



Lithium-ion batteries can and do cause fires in Guernsey. Gosha chairman **Andrew Mills** advises islanders to be aware of the dangers



The dangers of lithium-ion batteries



A lithium-ion battery caused the large fire at Bulwer Avenue in the summer of 2018. (34646285)

RECENTLY you may have read my fire safety article in the Guernsey Press and one of the topics I didn't have sufficient space to cover then was the potential fire hazards arising from our use of lithium-ion batteries.

They are great products but have caused quite a few serious fires in the UK and have also caused fires here in Guernsey.

So, I thought it worth composing a second fire safety article mentioning the workplace (and outside the workplace) fire safety special concerns which arise from our use of lithium-ion batteries.

Lithium-ion (often abbreviated to Li-ion) batteries are widespread in Guernsey. Here are some examples of where you are most likely to find them:

- Electronic products, including smartphones, laptops, tablets, digital cameras, smartwatches, wireless headphones, calculators and e-readers
- Transportation, including electric vehicles (EVs), e-bikes, e-scooters, mobility scooters, boats and golf carts
- Appliances such as cordless power tools and robotic vacuums
- Energy storage for renewable energy (solar, wind) in battery systems
- Portable medical devices and security systems

Such batteries can pose serious fire risks if not handled or disposed of properly.

You may recall the large recycling premises fire in Guernsey in 2018, which was caused by a lithium-ion battery which had not been disposed of correctly by the individual who sent it to the recycling centre.

I remember watching the huge clouds of smoke develop from the

Bridge – it was quite concerning and our fire service did a great job in containing it and eventually extinguishing it.

Another example of the significant fire risk posed by lithium-ion batteries in Guernsey was the August 2024 fire in the workshop at Craig's Motors in the Vale, where a battery in an electric van caused a significant fire.

It was Guernsey's first reported electric vehicle fire and caused significant damage to the vehicle and the garage premises.

Here are some specific hazards of using lithium-ion batteries:

- Overcharging can cause internal shorts leading to thermal runaway and fires
- Physical damage can cause internal shorts and fires
- Exposure to high temperatures, including direct sunlight, can increase fire risk
- Manufacturing defects or quality issues can increase fire risk
- Improper storage of batteries in areas with flammable materials or near heat sources can increase the fire risk

The dangers of lithium-ion batteries:

Thermal runaway

When a battery fails, it can enter a state of thermal runaway, releasing intense heat (up to 1,000C) and explosive gases, leading to fires that are difficult to extinguish.

Rapid fire spread

Li-ion fires can ignite instantly, spread rapidly, and are notoriously difficult to put out with standard fire extinguishers.

Toxic gas release

Burning batteries emit highly toxic, flammable and explosive

fumes that can cause long-term respiratory issues (such as asthma and chronic obstructive pulmonary disease, which severely affects the lungs and makes breathing difficult).

Reignition risk

Even after being extinguished, these batteries have a high risk of re-igniting.

Physical and operational hazards

If you charge too much or use incompatible chargers, physical damage (piercing, dropping, etc) and exposure to extreme temperatures can cause them to fail.

Hidden hazards

Defects during manufacturing or damage to the protective casing can lead to spontaneous failures, including explosions or fires.

To minimise risks you should follow manufacturers' guidelines: charge, store, handle, maintain and dispose of batteries according to manufacturers' instructions.

Only use chargers designed for the specific battery type.

Avoid leaving batteries unattended while charging (don't leave them charging within a building which is unattended overnight or when you are asleep).

Store safely and keep batteries away from flammable materials and heat sources.

Dispose of properly. Take lithium-ion batteries to designated facilities in accordance with manufacturers' instructions and the guidance of Island Waste (see www.islandwaste.gg/batteries) and the States of Guernsey (see www.gov.gg/checkb4u-chuck).

Please be aware of the fire risks associated with these much-used batteries and take the steps needed to avoid fires.