

## Safety First

Firstly, the electrolyte used is mildly alkaline and although not considered dangerous, prolonged contact with the skin should be avoided, and it *must* be kept away from the eyes. Obviously, if it gets onto your eyes, wash with copious quantities of water and seek medical attention immediately.

Secondly, the equipment involves the use of electricity. The voltage usually encountered, typically 10 to 15 volts, is not normally dangerous, although if contact is such that current flows across the body, for example an electrode in each hand, and the hands have been immersed in electrolyte for some time and are therefore highly conductive, even this low voltage could allow a dangerous level of current to flow across the chest area so always switch off the supply before moving connectors. There is obviously also a concern with mains equipment being sited close to liquid, so common sense must be used as regards the relative positioning of the components.

An important point concerns the production of explosive gasses. When current is passed through the electrolyte, both hydrogen and oxygen gas are evolved at the electrodes which when mixed, produces a highly explosive mixture. Ensure the procedure is conducted in a very well ventilated area, and avoid sparks or flames in the vicinity. Be aware that a spark will be produced if connectors are connected or disconnected whilst power is applied and this could trigger an explosion. Always switch off the mains transformer before adjusting the electrode connectors.

My final safety note concerns the use of stainless steel for the anodes, and although I made mention of this earlier, I consider this is important enough to mention again. This approach may seem attractive because this anode material will not rust during use and I have seen this material suggested on some web sites. The big problem is that most stainless steels contain the metal chromium, and during electrolysis chromium compounds may be released into the electrolyte. Chromium compounds are highly poisonous and may be illegal to dispose of down the drain in many countries. I am not entirely sure how great a hazard is presented by this, but to be safe I recommend you do not use stainless steel for your anode material.