

To Vice-Presidents/Deans, Heads of Schools, HoFAs  
From Dr Melanie Taylor  
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cc Prof M Case, Prof M Hebbert, Dr D Barker, Dr S A Robson, M Bailey, T Graham, Tony Crabtree, School Safety Advisors  
Reference Safety Circular 4/2009

## Electric shock and fire risk from plug tops

**Urgent Action :** HOSs and Directors are asked to

- (1) implement checks of all appliances fitted with European 2 pin electrical plug tops, and ensure competent persons **remove and replace ALL 2 pin plug tops / adaptors** with 3 pin plug tops to BS 1363 and appropriate fuse, and
- (2) check the plug top wiring of any school-owned **Victor V9 tub vacuum cleaners**, paying particular attention to the connection between the live terminal and the fuse holder.

(1) On 2 June 2009, one of our researchers received an electric shock from a Sanyo environmental test cabinet fitted with a Schuko 2 pin plug top and adaptor. There have been reports from other universities of several similar incidents, typically involving the same plug tops on items such as Sanyo freezers, water baths, bench-top spinner centrifuges and similar equipment.

These 2 pin plugs are unpolarised by design, and can be fitted into the adaptor the wrong way round, with live and neutral polarities reversed and with no earth and no fuse. The 2 pin plug can also be difficult to locate securely into the adapter (and requires a specialist tool to fit properly). As a result of these faults, equipment casing can become live to 131 volts AC.

Estates electrical engineers advise that 2 pin plug tops should automatically fail any portable appliance test (including a visual check of new equipment), because of the absence of any earth.

Cardiff University staff have taken this up with Sanyo, who advised them that replacement of the 2 pin plugs with 3 pin plugs to BS 1363 will not invalidate the manufacturer's warranty. They also report that action is already in hand in Europe to resolve this anomaly.

(2) There have also been several reports from other universities of fires caused by Victor V9 tub vacuum cleaners. STARS and Estates (House Services) have withdrawn a total of 130 of these from use, pending re-wiring of the plug tops to ensure there is a sound connection between the live terminal and fuse holder. Any such vacuum cleaners owned by schools should be checked.

Your University Safety Co-ordinator can provide further information and guidance.

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