

# Batteries Carried by Airline Passengers

## Frequently Asked Questions

### Q1. What kinds of batteries does the FAA allow in carry-on baggage (in the aircraft cabin)?

**A1.** For carry-on baggage checked at the gate or planeside, see Q2, below. Passengers can carry most consumer-type batteries and portable battery-powered electronic devices for their own personal use in carry-on baggage. Spare batteries must be protected from damage and short circuit. Battery-powered devices must be protected from accidental activation and heat generation.

Damaged or recalled batteries, including when in a device, must not be carried. **Batteries allowed in carry-on baggage include:**

- **Dry cell alkaline batteries:** typical AA, AAA, C, D, 9-volt, button-sized cells, etc.
- **Dry cell rechargeable batteries** such as Nickel Metal Hydride (NiMH) and Nickel Cadmium (NiCad). For rechargeable lithium ion batteries; see next paragraph.
- **Lithium ion batteries** (a.k.a.: rechargeable lithium, lithium polymer, LIPO, secondary lithium). Passengers may carry all consumer-sized lithium ion batteries (up to 100 watt hours per battery) **packed in or with consumer-size device**. This size covers AA, AAA, cell phone, PDA, camera, camcorder, handheld game, tablet, portable drill, and standard laptop computer batteries. The watt hours (Wh) rating is marked on newer lithium ion batteries and is explained in #3 below. **External chargers are also considered to be a battery. Passengers may have two-spare lithium ion batteries associated with consumer-size device carried or checked.**
- **Lithium metal batteries** (a.k.a.: non-rechargeable lithium, primary lithium). These batteries are often used with cameras and other small personal electronics. Consumer-sized batteries (up to 2 grams of lithium per battery) **may be carried in or with consumer-size device**. This includes all the typical non-rechargeable lithium batteries used in cameras (AA, AAA, 123, CR123A, CR1, CR2, CRV3, CR22, 2CR5, etc.) as well as the flat round lithium button cells. **Passengers may have two-spare lithium metal batteries associated with consumer-size device carried or checked**
- **Nonspillable wet batteries (absorbed electrolyte)**, limited to 12 volts and 100 watt hours per battery. These batteries must be the absorbed electrolyte type (gel cells, AGM, etc.) that meet the requirements of 49 CFR 173.159a(d); i.e., no electrolyte will flow from a cracked battery case. Batteries must be in strong outer packagings or installed in equipment. Passengers are also limited to two (2) spare (uninstalled) batteries. Spare batteries' terminals must be protected (non-conductive caps, tape, etc.) within the outer packaging. Batteries and outer packaging must be marked "nonspillable" or "nonspillable battery." *Note: This exception is for portable electronic devices, not for vehicle batteries. There are separate exceptions for powered wheelchairs.*

### Q2. What kinds of batteries does the FAA allow in checked baggage (including gate-checked bags)?

**A2.** **Except for spare (uninstalled) lithium metal and lithium-ion batteries**, all the batteries allowed in carry-on baggage are also allowed in checked baggage. The batteries must be protected from damage and short circuit or installed in a device. Battery-powered devices—particularly those with moving parts or those that could heat up—must be protected from accidental activation. **Suitcases with built-in chargers are prohibited, as are Samsung Galaxy 7 cellular telephones. Electronic cigarettes and vaporizers are also prohibited in checked baggage.** "Checked baggage" includes bags checked at the gate or planeside.

### Q3. Can I ship my spare lithium batteries on a cargo- only aircraft?

**A3.** **Spare lithium batteries shipped by cargo - only aircraft must be shipped at not more than a 30 percent state of charge; and limit the use of alternative provisions for small lithium cell or battery to one package per consignment.**

### Q4. Is there a limit to the number of batteries or devices I can carry?

**A4.** The main limit is that the batteries and devices must be for personal use (includes professional use). Batteries and battery-powered devices carried for resale or for distribution by a vendor do not qualify for these exceptions. There is a two-spare limit on the large lithium-ion and nonspillable batteries (see the chart on the next page).

