

SAFE WORKING PROCEDURE

Lithium Batteries

CORPORATE HEALTH & SAFETY | VERSION 1.00 | JULY 2024

STATEMENT:

In order to comply with legislation and fulfil statutory responsibility, the council must make sure that:

- Risk assessments are carried out as applicable and employees are provided with information, instruction and training on the hazards and controls associated with the work they carry out.

SCOPE:

This Safe Working Procedure (SWP) applies to:

- All managers including headteachers referred to as managers herein.
- All employees of Southampton City Council.

1. Responsibilities

Head of Service/ Head Teachers are responsible for ensuring compliance with this SWP and must:

- 1.1. Ensure all work activity risk assessments consider the risks for the use, storage and disposal of lithium batteries as applicable.

Service Manager/ Manager are responsible for ensuring compliance with this SWP and must:

- 1.2. Consider the risks for all employers relating to the use, storage and disposal of lithium batteries.
- 1.3. Provide appropriate information and training regarding the safe use, storage and disposal of lithium batteries

Employees must:

- 1.4. Not bring any lithium batteries into the workplace that are not provided by the employer, unless this has been agreed with their line manager and suitable and sufficient risk assessments undertaken as applicable.
- 1.5. Comply with any control measures identified within the risk assessment.
- 1.6. Check lithium batteries, that are connected directly to the electrical supply, before use for signs of wear and tear, damage or leakage.
- 1.7. Report any signs of wear and tear, damage or leakage to their line manager, or any other concerns regarding the use, storage and disposal of lithium batteries.

2. Procedures

- 2.1. Lithium-ion: a lithium-ion or Li-ion battery is a type of rechargeable battery which uses the reversible reduction of lithium ions to store energy. It is the predominant battery type used in portable consumer electronics and electric vehicles. Due to the liquid electrolyte nature of these batteries, they are more vulnerable to risks associated with puncture damage.
- 2.2. This document is designed to cover routine everyday domestic type battery usage (e.g. mobile phones, portable chargers, laptop batteries, e-cigarettes, and vaping items, etc.)
- 2.3. Users of lithium batteries must always ensure they familiarise themselves with the relevant manufacturers guidance and instructions and must follow them at all times.
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- 2.5. General information;
 - 2.5.1.1 The size of a lithium battery impacts the risk.
 - 2.5.1.2 In the event of a lithium battery fire, jets of flame and toxic gases can be emitted.
 - 2.5.1.3 Batteries charged in close proximity to combustible material (e.g. soft fabrics and clothing) pose a significant fire risk.
 - 2.5.1.4 Batteries must never be charged in enclosed spaces or fire escape routes.
 - 2.5.1.5 Battery charging is safest when done with supervision (i.e. whilst someone is present).
 - 2.5.1.6 Any space where batteries are charged must have a working smoke alarm and door to close in the event of fire.
 - 2.5.1.7 Batteries should never be stored or charged in hostile environments (e.g. in direct sunlight, extremely hot environments, damp environments, etc.)
 - 2.5.1.8 Items containing lithium batteries, should not be stacked on top of each other when charging as the heat generated between them, with no provision for air cooling to take place, is likely to present a significant risk of overheating.
- 2.6. Batteries should always be stored in line with the manufacturer's instructions for each device. This includes storage in a cool dry environment, away from heat sources such as fires and heaters, and out of the reach of children.

- 2.7. Batteries should only be purchased from reputable retailers. Items should meet British or European standards. You should register your product with the manufacturer to validate any warranties, batteries are usually included in warranties. Registering makes it easier for manufacturers to contact you in the event of a safety concern or if there is a common fault requiring a recall of the battery information.
- 2.8. Items containing lithium batteries should be included in local Portable Appliance Testing requirements along with regular visual inspections.
- 2.9. Users and battery owners are responsible for ensuring all batteries are disposed of safely. They must never be put in general waste bins. Most recycling centers now have dedicated areas for the disposal and recycling of batteries, including disposable vapes and other lithium batteries. Some supermarkets also provide safe means of disposal for batteries and vapes of all types. Vape stores should also offer a service for the safe disposal/recycling of vapes, including disposable vapes.
- 2.10. Swollen or damaged batteries present an increased fire risk and therefore must be removed immediately from use and disposed of safely as per guidance in 2.8.
- 2.11. Managers are required to assess risks to all their employees and to do what is reasonably practicable to control those risks. This must include the consideration of any non-work provided equipment being allowed to be bought into the workplace, i.e. vapes, disposable vapes, personal mobile phones, e-scooters and e-bikes, all of which are likely to contain lithium batteries.
- 2.12. Work provided equipment, such as laptops and work mobile phones, should have been procured via a reputable source and should be reported if it is thought there may be a problem with the battery or device and disposed of safely.
- 2.13. Lithium batteries are usually stable unless and until they become damaged or put under pressure or heat extremes. Therefore, they should be checked regularly for signs of damage and keep away from sources of heat, including sunlight.
- 2.14. Periodic checks of all batteries should be carried out, this should include checking for the below;
 - 2.14.1.1 Leakage
 - 2.14.1.2 Damage or corrosion, including any terminal/connection points or cables
 - 2.14.1.3 Damaged packaging or exterior coverings
 - 2.14.1.4 Discolouration or heat damage
 - 2.14.1.5 Unusual odours
 - 2.14.1.6 Swelling
- 2.15. If batteries show any signs of the damage listed above, they must be immediately removed from use and disposed of safely. **They must NEVER be put in general or recycling waste bins at work. Refer to 2.8.**
- 2.16. Normally, when an electrical item shows signs of fire or smoke, the correct thing to do is to remove it from the electrical supply, however, this action in relation to a lithium battery, which is charging, can create a thermal runaway effect, resulting in smoke suddenly turning into a raging fire within seconds. Therefore, items containing lithium batteries must never be charged in the workplace, unless necessary as part of work equipment, i.e. laptops and work mobile phones. Personal equipment should NEVER be charged in the workplace, including e-bike batteries and mobile phones etc. as this is when the biggest risk occurs.
- 2.17. Large volumes of lithium batteries, or items containing them, such as redundant IT equipment and confiscated vapes for example, must not be stored in Council buildings or schools. Instead, they should dispose of via appropriate means, i.e. work provided IT equipment and mobile phones returned for recycling before stocks grow too large and confiscated vapes and other smaller items, regularly taken to waste recycling centres for disposal.
- 2.18. Further information regarding e-bikes and e-scooters is available in **Appendix 1**

