



**NASSAU COUNTY FIRE COMMISSION
OFFICE OF THE FIRE MARSHAL**

Nassau County Public Safety Center
1194 Prospect Avenue
Westbury, New York 11590
(516) 573-9900 / nassaucountyny.gov

Chief Fire Marshal
County Fire Coordinator
Michael F. Uttaro

FIRE MARSHAL BULLETIN

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To: All Nassau County Fire Departments:

Definition:

Thermal Runaway - *Thermal runaway is the failure of a battery cell that causes uncontrollable failure of the other cells in the battery. The result is a rapid release of a variety of gases (most notably hydrogen fluoride, which is toxic and explosive) accompanied by fire reaching temperatures above 1200°F. The fire and gases will expand rapidly, quickly filling the compartment space where the batteries are stored.*

Lithium-Ion (Li-Ion) batteries are an emerging hazard for the fire service. Whether they are the cause of the fire, or have been subjected to high heat conditions, or have been physically damaged, they pose a danger to responders when they enter thermal runaway. The Nassau County Fire Marshal's Office, along with many in the Fire Service, has been closely monitoring the ongoing and escalating issues regarding Li-Ion batteries and their role in fires around the country, especially New York City.

After a recent meeting with F.D.N.Y. and industry experts, the following guidelines are currently considered the best practices for fires involving Li-Ion batteries:

1. When operating at a fire where Li-Ion batteries have potentially been damaged by fire, heat or other form of compromise, firefighters need to remain in full P.P.E. with S.C.B.A. facepieces donned on air
2. After the main body of fire is extinguished, but prior to starting overhaul, members need to locate all Li-Ion cells
3. Upon locating cells, place them in a container with water using an appropriate tool (i.e., a shovel) to move them.
4. Once placed in the container with water remove the cells from the building to an area clear of people and exposures. If the Li-Ion cells are in a building where removing them would be prolonged (i.e., a high rise) or they are too large to be placed in a container, place them in a bathtub full of water.
5. At no time should batteries be removed from a building via an elevator.
6. After containing the Li-Ion cells in water, notify NCFM Haz-Mat to respond to evaluate and, if necessary, overpack the batteries for disposal.

These are the best practices to date; however, it can be expected that these guidelines will change as new research and recommendations become available from the industry, as well as the fire service.