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Ultraviolet radiation warning on unshaded eco lightbulbs

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Health officials issued a warning over energy-saving lightbulbs yesterday after research showed that some types could potentially harm the skin and even raise the risk of cancer.

A study by the Health Protection Agency found that some unencapsulated fluorescent lightbulbs, which have a coil that is visible, emitted ultraviolet (UV) radiation above the recognised safety limits.

The agency urged people who work close to lamps to avoid spending more than an hour at a time within a foot (30cm) of such energy-saving bulbs. The warning was directed at those using desk lamps for long periods, such as jewellery makers, and others who might have lights close to their face, such as car mechanics.

John O'Hagan, a scientist at the HPA's Centre for Radiation, Chemical and Environmental Hazards, began tests on the lightbulbs after patient groups - including some people with the photosensitivity skin disease lupus - raised concerns about them.

Tests found high levels of UV-C radiation in nine of 53 unencapsulated lamps. But 20 encapsulated lamps - those having a cover hiding the bulb's coil - had emissions well within the guideline limits. The highest levels of UV radiation, at 2cm away from the bulbs, were equivalent to exposure in direct summer sunlight, the agency said. The research is to be published in the journal Radiation Protection Dosimetry.

UV-C radiation is much more damaging to DNA than the more common UV-A or UV-B radiation. High-energy UV-C lamps are used in hospitals to kill bugs. "If a lamp produces UV-C even in small amounts it will cause DNA damage like a germicidal lamp," said Anthony Carr, director of the genome study centre at Sussex University.

The most immediate risk from the lightbulbs was a reddening of the skin similar to sunburn, but there was "also a small increased risk of skin cancer associated with this", the HPA said. It added that as only a small area of skin would be affected the risk was proportionately less than that carried by sunbathing.

The warning comes as the EU's 27 energy ministers, meeting in Luxembourg today, are expected to confirm a ban on the sale and import of incandescent bulbs in Europe from 2010. Some exceptions will be for hospital equipment and people sensitive to compact fluorescent bulbs. The ban is forecast to save 2-3m tonnes of CO₂ a year in the UK and up to 23m tonnes of carbon dioxide yearly throughout the EU.

Justin McCracken, the HPA's chief executive, said the risk of health problems from the energy-saving bulbs was not so high people should get rid of them.

The Lighting Association said it welcomed the caution but added that use of double-

envelope bulbs for desk and task lighting was "considered entirely safe".

A Defra spokeswoman said that the government would not be reviewing its strategy on energy-efficient lightbulbs.

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