

Mobile phone battery and charger safety

Given the billions of mobile phone batteries and chargers in use around the world, there have been very few reports of injuries caused by malfunctions of genuine handset batteries or wall chargers.

Unfortunately, in the few cases where batteries and chargers have heated up, exploded, caught fire or electrocuted people, the cause is often a poor quality, uncertified or counterfeit battery or charger.

[Fake batteries and chargers](#) are often supplied with black market phones and are also sold as after-market products, found on auction websites or in unregistered stores and markets usually sold at a significantly lower price than genuine products.

There have also been rare circumstances in which genuine products have malfunctioned, however in Australia, there have been no confirmed cases of injury caused by a mobile phone battery overheating and fire authorities have no records of any fires caused by genuine mobile phone chargers.

One incident in November 2011 in which an iPhone's battery short circuited and caught fire during an Australian domestic flight was found to be the result of a misplaced screw during repairs by an unauthorised service provider.

An [investigation by the Australian Transport Safety Bureau](#) found that a small metal screw had been misplaced in the phone's battery bay, probably during earlier repairs. The stray screw punctured the battery casing, causing an internal short circuit that led to overheating which increased as the battery reacted and began to break down.

There are also a number of alleged incidents circulated via an email 'warning' that includes well-meaning but misguided safety advice. These are known [urban myths](#).

Battery Safety

Lithium-ion (Li-Ion) batteries common in most mobile phones today are more sensitive to damage and physical stress than your typical AA battery and as such require stringent safety testing.

Counterfeit and some third party manufactured batteries do not meet all of the safety requirements that prevent malfunctions from occurring. Non genuine batteries may not have safety circuits which regulate voltage, current and heat within the battery – without these the battery can short circuit and explode or heat up and burn people.

Genuine Li-Ion batteries must also be treated with care and should be used in accordance with the manufacturers' guidelines. To promote the safe use of mobile phones, batteries and chargers, the U.S. [Consumer Protection Safety Commission](#) recommends the following:

1. Do not use incompatible cell phone batteries and chargers. Some Web sites and second-hand dealers, not associated with reputable manufacturers and carriers, might be selling incompatible or even counterfeit batteries and chargers. Consumers should purchase manufacturer or carrier recommended products and accessories. If unsure about whether a



**Australian
Mobile Telecommunications
Association**
ABN 98 065 814 315
First Floor
35 Murray Crescent
Griffith ACT 2603 Australia
PO Box 4309
Manuka ACT 2603 Australia
Ph +61 2 6239 6555
Fax +61 2 6239 6577
Web www.amta.org.au

replacement battery or charger is compatible, contact the manufacturer of the battery or charger.

2. Do not permit a battery out of the phone to come in contact with metal objects, such as coins, keys or jewelry.
3. Do not crush, puncture or put a high degree of pressure on the battery as this can cause an internal short-circuit, resulting in overheating.
4. Avoid dropping the cell phone. Dropping it, especially on a hard surface, can potentially cause damage to the phone and battery. If you suspect damage to the phone or battery, take it to a service center for inspection.
5. Do not place the phone in areas that may get very hot, such as on or near a cooking surface, cooking appliance, iron, or radiator.
6. Do not get your phone or battery wet. Even though they will dry and appear to operate normally, the circuitry could slowly corrode and pose a safety hazard.
7. Follow battery usage, storage and charging guidelines found in the user's guide.



**Australian
Mobile Telecommunications
Association**
ABN 98 065 814 315
First Floor
35 Murray Crescent
Griffith ACT 2603 Australia
PO Box 4309
Manuka ACT 2603 Australia
Ph +61 2 6239 6555
Fax +61 2 6239 6577
Web www.amta.org.au

Charger Safety

Mobile phone chargers are regulated under legislation in each State and are required to be approved by the relevant state regulators.

To gain approval, each model of charger is tested and required to meet an Australian safety standard that is equivalent to a corresponding international standard.

The tests evaluate the capacity of the charger to maintain suitable temperatures when the mobile phone is removed and the charger is left on.

However, as with any electrical product, it is always advisable to disconnect chargers when they are not in use. This will reduce the possibility of failure and it will reduce the electricity bill because you are not paying for standby power consumption.

Known battery and charger problems

Occasionally there have been problems with genuine batteries and chargers, but all of these cases have been rectified by mobile phone manufactures as soon as they have become aware of the problems.

In August 2007 Nokia [advised](#) its customers that certain Nokia-branded BL-5C batteries could short circuit and overheat while charging causing the battery to dislodge from the charger.

In all the known incidents, the problem occurred while the batteries were being recharged and no serious injuries or property damage were reported from these incidents. Nokia offered to replace those BL-5C batteries.

In September 2003, Sony Ericsson [advised](#) customers about a faulty model of charger and replaced chargers for a range of its handsets in the UK.