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Vape Retailers

Fire Risk from Vapes and Lithium-Ion Batteries

Practical guidance for reducing fire risk in vape shops

Risk Assessment and Improvement >

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Why this matters

Vapes and their lithium-ion batteries can ignite quickly and create intense fires that are difficult to control.

Recent incidents, including a major fire in a vape shop in Glasgow[1] that severely damaged a Listed building, show how serious the consequences can be.

Vape retailers will hold large quantities of lithium-ion batteries, either inside vapes or as individual batteries. With a few targeted controls, you can significantly reduce the risk of fire.



Key Fire Risks

The lithium-ion battery is the main source of fire risk. Each vape product may contain between one and three batteries.

Fires are most likely to occur when:

- **Products are unregulated** and lack built in safety features or are poorly manufactured
- **Batteries are overcharged**, especially when using incompatible or unregulated chargers
- **Batteries are physically damaged**, for example crushed, punctured, swollen or overheating

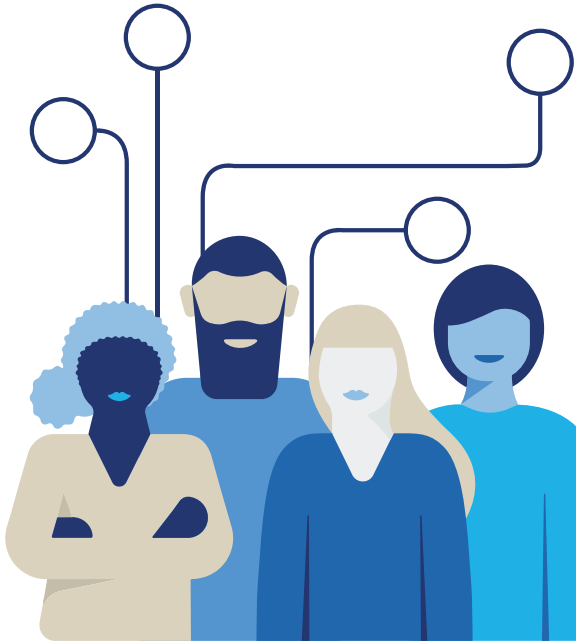
For **regulated products**, combined with **good charging and storage practices**, the risk is considerably lower.

Vape Retailers – Risk Management Guidance

The risk management guidance has been split into the following sections:

- Combustible construction including listed buildings
- Deliveries and stockroom
- Safe charging practices
- Vape recycling
- Employee safety training

This risk topic does not cover the general fire safety precautions that apply to all businesses e.g. completing a Fire Risk Assessment, 5 yearly fixed wiring inspection and portable appliance testing.





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At a glance

1. **Understand your building construction** – especially if it is combustible or Listed
2. **Manage deliveries and stockrooms** – inspect, segregate and store batteries safely
3. **Control charging inside the store** – use safe equipment and supervised, limited charging
4. **Set up safe vape recycling** – use appropriate containers and clear procedures
5. **Train staff** – on hazards, handling, and emergency actions

Each area is detailed with clear actions you can implement.

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1 Combustible Construction including Listed Buildings

It is important to try and understand the construction of the building. This aspect can be overlooked but, in the event of a fire, the consequences of the fire spreading beyond the shop can be devastating.

This section provides some general guidance if your building has combustible construction. If your building has listed status, then please refer to a specialist fire risk assessor.

The specific issues with buildings having combustible construction are:

- Damage to lath and plaster linings exposing combustible timber and voids
- Service penetrations (cables, pipes, ducts) allowing fire to spread into voids
- Exposed combustible elements such as timber panelling or timber stairs
- Structural collapse of combustible construction aiding fire spread

For listed buildings, referral to the conservation officer may be required depending upon the nature of any measures being installed. For listed buildings it is not only important to consider the preservation of listed features but also to manage issues such as moisture control.





