

GUIDE FOR COMPLYING WITH U.S. DEPARTMENT OF TRANSPORTATION'S PASSENGER CARRY-ON PROVISIONS FOR LITHIUM BATTERIES

SPARE LITHIUM BATTERIES					
	Spare Lithium Metal (non-rechargeable) Batteries		Spare Lithium ion (rechargeable) Batteries		
	≤ 2 grams lithium metal	> 2 grams lithium metal	≤ 8 grams Equivalent lithium content (≤ 100 Watt-hours)	8 – 25 grams Equivalent lithium content (100 – 300 Watt-hours)	> 25 grams Equivalent lithium content (> 300 Watt-hours)
Checked Baggage	Prohibited	Prohibited	Prohibited	Prohibited	Prohibited
Carry-on Baggage	Permitted (No limit)	Prohibited	Permitted (No limit)	Permitted (No more than two (2) spares)	Prohibited

LITHIUM BATTERIES INSTALLED IN EQUIPMENT*					
	Lithium Metal (non-rechargeable) Batteries Installed in Equipment		Lithium ion (rechargeable) Batteries Installed in Equipment		
	≤ 2 grams lithium metal	> 2 grams lithium metal	≤ 8 grams Equivalent lithium content (≤ 100 Watt-hours)	8 – 25 grams Equivalent lithium content (100 – 300 Watt-hours)	> 25 grams Equivalent lithium content (> 300 Watt-hours)
Checked Baggage	Permitted (No limit)	Prohibited	Permitted (No limit)	Permitted (No more than two (2) pieces of equipment)	Prohibited
Carry-on Baggage	Permitted (No limit)	Prohibited	Permitted (No limit)	Permitted (No more than two (2) pieces of equipment)	Prohibited

*Although you may carry some devices and installed batteries in checked baggage, carrying them in carry-on baggage, when practicable, is preferred. In checked baggage, ensure that devices remain switched off, either by built-in switch/trigger locks, by taping the activation switch in the “off” position, or by other appropriate measures.

NOTE: See page 2 for information on calculating equivalent lithium content and Watt-hours

Calculating Approximate Equivalent Lithium Content of Lithium ion Batteries Based on Volts and Ampere-hours

1. Divide the stated volts (V) on battery pack by 3.7 and round to the nearest whole number.
2. Multiply the resulting number by the stated capacity in ampere-hours (Ah), which is often expressed in milliampere hours (mAh)
3. That number should then be multiplied by 0.3, which will provide the approximate grams of equivalent lithium content contained in the battery.

Example: A lithium ion battery with 14.8 (V) and 4.8 ampere hours (or 4800 mAh).

$$14.8 \div 3.7 = 4$$

$$4 \times 4.8 = 19.2$$

$$19.2 \times 0.3 = 5.76 \text{ grams of equivalent lithium content}$$

Calculating Watt-hours of Lithium ion Batteries Based on Volts and Ampere-hours

1. Multiply the stated volts (V) on the battery pack by the stated capacity in ampere-hours (Ah), which is often expressed in milliampere-hours (mAh)
2. The resulting number provides the battery's Watt-hour rating.

Example: A lithium ion battery pack with 14.8 (V) and 4.8 ampere hours (or 4800 mAh).

$$14.8 \times 4.8 = 71.04 \text{ Watt-hours (Wh)}$$