

Lithium-based Battery Safety Best Practices

Executive Summary

Lithium-based batteries fuel a wide and growing range of household and consumer products, from handheld devices such as phones and tablets to vehicles such as e-bikes and cars. Their potential to overheat and spontaneously combust poses significant risks to hotel guests and employees. Recognizing these risks, Hospitality Technology Next Generation (HTNG), a network of the American Hotel & Lodging Association (AHLA), convened a workgroup to educate hoteliers and guests on how to handle, store, charge, and dispose of lithium-based batteries safely. This report is the product of that workgroup.

The most serious fire challenge presented by lithium batteries involves a phenomenon known as “thermal runaway,” in which the uncontrolled heating of a single battery cell spreads to adjacent cells, creating a fire or an explosion. Lithium batteries can also create hazards through leakage, swelling, and other physical damage.

Best practices for handling and usage of lithium batteries include following manufacturers’ instructions for disposal and keeping batteries away from moisture and extreme temperature. It advises hoteliers to follow all applicable local, state, and federal regulations for transporting lithium batteries, and recommends the establishment of a preventative maintenance program.

The HTNG workgroup report also offers guidance on charging procedures, storage practices, emergency planning and risk mitigation, and how to address impacts on guests, staff, and hotel operations. Hotels should have emergency response plans in place as well as plans for remediation and repairs.

Vibration, water exposure, and mechanical shock from bumps, drops, or falls during use increase the risk of damage to lithium-ion batteries. The report’s two use-case scenarios describe incidents involving cordless telephones and e-scooters, providing details of the damage and lessons for hotels seeking to minimize these risks.

Education and training of hotel staff and increased awareness among end users should reduce the risks posed by lithium batteries even as their use continues to rise.