



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

# SAFO

Safety Alert for Operators

SAFO 16012  
DATE: 9/9/16

Flight Standards Service  
Washington, DC

[http://www.faa.gov/other\\_visit/aviation\\_industry/airline\\_operators/airline\\_safety/safo](http://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo)

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*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:** Lithium Ion Battery Shipments from Braille Battery, Inc.

**Purpose:** This SAFO alerts air carriers to lithium ion battery shipments that potentially do not meet the Hazardous Materials Regulation (HMR) Title 49 of the Code of Federal Regulations (49 CFR) part 173 § 173.185) or International Civil Aviation Organization (ICAO) Technical Instructions (TI) requirements for shipment by air transportation and certain provisions applicable to any mode of transportation. Specifically, the Federal Aviation Administration (FAA) is drawing attention to lithium ion battery air-mode shipments from Braille Battery, Inc.

**Background:** The FAA has provided four SAFOs to operators alerting them to the possible risk posed during the transport of lithium batteries by aircraft since 2010 (see related information). Recently, the FAA provided information to operators in SAFO 16001 supporting the recommendation by aircraft manufacturers Boeing and Airbus, as well as the European Aviation Safety Agency (EASA) and ICAO, to conduct a safety risk assessment in order to establish whether, or how, the risk associated with the transport of lithium batteries can be managed by operators. In SAFO 16004, the FAA generally recognized that the safe transport of hazardous materials by air requires compliance from both shippers and operators. The FAA has specifically noted the important role that shippers play in the safe transport of lithium batteries and how operators can enhance safety by recognizing the role that their cargo customers have in introducing risk into their system. These SAFOs can be found at the following links:

- **SAFO 10017**, Risks in Transporting Lithium Batteries in Cargo by Aircraft.  
[http://www.faa.gov/news/press\\_releases/media/safo10017.pdf](http://www.faa.gov/news/press_releases/media/safo10017.pdf).
- **SAFO 15010**, Carriage of Spare Lithium Batteries in Carry-on and Checked Baggage.  
[https://www.faa.gov/other\\_visit/aviation\\_industry/airline\\_operators/airline\\_safety/safo/all\\_safos/media/2015/SAFO15010.pdf](https://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo/all_safos/media/2015/SAFO15010.pdf).
- **SAFO 16001**, Risks of Fire or Explosion when Transporting Lithium Ion or Lithium Metal Batteries as Cargo on Passenger and Cargo Aircraft.  
[https://www.faa.gov/other\\_visit/aviation\\_industry/airline\\_operators/airline\\_safety/safo/all\\_safos/media/2016/SAFO16001.pdf](https://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo/all_safos/media/2016/SAFO16001.pdf).

- **SAFO 16004**, New International Civil Aviation Organization (ICAO) Regulatory Requirements for Shipping and Transporting Lithium Batteries.  
[https://www.faa.gov/other\\_visit/aviation\\_industry/airline\\_operators/airline\\_safety/safo/all\\_safos/media/2016/SAFO16004.pdf](https://www.faa.gov/other_visit/aviation_industry/airline_operators/airline_safety/safo/all_safos/media/2016/SAFO16004.pdf).

**Discussion:** Lithium ion batteries that are not of the type proven to meet the criteria in part III, sub-section 38.3 of the UN Manual of Tests and Criteria cannot be offered for transportation or transported. Lithium ion batteries that have not completed the required UN 38.3 tests may be of a type that cannot be safely transported by air. They may pose risks as an ignition or fuel source for fire or dangerous evolution of heat.

An essential step in ensuring the safe transport of lithium batteries includes the requirement that each lithium cell or battery must be of the type proven to meet the criteria in part III, sub-section 38.3 of the UN Manual of Tests and Criteria before it can be offered or transported via any mode of transportation. Braille Battery, Inc., 6935 15th St E Bldg 115, Sarasota, FL 34243, manufactures and sells batteries, including lithium ion batteries. An FAA investigation involving Braille Battery, Inc. revealed that Braille Battery, Inc. continues to offer certain lithium ion batteries for air transport that are not proven to meet the criteria in part III, sub-section 38.3 of the UN Manual of Tests and Criteria.

**Recommended Action:** Air Carriers (14 CFR part 121, 129, and 135) should review risk mitigation strategies implemented as a result of their safety risk assessments (SAFO 16001) with a focus on the procedures that ensure compliance of lithium battery shipments offered for air transportation. These processes should assist in identifying lithium ion batteries manufactured by Braille Battery, Inc. to enable application of any additional measures required to confirm compliance with all regulatory requirements. Directors of operations and directors of safety should ensure that lithium ion battery shipments involving a lithium ion battery manufactured by Braille Battery, Inc. only include batteries of a type proven to meet the criteria in part III, sub-section 38.3 of the UN Manual of Tests and Criteria before accepting the shipment. One recommended method is to require Braille Battery, Inc. to provide information showing the battery(s) satisfactorily completed UN testing, as well as that the watt-hour (Wh) ratings for the specific lithium ion battery(s) in the shipment are within the accepted limits authorized by the Hazardous Materials Regulations (49 CFR) provisions being applied. The directors of operations and directors of safety should consider verifying the accuracy of the documentation provided by Braille Battery with the testing facility.

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