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The measures below are general guidelines, please note that any solution needs to be specific for the building in question:

Stockroom entrance door, walls and ceiling to have a minimum 60-minute fire rating to allow the Fire & Rescue Service time to respond to the fire and contain it. This can be achieved by having two layers of 12.5mm plasterboard or one layer of 15mm plasterboard. Alternatives include calcium oxide and magnesium oxide boards with a thickness of 9mm. If ventilation is required then intumescent grilles can be specified.

Any penetrations passing through walls and ceilings to be sealed using third party certified products with 60 minutes fire rating. These must be installed by third party certified passive fire protection installers.

NB please note that fire rated foam must not to be used to seal service penetrations. The foam, when incorrectly installed and left exposed, is combustible and can damage the historical building fabric.

An extensive automatic fire alarm with remote signalling to an Alarm Receiving Centre (ARC)

Any measures to be installed by a competent passive fire protection installer (third party certified) to ensure the installation meets the required fire performance.

Where Listed buildings are involved, referral to the local conservation officer must take place in advance of any works.

Please consult with your fire alarm company as specific requirements may apply to confirm the fire alarm response with your local Fire & Rescue Service.

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2 Deliveries and Stockroom

When unpacking new vape products and lithium-ion batteries, a thorough inspection of the goods and packaging should be carried out prior to placing in the stockroom to ensure nothing has been obviously damaged during transport.

Any products found to have evidence of physical damage, such as being crushed, punctured, swollen or overheating, must be immediately removed.

For safe storage of damaged product, which is not showing any signs of immediate fire, there are a couple of options:

A plastic drum containing a layer of vermiculite.
Place the product on top of the vermiculite and cover with another layer of vermiculite. There are several schemes available to purchase drums with vermiculite. Please contact your licensed waste collector.

Use a UN approved steel box that is purpose built for lithium-ion battery transport.
The damaged vape can be stored in this prior to collection by a specialist waste handling company.





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Lithium-ion batteries and vapes must never go into the general waste. There has been an increase in the number of bin lorry and waste centre fires because of lithium-ion batteries/vapes being put into general waste[2]. Once the battery is damaged the risk of a fire starting is greatly increased.

Stock should be stored in an organised manner in designated storage areas.

Stockrooms and back of house areas need to be kept tidy and well managed. In particular:

- Stock to be kept in a dedicated room with no other combustible materials
- The room should not contain any electrical consumer units i.e. sources of ignition to be removed
- No vape charging in the stockroom
- Install LED lighting as this is lower risk as fluorescent tubes can represent an ignition source
- Keep vape products on open metal shelving with metal sub-dividers
- For maximum protection, packs of lithium-ion batteries to be kept within a fire rated cabinet designed for lithium-ion batteries

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3 Safe charging of vape devices inside the store

The following charging controls are essential as incorrect charging practices is one of the most common causes of vape fires:

- Never charge devices unattended or outside of business hours
- For built-in batteries only use the cable and adapter recommended by the manufacturer
- For removable lithium-ion batteries it is critical to match the charger to the battery
- For external chargers check that the charger has built-in safety controls that prevent overcharging, overcurrent, temperature control, reverse polarity protection and automatic shut-off
- Charging equipment to be maintained in good condition
- Never attempt to charge a device or battery that is showing signs of damage or overheating
- Never use a mobile phone charger to charge a vape, only use the manufacturers provided charger
- Do not charge unregulated vape or lithium-ion batteries



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For vape retailers, carefully consider the location of any vape charging, especially if space is limited. The following controls are advised:

- **Only charge on a non-combustible surface. If the surface or surrounding area is combustible, then line the area with a non-combustible mineral board e.g. magnesium silicate or calcium silicate board**
- **Avoid storing combustible materials directly above charging areas**
- **Keep the charging area clear of all combustible materials**
- **Limit the number of devices being charged at any one time**
- **It is recommended to limit the maximum charge to 80%**

The above measures are designed to reduce the risk of a fire starting and, if a fire does start, the risk of the fire spreading.

