

## Ecig Battery Guide

The following is a brief overview concerning batteries used in our electronic cigarette and mechanical mod devices. If you have any questions, please don't hesitate to contact us.

### Types of ecig batteries

There are all sorts of ecigarette batteries available now, but the most popular workhorses are two configurations; the 510 and the eGo type batteries. These two terms refer to the connector type.



The 510 is usually a very small device. Its advantages include being very compact and quick to recharge; but the major drawback is capacity - usually between 90 milliamp hour (mAh) and 180mAh. Capacity basically translates to the amount of vaping time you'll get.

Most eGo type batteries have two sets of thread, making them also compatible with 510 fittings; such as 510 cartomizers and clearomizers. eGo type batteries allow for extended vaping. With capacities usually ranging from 650 mAh to 2200 mAh; they can provide enough power to last all day for someone who was a heavy smoker. We find a good quality 900mAh battery, even for heavy smokers, usually suffices.

### What is an ecig battery unit composed of?

510 and eGo ecig batteries really aren't all that complex in terms of the number of parts, but they do contain some rather impressive technology. The bulk of the unit is the battery itself; usually lithium ion. Aside from that, there are circuit boards and an indicator LED, the outer casing, button and connector.

The circuitry is where much of the magic happens. For example, some have an electronic airflow sensor that automatically provides power to the heating element in the atomizer/cartomizer when when you draw on the ecig, Other batteries are button activated - which is the case with most eGo modules, plus our eGo GT unit.

The button in some models also triggers advanced features.

## Battery locking feature

The eGo and 8u†† batteries we stock have a button operated lock; which prevents accidental firing in pocket, I call it "pocket vaping" and also provides a degree of safety in relation to children. If the battery is ON i.e. standby mode and ready to use; clicking the battery 5 times rapidly switches the unit OFF. If the button should be clicked in this state, it will remain OFF. Another 5 rapid clicks puts it in standby mode again, ready to use.

As our 510 batteries do not use a button, this safeguard is not needed.

## Variable voltage batteries

Another impressive feature of our [eGo and GT battery range](#) is variable voltage. Some eliquids vape better at a lower voltage and some higher - and "better" can be somewhat subjective; so having this feature allows people to choose what's right for them.

### VAPEFOX ECIG BATTERY - VARIABLE VOLTAGE



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To change voltages is very simple - 3 rapid button clicks takes you to the next setting. The current setting is indicated when you press the button. Green signifies the lower end of the voltage (~3/3.2V), blue medium (~3.6/3.7V) and red, high (~4.2V). We recommend trying your juices at the low setting (green) first as this is also the most energy efficient and will provide the longest battery life between recharges. The "normal" setting is 3.6V (blue).

## Battery safety feature - IC protection

All the batteries in our ecig kits offer IC (integrated circuit) protection on the PCB (Printed Circuit Board), which prevents against over discharge, over charge and over current. Protected ecig batteries are much safer than unprotected types of the same chemistry.

A battery flashing very rapidly a couple of dozen times indicates a problem with the battery. If this should occur, **cease attempts to use immediately**; do not attempt to recharge and contact us.

## Recharge indicator

If a battery requires recharging, the battery will flash 10 times.

## Electronic cigarette battery care

While our batteries are robust; they should be treated like any other device containing a lithium-ion battery - with care. There have been reports from around the world of ecig batteries venting or exploding. While the incidents appear to be a tiny, tiny percentage of the millions of batteries in use; you do not want to be amount that incredibly small percentage.

In most cases we've read about, the incidents can be likely traced back to user error - such as the use of unsuitable charging devices, charging in unsuitable conditions or the battery has been interfered with. While good batteries and chargers have safety features, no setup is immune to misuse - accidental or otherwise.

Be sure to follow these basic guidelines for safe battery charging that will minimize the risk of mishaps.

- Chargers come in all different sizes - make sure you use the right one. For example, when using lead type chargers; do not use a 420mA charger on a battery less than 650mAh. The charge rating of this type of simple charger should be substantially less than the capacity of the battery that it will be charging.
- While some batteries may get warmish when charging, they should never get hot. If this happens, remove from the charger immediately, do not use and contact the vendor for advice.
- Only use Australian standards approved USB wall plugs.
- Keep the battery dry - eliquid and water can penetrate the battery through the connector and the battery may fail.
- Clean the contacts/connector with a dry cloth before connecting the charger
- Do not expose to extreme heat - such as leaving in the car on a hot summers day.
- Never, ever charge an ecig battery unattended
- Do not leave connected to the charger after charging cycle is complete
- Keep out of the reach of children
- Do not use modifications not suited to the battery
- Use the button locking feature when not in use
- Batteries should be rested for a while after charging (which is another good reason to have 2 batteries)
- Avoid dropping batteries and do not subject them to other forms of shock.
- **Do not overtighten** clearomizers, cartomizers or atomizers on the battery - as soon as you feel resistance when screwing the eliquid delivery system onto the battery, apply no more than an added quarter-turn - a little less if possible. If you overtighten, you may push down the battery contact pillar and then have connection issues. If this occurs, contact us for advice.
- A battery flashing very rapidly a couple of dozen times indicates a problem with the battery. If this should occur, cease attempts to use immediately, do not attempt to recharge - contact us.
- Pick up some more [tips on safer ecig battery charging](#)

## Mod batteries

Mod batteries are a different sort of battery to those used in a standard electronic cigarette. These are a stand-alone unit not permanently integrated into the device. Mod batteries are used with devices such as [mechanical mods](#) and what are known as "battery mods" - usually much bulkier personal vaporiser devices.



There are three main battery chemistry types used in these devices:

- ICR (lithium cobalt oxide) unprotected
- ICR protected
- [IMR](#) (lithium manganese oxide) - pictured above

These come in various sizes and capacities. Two of the more common types are the 18650 and the 18350. The first two numbers refer to the diameter (mm) category and the last three numbers, the length (mm) category.

As these batteries can have a very high capacity, safety becomes and even more important issue. Unprotected ICR batteries should be avoided where possible unless the device they are being used in has suitable and reliable safety features. If you must use this type of battery, a [Vape Safe fuse](#) may provide a degree of protection.

Protected ICR battery have a small circuit board that help protect the battery from over discharge, over charge and over current - however, they have still been known to fail.

For mechanical mods, IMR batteries are generally viewed as providing the best performance. While these are an unprotected type; their chemistry is more stable and they are able to handle greater currents.

As there is no such thing as a 100% safe lithium based battery, mod battery safety is pretty much the same as with electronic cigarettes; with some added points:

- It's a good idea to acquire a multimeter for monitoring battery voltage
- Don't skimp on batteries - the couple of dollars you might save isn't worth the risk. Poor quality batteries will also under-perform and have a shorter lifespan.
- A good quality, Australian standards approved mains lithium-ion battery charger is critical. Cheap chargers may overcharge these batteries (over 4.2v), potentially making them unstable.
- If using the battery in a mechanical mod, use a multi-meter to monitor resting voltage and don't let voltage drop below 3.6V before recharging.
- The higher the battery capacity, the more potential damage should there be a catastrophic failure. We suggest not going above 2600mAh in an 18650 configuration or above 800mAh for 18350's.
- Read more [tips on safer ecig battery charging](#)

Learn more about [mechanical mods and batteries](#)

***If you should experience any difficulties with your equipment, we want to know about it. Please don't hesitate in contacting us via the eCigWorld.com.au web site – our goal is to have happy customers 😊.***