

Lithium batteries

Lithium batteries are increasingly used because they generate high energy compared to conventional nickel-metal batteries. However, the abundant energy that makes them such efficient batteries also makes them prone to generating heat and starting fires.

There are three sub-types of lithium batteries, all of which have the potential to catch fire.

- ◆ Lithium metal batteries—disposable (or primary) batteries—button-size to AA-sized, or square 9V/PP3.
- ◆ Lithium-ion and lithium polymer batteries—rechargeable (or secondary) batteries found in laptop computers, mobile phones, iPods and other music players, electric bicycles and some power tools.

There are limits to the type and quantity of lithium batteries you can carry on board an aircraft. This restriction relates to their power rating—measured in Watt hours (Wh), or their lithium content.

Low-power = up to 100Wh, or lithium content of not more than 2g; medium-power = 101–160Wh; high-power = more than 160Wh.

Which lithium batteries can I carry?

1. Low-power lithium or lithium-ion batteries (up to 100Wh, or less than 2g lithium) contained within portable personal-use electronic devices such as watches, cameras, mobile phones, laptops.
 - ◆ Recommended as carry-on baggageNo more than two spare batteries for such devices, packaged to protect batteries from short-circuiting. (In original packaging, or packed individually to insulate terminals.)
 - ◆ **Carry-on baggage only**
2. Medium-power lithium batteries (101–160Wh) require operator approval.

Batteries contained within portable devices

 - ◆ Recommended as carry-on baggageMaximum two spare batteries, packaged as above
 - ◆ **Carry-on baggage only**
3. High-power lithium batteries (more than 160Wh)
 - ◆ **Not permitted**



IF IN DOUBT, ASK!

1008.1334

www.casa.gov.au/dg | 131 757



Australian Government
Civil Aviation Safety Authority

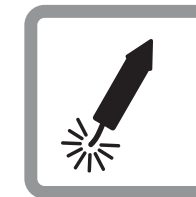
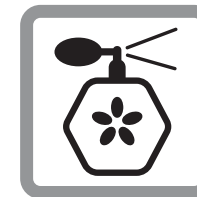
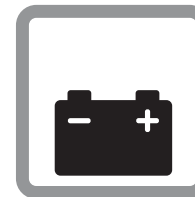
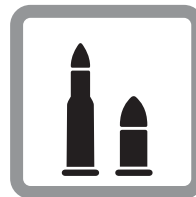
Planning to fly?

Is your luggage safe?

A guide for aircraft passengers

[DG] dangerous goods.

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What are dangerous goods?

If you look in your garden shed, or under the kitchen or laundry sink, you are likely to find a number of potentially *dangerous goods*. Some of the more common of these are things such as pesticides, petrol, paint, mineral turpentine, methylated spirit, gas cylinders, oven and drain cleaners, bleach, glues and aerosols.

You are probably happy to store these items at home, or carry them in the car on the way home from the shop, because you know where they are, and manage any risk associated with carrying or storing them. You store them out of harm's way, so that no-one can swallow or mishandle them, and you keep them upright so they don't tip and leak.

However, put these items in an aircraft, flying high above the earth, and subject to severe atmospheric pressure (up to 75kPa), extremes of temperature (minus 40°C to plus 55°C) and vibration (1g to 8g of acceleration), and they can behave unpredictably.

Before you pack your bags

Check what you are planning to carry. You can carry normal personal care items – toiletries and medicinal articles, even in aerosol containers – in limited quantities.

For the amount of liquids, aerosols, gels and pastes you are allowed to carry on international flights, go to www.travelsecure.infrastructure.gov.au/

If you are planning to carry other household items, check to see whether there is a hazardous symbol on the container. If there is, ask yourself: **'Do I really need to take it? Or, can I buy it when I get there instead?'**



If you are still not sure:

- ◆ Check the cover of your ticket to see if what you are planning to carry is on the list of forbidden or restricted 'dangerous goods'.
- ◆ Check the website of the airline you are flying with.
- ◆ Check the CASA website www.casa.gov.au/dg
- ◆ Contact the airline you are flying with. Their trained staff will be only too happy to help with your enquiry, and can tell you what you can and can't carry.

Some things were NEVER meant to fly

- ◆ Camping fuel containers/camping gear with fuel
- ◆ Surfboard repair kits
- ◆ Corrosives such as acids, alkalis and mercury, wet cell batteries
- ◆ Security attaché cases incorporating explosives and dye cartridges (unless prior approval gained from airline operator)
- ◆ Machines and tools with petrol-powered engines
- ◆ Fireworks, signal flares, sparklers or explosives
- ◆ Fuel, paints, lighter refills, matches
- ◆ Drain cleaners and solvents
- ◆ Spray cans, butane fuel, scuba tanks, propane tanks, CO₂ cartridges
- ◆ Self-inflating life vests
- ◆ Ammunition, gunpowder, mace, tear gas or pepper sprays are generally forbidden
- ◆ Dry ice (unless prior approval gained from airline operator)
- ◆ Radioactive materials
- ◆ Poisons
- ◆ Infectious substances