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4 Vape Recycling

A clearly marked recycling bin must be provided for the public to use. It is advised that this is emptied daily into a larger vermiculite covered recycling bin. Please contact your licensed waste collector to source a vermiculite bin.

These drums are available in 30 litre and 60 litre versions depending on the space available and quantity of vapes being received.

An approved vape recycling tube should only be used to store vapes that are not damaged as these tubes are not fire resistant. Staff need to be aware of the limitations of vape tubes with clear instructions for customers about what can and can't be placed inside the vape tube.

It should be noted that the fire risk from a vape in a recycling tube is low. By emptying the recycling vape tube daily into a vermiculite container then the risk of a fire starting and spreading inside the shop is further reduced.

There are some metal vape recycling bins which offer increased fire resistance which also include a mineral granules that can be released in the event of a vape fire. These can be stored inside the shop and do not need to be emptied daily.

If a recycling bin starts to smoke due to an overheating vape then activate the fire alarm, evacuate the shop and dial 999.

It is advised that posters are displayed near to the recycling bin to promote recycling. Please see the OPSS website for details and free content **here**.



5 Staff training

Employees handling vapes and products containing lithium-ion batteries will need additional training regarding the specific hazards of lithium-ion batteries. Prior to any training, your Health and Safety policies and procedures will need updating by a competent person to consider the risks that lithium-ion batteries present.

The training should include:

- The proper methods for handling products containing lithium-ion batteries
- Procedures for checking products for the signs of damage
- Handling procedures for any stock that is damaged or overheating
- Action to take in the event of a vape or lithium-ion battery fire
- The need for personal protective equipment (PPE) and specialist handling equipment





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A rapidly overheating vape must never be handled directly as the lithium-ion battery inside can suddenly enter thermal runaway which can be a violent and explosive-like event.

Batteries that are showing signs of damage or overheating, but not ones that are on fire or venting gases, must only be handled by trained employees with Personal Protective Equipment (PPE). Using heavy duty and heat-resistant gloves along with a long-handled, non-conductive, tool is a safer way to pick up the vape.

The overheating vape or lithium-ion battery can be placed in a UN approved container for lithium-ion battery transport and then covered in vermiculite prior to arranging a specialist contractor to collect and safely dispose of the battery.

In the event of any vapes undergoing thermal runaway or showing signs that they are about to go into thermal runaway, then call the Fire & Rescue Service to tackle the fire. If this occurs inside your property, then:

Raise the alarm

Evacuate the premises

Immediately dial 999

Employees should not try and tackle a vape battery fire as inhaling the toxic gases and smoke is a serious health and safety risk.

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Vape Retailers | **Risk Topic**

Increasing insight, reducing risk



Meet tomorrow prepared.

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Conclusion

By applying these practical controls:

- You **reduce the likelihood** of fires involving vapes and lithium-ion batteries
- You **limit potential damage** to your building – especially important for combustible or Listed structures
- You **protect customers, employees, and neighbouring properties**

For England, Wales & Scotland all products need to be UKCA marked and for Northern Ireland it is CE marking. There are additional regulations in place alongside UKCA/CE marketing such as Tobacco Products Directive. Details here: UKCA Compliance Basics

Some users are treating some vapes as disposable use when single use vapes were banned in 2025. You can read more on that here.

References

1. Glasgow Union Street fire: What we know so far - BBC News

Other vape retailer fires:

- Midland town centre 'stay away' warning as vape shop goes up in smoke - Birmingham Live
- Vape shop catches fire in east London | London Evening Standard | The Standard

2. Why batteries in our bins are a burning issue - BBC News and Vape fires still rising, one year on from the disposables ban | Zurich UK News

Additional resources

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- Material Focus - **Vape recycling: retailers, producers and councils briefing**
- **Electrical Safety Advice for Vapes and E-cigarettes**
- **OPSS launches safe vapes usage and disposal awareness campaign - GOV.UK**
- **4 tips to help you better manage lithium batteries**



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