbside recycling bin! Doing so puts everyone involved in the battery journey at risk. Visit <u>www.avoithespark.com</u> for resources to #beatterymart.

 Did you know that used #batteries retain a residual charge after they are no longer able to power devices?
Knowing about 'hidden dangers' of used batteries and how to property recycle them can keep people and property safe. Learn more at <u>www.avoidtbeaptre.com</u>, #avoidthebatteryspark.

 It's time to get #chargedup about being #batterysafetysmart New Jerseyl The more you know about how to safely handle, protect and transport used batteries, the safer you and your community will be. Explore information on battery safety at <u>www.avodtbraspark.com</u>.

 Growing battery related fires at waste and recycling centers across the country and in New Jersey are spotlighting the need for increased #batterysafety. Help #avoid/batteryspark by accessing information of ways to be #batterysafetysmut <u>www.avoid/mespark.com</u>.

### FACEBOOK

 Think used batteries have no charge left? Think again! While they may not power up your devices, used batteries can contain a residual charge that could create a potential spark. If not properly recycled, Ramp up your #batterysafety knowledge and access helpful materials to stay #batterysafetysmart at www.avoidtegen/c.com.

 Keeping people and property safe while doing something good for the planet is what being #batterysafetysmart is all about! Access a battery I.D. guide and other resources at www.avoidthespark.com to help prevent safety incidents in your community.

 Have questions about what to do with used batteries? Want to be #batterysafetysmart? Check out www.avoidthespark.com for battery safety FAQ's and helpful resources.





# www.avoidthespark.com/nj

- Poster
- Logo
- Social media scripts
- Battery Guide
- Rechargeable battery recycling locator

Links to avoid the spark website are also on anjr.com and njhazwaste.com

# What are we asking you to do?

- Increase drop-off locations Interested? Contact Call2Recycle (<u>www.call2recycle.org</u>)
- Spread the word put information on your websites (social media, flyers, posters)
- Social media posts
- Paid advertising
- Share information at events
- Partner with local fire prevention programs
- Target annual events:
  - Fire Prevention Week is October 9-15, 2022
  - America Recycles Day November 15<sup>th</sup>
  - Holidays new devices, more batteries
  - February 18<sup>th</sup> National Battery day



### Facebook

https://www.facebook.com/ANJR2017/ https://www.facebook.com/NJDEPAQES https://www.facebook.com/Call2Recycle https://www.facebook.com/RecycleCoachApp/







Instagram https://www.instagram.com/recyclecoachapp/



Search Greenable Woodbridge, Lithium Batteries, 8/11/2021



### Questions?

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### Find Programs and Resources Do Business Here Government Discover Our Community Q

PAINT DROP-OFF PROGRAM	:
COOKING OIL RECYCLING	:
ELECTRONICS RECYCLING	:
TEXTILE RECYCLING	:
BATTERY MANAGEMENT	· · · · · · · · · · · · · · · · · · ·
Middlesex County will accept rechargeable and button cell batteries at our household hazardous waste (HHW) days. Prevent fires, keep people and property safe. DO NOT throw RECHARGEABLE batteries in the trash or recycling bin.	Be battery safety smart.
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Rechargeable batteries can be found in cordless power tools, cellular and cordless phones, laptop computers, digital cameras, two-way radios, camcorders, and remote control toys.

Rechargeable and Button Cell Batteries should be recycled, but they must be recycled at a drop-off location, not in your curbside bin. Rechargeable batteries CAN be recycled at many retail locations. Some municipalities participate in the call2recycle program. To find the nearest collection site, use the collection site locator at <u>www.call2recycle.org</u> or call the consumer helpline, 1- 877-2-RECYCLE.

Both rechargeable & button cell batteries must be properly prepared before drop off as new Federal regulations have been enacted to prevent short circuiting of batteries during transport. You must individually bag each battery or tape each terminal end prior to recycling.

Alkaline Batteries fall below Federal and State hazardous waste standards and can be disposed of in the regular trash. Alkaline batteries include AA, AAA, C, D and 9-V and will have the word "ALKALINE" imprinted on the battery.

Be battery safety smart and responsibly manage your rechargeable batteries at their end of life.

For more information on batteries visit the Avoid the Spark New Jersev website