



# CHAIRMAN'S MESSAGE

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## *Lithium Battery Facts*

You should know that there are two general types of lithium batteries. Lithium-metal batteries are generally non-rechargeable and contain an extremely reactive form of lithium. Lithium-ion batteries are generally rechargeable and the lithium they contain is in a salt form that is not reactive.

*Both types of lithium batteries can cause very dangerous fires and explosions that cannot be suppressed by the fire-suppression systems*

*installed on today's commercial aircraft (including halon) or by any known flightcrew procedure.*

Lithium-metal battery fires are particularly intense, with fire temperatures exceeding 2000° F. Lithium batteries are ubiquitous because of their excellent power and energy to weight ratios. This article will discuss lithium-metal battery dangers.



**Lithium Batteries**

**CLICK HERE**  
FOR ADDITIONAL  
information and videos

## **LITHIUM BATTERIES CALL TO ACTION - CLICK HERE**

When a lithium-metal battery starts to short circuit (from mechanical damage, exposure to high or low temperature, manufacturing defect, external short), heat is generated that can lead to further breakdown of insulating properties within the battery and can cause further shorting. This creates more heat, and the cycle repeats, causing thermal runaway. Eventually, the battery can start a fire after venting flammable gasses or rupturing. The fuel for the fire is the metallic lithium and the battery's electrolyte, which is a flammable fuel-like material in the battery. If batteries are stored next to each other, one burning battery often produces enough heat to send adjacent batteries into thermal runaway as well. This chain reaction can continue until the entire group of batteries is on fire.

It is important to note that Halon, the fire suppressant used in aircraft belly compartments, will not effectively suppress a lithium-metal battery fire. In other words, we have no proven, certificated way to suppress a lithium-metal battery fire on our aircraft.

The FAA understood this as early as 2004 when it banned the shipment of bulk lithium-metal batteries on passenger flights. While passenger flights can carry batteries in or with equipment,

they cannot take bulk shipments. On the other hand, there is no limit to the number of batteries that can be loaded on cargo aircraft, with or without equipment. In short, while it is legal to fill a cargo aircraft with large lithium-metal batteries, a single button cell shipment is not allowed on a passenger aircraft.

Currently, the Department of Transportation (DOT) is prohibited by Congress from enacting regulations to ensure the safe transport of lithium batteries if those regulations are more restrictive than ICAO standards. ALPA has been working to repeal this onerous limitation on our regulators and to provide a means to safely regulate lithium battery transport. We need your help. Please follow the link below and let your members of Congress know that politics should not interfere with flight safety, and the DOT should be allowed to do its job to ensure lithium batteries are transported safely.

**LITHIUM BATTERIES CALL TO ACTION - CLICK HERE**

Respectfully,



A handwritten signature in black ink that reads 'Charles W. Dyer'.

Captain Chuck Dyer  
FedEx MEC Chairman



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