LITHIUM-BASED BATTERIES POLICY

PROCESS GUIDELINES

These guidelines support the university's Lithium Batteries Policy by helping students, employees, and visitors understand how to safely handle, charge, store, and dispose of lithium-based batteries on campus.

1. Charging Batteries Safely

- Always charge batteries using the correct charger and follow the device manufacturer's instructions.
- Never leave batteries charging unattended.
- Do not charge batteries near anything that can catch fire, such as paper, cloth, or wood.
- Do not charge batteries if they are damaged, swollen, or leaking.
- **IF A BATTERY BECOMES HOT, SMELLS STRANGE, OR STARTS TO SWELL, UNPLUG IT, MOVE IT OUTSIDE AWAY FROM BUILDINGS AND PEOPLE, AND CALL EHS AT (970) 491-6745, BE PREPARED TO FOLLOW EMERGENCY PROCEDURES BELOW.**

2. Recognizing and Handling Battery Emergencies

- A **battery emergency** includes:
    - Fire
    - Smoke or sparks coming from a battery
    - Swollen or leaking batteries
    - Batteries making hissing or popping sounds
- **In an emergency:**
    - Do not touch the battery. Call 911 immediately.
    - Use a **Class D fire extinguisher if available** or sand/fire blankets to help control a lithium battery fire (never use water).
    - Evacuate the area.

3. Personal Devices with Batteries

- Devices like laptops, smartphones, tablets, e-scooters, drones, and power banks contain lithium batteries.

- Check your battery label to see if it is lithium-ion, lithium-polymer (LiPo), or lithium-metal.
- If your device battery exceeds 100 Watt Hours (Wh), you must follow the CSU Policy: Lithium Batteries. If it is below 100 Wh, basic safe practices still apply.

4. Finding Battery Size (Watt Hours)

- Look for "Wh" (Watt Hours) on your battery label. If it only lists volts (V) and amp hours (Ah), use this formula:
    - Wh = Volts (V) × Amp hours (Ah)
    - Example: A 10.8V battery with 4.4Ah = 10.8 × 4.4 = 47.52 Wh

5. Safe Storage

- Store batteries in a cool, dry place away from anything that can catch fire.
- Do not store in direct sunlight or in extreme heat or cold.
- Store batteries in a fireproof container or cabinet when possible.
- Departments using large quantities of batteries must store them in approved battery storage areas.

6. Battery Disposal

E-Waste Bins:

- Accepts:
    - Small capacity Lithium-ion (not lithium-polymer) batteries **20 Wh or less** (e.g., phone, small camera batteries)
    - Medium capacity Lithium-ion (not lithium-polymer) batteries **up to 100 Wh** (e.g., laptop batteries)
    - Alkaline batteries, which are commonly used batteries in such household items as keyboards, mouse, flashlights, and remote controls.
- Clear tape over battery terminals before placing them in the bin.

Contact EHS for Disposal:

- For lithium-polymer, lithium-metal, or any swollen/damaged batteries.
- Do **not** throw these types of batteries in the trash or e-waste bins.

7. Tape Battery Terminals Before Disposal

To prevent short circuits and fire:

- Tape the metal ends (terminals) of all batteries with clear tape before putting them in a bin or handing them off to EHS.

8. Compliance

- Everyone is expected to follow these guidelines immediately.
- Report any unsafe conditions or damaged batteries to EHS.

Failure to follow these procedures may result in disciplinary action or personal liability for damages.

Common household batteries and other alkaline batteries do not qualify as lithium-based unless specifically labeled.

Emergency Health Services Fire Safety Contact Information:

Web: https://ehs.colostate.edu/wfiresafety/home.aspx
Email: EHS@colostate.edu
Phone: (970) 491-6745

Name	Description	Image
Class D Fire Extinguisher	For metal fires (e.g., lithium); uses dry powder to suppress flames.	
Fire Sand Bucket	Bucket of dry sand to contain small fires or chemical spills.	

Fire Blanket	Fire-resistant sheet used to smother small fires or wrap individuals.	
Small Lithium Ion Battery	≤ 20 Wh; found in phones, cameras, and handheld devices.	  
Medium Capacity Lithium Ion Battery	20 Wh up to 100 Wh; found in laptops and larger electronics.	
Alkaline Batteries	Household alkaline cells in common sizes like AA, AAA, and 9V used in remotes, flashlights, keyboards, etc.	

Lithium-Polymer Battery	Flexible, lightweight pouch battery; more compact but more sensitive to damage and swelling.	
Lithium-Metal Battery	A lithium-metal coin cell (silver disc), often non-rechargeable and used in small devices.	
Lithium-Ion Batteries	Rigid, cylindrical or prismatic rechargeable battery; stable and widely used in electronics like laptops and tools.	 EXAMPLES OF LITHIUM BATTERIES