



U.S. Department
of Transportation
**Federal Aviation
Administration**

SAFO

Safety Alert for Operators

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Flight Standards Service
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http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo

A SAFO contains important safety information and may include recommended action. SAFO content should be especially valuable to air carriers in meeting their statutory duty to provide service with the highest possible degree of safety in the public interest. Besides the specific action recommended in a SAFO, an alternative action may be as effective in addressing the safety issue named in the SAFO.

Subject: Air Transport Restrictions for Recalled Lithium Batteries and Lithium Battery Powered Devices

Purpose: This SAFO alerts air carriers to the requirements of the United States (U.S.) Department of Transportation (DOT) Hazardous Materials Regulations (HMR) and the International Civil Aviation Organization (ICAO) Technical Instructions for Safe Transport of Dangerous Goods (ICAO TI).

Background: The U.S. DOT HMR and ICAO TI both prohibit air cargo shipments of lithium batteries and lithium battery powered devices when they are the subject of a safety recall or when the lithium battery has been identified by the manufacturer as having a safety defect. Passenger carriage of defective/recalled lithium batteries and devices with lithium batteries installed may also be restricted depending on the nature of the risk and the recall safety instructions. This SAFO is published in conjunction with a US DOT Pipeline and Hazardous Materials Safety Administration (PHMSA) safety advisory which will be published in the Federal Register on September 20, 2016. The safety advisory may be viewed at the following link: http://www.phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/Files/Safety_Advisory_Admin_Signed09152016182505.pdf.

Discussion: The HMR prohibition on the air cargo transport of recalled batteries can be found in Title 49 of the Code of Federal Regulations (49 CFR) § 173.185(f). The ICAO TI contains this prohibition in special provision A154 and in packing instructions 965 through 970.

- A. Air Cargo.** The HMR and ICAO TI prohibit the air cargo transport of lithium batteries that:
- Have been damaged,
 - Have been identified by the manufacturer as being defective for safety reasons, or
 - Have the potential of producing a dangerous evolution of heat, fire, or short circuit (e.g., those being returned to the manufacturer for safety reasons).

Additionally, the HMR (49 CFR § 173.21) forbids the transport of batteries and battery-powered devices which are likely to create sparks or generate a dangerous evolution of heat, unless packaged in a manner which precludes such an occurrence.

- B. Carriage by Passengers and Crew.** Lithium batteries and lithium battery powered devices carried by the passengers and crew are subject to the conditions of 49 CFR § 175.10(a)(18) which include:
- Avoiding the “forbidden” conditions of 49 CFR § 173.21 stated above.

- Each installed or spare lithium battery must be of a type proven to meet the requirements of each test in UN Manual of Tests and Criteria, part III, subsection 38.3.

If a battery or device cannot meet these conditions and the other requirements of 49 CFR § 175.10(a)(18) it may not be carried by passengers and crew. Additional information on passenger carriage of batteries and hazardous materials is available at:

<http://www.faa.gov/Go/PackSafe>.

As detailed by PHMSA in its safety advisory, in some cases, where the hazard occurs during charging or using a device, it may be possible to safely carry the device if it is turned off, disconnected from power sources, kept in carry-on baggage or on the person, and protected against accidental activation (including disabling any features that turn on the device such as alarm clocks).

C. Repaired and Replaced Devices. Recalled lithium battery powered devices that have been repaired or have had battery components replaced as required by the recall notice are not subject to the restrictions on recalled lithium batteries. It should be noted that it is often difficult to distinguish products that are subject to a recall from those that are not. Many product recalls only affect certain batches of serial numbers of the same product model. Other recalled products carried by passengers or shipped as cargo may have already been repaired or had the defective lithium batteries replaced. Therefore, active screening methods at the point of acceptance or check-in may be difficult.

Recommended Action: Air operators are urged to consider the following recommendations:

- Operator personnel responsible for cargo processing should know and understand that damaged or safety-recalled lithium batteries—including those installed in equipment and devices—are forbidden on aircraft as air cargo.
- Operator personnel responsible for passenger processing and cabin safety should know and understand that damaged or recalled lithium batteries—including those installed in devices—may be restricted from carriage or use on the aircraft.
- All crewmembers and ground personnel handling passengers and baggage must understand that they shall report incidents where fire, violent rupture, explosion, or heat sufficient to be dangerous to packaging or personal safety has occurred. This includes charring, melting, or scorching of packaging, or other evidence that may indicate the involvement of a battery or battery-powered device (per 49 CFR §171.15/16).
- During ticket purchase and check-in processes, inform passengers that spare lithium batteries are prohibited from checked baggage (including checked baggage at the gate) and refer passengers to FAA’s Pack Safe website for additional information (<http://www.faa.gov/Go/Packsafe>).
- Evaluate training and communication protocols in operations with respect to lithium batteries, personal and medical electronic devices, and mobility aids.
- Include information about damaged and recalled lithium batteries and devices in the operator’s online guidance and other public notices regarding hazardous materials in cargo and baggage.

- Identify recent and active cargo shippers and forwarders likely to offer lithium batteries and devices, including those partially-excepted lithium battery shipments that do not require full declaration to the operator. Ensure that these cargo customers are aware of the prohibition on damaged and recalled lithium batteries and lithium battery-powered devices.

No information contained in this SAFO or in the HMR precludes an air operator from proactively placing its own restrictions on the carriage, onboard use, or onboard charging of specific lithium battery products prior to an official government-facilitated recall or prior to an FAA or PHMSA advisory.

Product Recall Information: In the U.S., safety recalls of consumer electronics and batteries are officially issued through the Consumer Products Safety Commission (CPSC). The CPSC recalls are available at: <http://www.cpsc.gov/en/Recalls/>. Additional recalls from around the world are available at: <http://globalrecalls.oecd.org/>.

Contact: Questions or comments regarding this SAFO should be directed to the FAA Office of Hazardous Materials Safety, ADG-1, at (202) 267-9432.