### Q5. What does "protected from short circuit" mean?

**A5.** When metal objects such as keys, coins, tools or other batteries come in contact with both terminals of a battery it can create a "circuit" or path for electricity to flow through. Electrical current flowing through this unprotected short circuit can cause extreme heat and sparks and even start a fire. To prevent short circuits, keep spare batteries in their original packaging, a battery case, or a separate pouch or pocket. Make sure loose batteries can't move around. Placing tape over the terminals of unpackaged batteries also helps to insulate them from short circuit.

**For a quick reference guide, see illustrated table on next page...**

# Batteries Allowed in PHI Passenger Baggage

April 1, 2019

Based on US DOT regulations & ICAO regulations. PHMSA Interim Final Rule (IFR) ENhanced Safety Provisions for Lithium Batteries

<b>Type of Battery</b> There is no limit to the number of batteries or devices carried for personal use unless specified below.	<b>Allowed in <u>carry-on</u> baggage?</b> 		<b>Allowed in <u>checked</u><sup>1</sup> baggage?</b> 	
	In equipment <sup>2</sup>	Spares	In equipment	Spares
<b>Dry alkaline batteries</b> 	<b>YES</b>	<b>YES</b> When protected from damage and short circuit	<b>YES</b>	<b>YES</b> When protected from damage and short circuit
<b>Dry rechargeable</b> – Nickel Metal Hydride (NiMH), Nickel Cadmium (NiCad), etc.  <p>For lithium ion, see below.</p>	<b>YES</b>	<b>NO</b> Effective 1 April 2019	<b>YES</b>	<b>NO</b> Effective 1 April 2019
<b>Lithium ion</b> (rechargeable lithium, lithium polymer, LIPO) as used in small consumer electronics, such as cell phones, tablets, tools, cameras, PDAs, and laptops. Limited to 100 watt hours <sup>3</sup> or less per battery. 	<b>YES</b>	<b>No loose batteries are to be carried, unless they are accompanied in / with the user devise.</b>  <b>A maximum of two spares are authorized</b>	<b>YES</b> <i>E-cigarettes and vaporizers are prohibited in checked baggage.</i>	<b>No loose batteries are to be carried, unless they are accompanied in / with the user devise.</b>  <b>A maximum of two spares are authorized</b>
<b>Rechargeable luggage</b> (rechargeable lithium, lithium polymer, LIPO)  <b>Samsung Galaxy 7</b> - cellular telephone	<b>NO</b> Effective 1 April 2019	<b>NO</b> Effective 1 April 2019	<b>NO</b> Effective 1 April 2019	<b>NO</b> Effective 1 April 2019
<b>Lithium metal</b> (non-rechargeable) as used in small consumer electronics such as cameras, LED flashlights, watches, etc. (2 grams or less lithium per battery). 	<b>YES</b>	<b>NO</b> Effective 1 April 2019	<b>YES</b> <i>E-cigarettes and vaporizers are prohibited in checked baggage.</i>	<b>NO</b>
<b>Nonspillable wet batteries (absorbed electrolyte)</b> for portable electronic devices, 12 volts and 100 watt hours <sup>3</sup> per battery.  <p><b>Limits:</b> Two spare batteries per passenger.</p>	<b>YES</b>	<b>YES</b> When protected from damage and short circuit and in strong packaging. Battery and outer packaging must be marked "nonspillable."	<b>YES</b>	<b>YES</b> When protected from damage and short circuit and in strong packaging. Battery and outer packaging must be marked "nonspillable."

<sup>1</sup>Note: "Checked baggage" includes carry-on-bags checked at the gate or planeside. <sup>2</sup>Note: TSA security rules prohibit some power tools in carry-on baggage.

<sup>3</sup>Note: Watt hours (Wh) = Volts (V) x Amp hour (Ah) or for milliamp hours Wh = V x (mAh ÷ 1000)