



## Management of large equipment powered by lithium type batteries

This guidance covers the use of large batteries in lab/workshop activities, ebikes, scooters, mobility scooters, electric wheelchairs, electric mopeds, eskateboards, hoverboards, large drones and similar items.

With the increased use of powerful batteries in the University and in society in general, it is important that the University adopts suitable protocols regarding the procurement, use, charging and storage of these batteries, in order to reduce the risk of fire.

### Required instructions

- Only use batteries that are CE, UKCA or BSI Kite marked;
- Only use batteries and charging equipment provided by the manufacturer for that item of equipment;
- Never modify a battery;
- Do not store, charge, or use batteries in direct sunlight or near sources of heat;
- Do not leave a battery charging overnight, or when you are away for an extended period;
- Do not overcharge batteries. Where possible, consider the use of timers, set to end the charge at around 80% to 90%;
- Do not charge or use batteries near combustible or explosive materials;
- Do not cover chargers or batteries when charging;
- Do not use or charge batteries in extremes of temperature (see manufacturers guidelines);
- Check batteries and chargers regularly for signs of damage and if you suspect there may be damage, the battery/charger should not be used and must be replaced.
- Remove damaged chargers from common areas to ensure it is not used and mark up as damaged and not to be used;
- Electrical RCD (residual current device) safety devices should be used;
- Electrical adaptors should be avoided when charging batteries;
- Do not overload socket outlets or use inappropriate extension leads (use uncoiled extensions and ensure the lead is suitably rated for what you are plugging in to it).

### Additional guidance

- A risk assessment should be conducted for each workplace activity that uses large batteries or lithium batteries, with a safe operating procedure produced and shared with users;
- In a lab/workshop environment, lithium batteries should be charged inside a suitable charging bag, box, cabinet (e.g. LIPO-SAFE' bags);



- Batteries must not be located/stored/charged in fire protected corridor/stairs, or adjacent to any escape routes;
- When using battery powered equipment during work activities, items being charged should not be left unattended. In this connection, a suitable charging point should be set up within an occupied or semi-occupied area of the department;
- When working with batteries, they should be positioned on a non-combustible surface, ideally a metal rack;
- These batteries must not to be charged in locations providing sleeping accommodation.

## E-bikes, hover boards, e-skateboards, electric mopeds, drones and any similar items

These items **are not to be used in University buildings** at any time.

Batteries for these items are not to be stored or charged in University buildings at any time unless in an agreed charging/storage facility (following advice from the FSU); either a fire resistant facility or in specialist storage equipment (e.g. battery charging cabinets and LIPO-SAFE bags), which will be located in suitable locations and subject to specific [fire] safety arrangements e.g. RCD devices and automatic fire detection and timer devices.

Information and advice of the storage and charging facilities for e-Bikes, can be obtained from [Sustainable Transport](#).

## Mobility Scooters & Electric Wheelchairs

Please contact the FSU for specific advice and guidance.

**You should note that portable fire extinguishers will not extinguish a lithium ion battery fire. In the event of such a fire, you never attempt to extinguish a fire involving a battery and should simply raise the alarm and evacuate the building in accordance with the University's emergency procedures.**

IT SHOULD BE NOTED THAT FROM 1 JULY 2023. THE SFRS (SCOTTISH FIRE AND RESCUE SERVICE) WILL NOT ATTEND FIRE ALERTS UNLESS THE BUILDING IS USED AS SLEEPING ACCOMMODATION.

TRAINED SECURITY OFFICERS, COMMUNITY SUPPORT OFFICERS AND/OR NOMINATED STAFF WILL CONDUCT THE INVESTIGATION OF THE FIRE ALERT TO DETERMINE IF THE SFRS ARE REQUIRED OR THE INCIDENT IS A FALSE ALARM. THE SFRS WILL ATTEND AS NORMAL TO CONFIRMED FIRES - EMERGENCY NUMBER (9)999

Fire Safety Unit  
[fire@ed.ac.uk](mailto:fire@ed.ac.uk)



### Document version

Version number	Summary of change	Date and by whom
1.0	Final version published	27/02/2023 Wes Boulstridge
1.1	- Addition of SFRS UFAS changes - Clarification paragraph 3	03/07/2023 N Sangster
2.0	- Version 1.1 extended into 3 documents - disposal, large and small equipment. All available to download <a href="#">here</a> .	28/11/2023 Wes Boulstridge

If you require this document in an alternative format please contact The Health and Safety Department on [health.safety@ed.ac.uk](mailto:health.safety@ed.ac.uk) or call (0131) 651 4255

Fire Safety Unit  
[fire@ed.ac.uk](mailto:fire@ed.ac.uk)