3. Safe Working Procedures Relevant to This Document

- 3.1. SWP Risk Assessment
- 3.2. SWP DSEAR
- 3.3. SWP Control of Substances Hazardous to Health

Note: Other safe working procedures may apply and the assessor should consult the SWPs. An A-Z is available on the Council's [Health and Safety Intranet](#).

4. Main Legislation Relevant to This Document

- 4.1. [Health and Safety at Work etc. Act](#)
- 4.2. [The Management of Health and Safety at Work Regulations](#)
- 4.3. [Control of Substances Hazardous to Health Regulations](#)

5. Contact Address's and Guidance Links

- 5.1. Health and Safety Executive
www.hse.gov.uk
 - 5.1.1. [Five Steps to Risk Assessment](#)
 - 5.1.2. [Electric and Hybrid Vehicles](#)
 - 5.1.3. [Using Electric Storage Batteries Safely \(INDG139\)](#)
 - 5.1.4. [Waste Electrical and Electronic Equipment recycling \(WEEE\) \(hse.gov.uk\)](#)
 - 5.1.5. [Carriage of Dangerous Goods - What are carriage requirements for waste batteries? \(hse.gov.uk\)](#)
 - 5.1.6. [DSEAR in detail - Fire and explosion \(hse.gov.uk\)](#)
- 5.2. Corporate Health and Safety Service
[Health and Safety Intranet](#)

For full contact address visit the health and safety intranet [Useful Contacts](#).

Appendix 1

E-scooters and e-bikes

This sets out Southampton City Council's position on the use of e-scooters and e-bikes on its premises.

It summarises relevant guidance from other sources into one coherent policy.

The use of sustainable methods of travel are encouraged wherever possible, whilst needing to ensure that the safety and comfort of staff, visitors and members of the public is fully considered.

Definitions

E-scooters: 2-wheeled stand-on scooters propelled by a motor, as well as/instead of being manually propelled. This term is used as shorthand in this policy to cover all powered transporters.

E-bikes: bicycles which are propelled by a motor, as well as/instead of being manually propelled powered transporters: the Government uses this term to cover a variety of novel personal transport devices which are propelled by a motor, as well as/instead of being manually propelled. It includes e-scooters, Segways, hoverboards, go-peds (combustion engine-powered kick-scooters), powered unicycles, and u-wheels.

Mobility scooters: seated 3- or 4-wheel motor-propelled scooters designed to support users with additional mobility needs.

Manual scooters: manually propelled 2-wheel scooters.

Legal Position

E-scooters fall within the legal definition of a "motor vehicle" therefore the laws that apply to motor vehicles also apply to e-scooters. It is illegal to use an e-scooter;

- On private land without the permission of the landowner,
- On a public road without complying with a number of legal requirements, which potential users will find very difficult
- In spaces that are set aside for use by pedestrians, cyclists, and horse-riders; this includes on the pavement and in cycle lanes
- Any person who uses a powered transporter on a public road or other prohibited space in breach of the law is committing a criminal offence and can be prosecuted.

A trial scheme is running in the City of Southampton for the use of approved rental e-scooters only. The rules for private e-scooters and other powered transporters have not changed

(<https://www.gov.uk/government/publications/powered-transporters/information-sheet-guidance-on-powered-transporters>)

Council premises are private land. The Council does not grant permission for the use of e-scooters on its premises.

Unlike e-scooters, there are specific existing regulations governing the allowable use of e-bikes in the UK on public roads. The Council therefore permits the use of e-bikes on its premises (external areas), providing the general principles detailed below are complied with.

General principles

- Where premises have areas with shared access by pedestrians, cyclists and vehicles, to keep everyone safe, all users should be considerate towards other road and path users.
- Pedestrians have priority over cycles and scooters on all footpaths.

- Cycles and manual scooters may use the footpaths, except where there is an immediate alternative road route.
- Cycles and scooters must use lights between dusk and dawn so that you can see and be clearly seen.
- Whilst e-bikes are permitted, the electrical assistance should not be used when travelling on footpaths.
- Mobility scooters and powered wheelchairs used by a disabled person are allowed on Council premises, including within buildings and have priority over cycles and scooters.
- Cycles and scooters, whether powered or not, are not permitted to be brought into Council premises unless folded away. They must remain folded away and not create a health and safety hazard (e.g. trip hazard).
- Due to the additional fire safety risks associated with the batteries in e-scooters and e-bikes, the charging of these items in Council premises is strictly prohibited as there are many reported incidents of these batteries catching fire.