

Radiation warning over ecofriendly lightbulbs

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

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

The agency urged people who work with lamps nearby to avoid spending more than one hour within a foot of the ecofriendly 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 faces, 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 raised concerns about them. Among the groups were patients with a skin disease called lupus, which makes people highly sensitive to light.

The tests measured UV light from the lamps and found high levels of UV-C radiation in nine out of 53 unencapsulated lamps. Tests on 20 encapsulated lamps, which have a cover that hides the bulb's coil, showed their emissions were well within guideline limits.

The highest levels of UV radiation, measured 2cm from the lightbulbs, were equivalent to being outside in direct sunlight in the summer, the agency said. The research has been accepted for publication in the journal Radiation Protection Dosimetry.

Almost no UV-C radiation reaches Earth from the Sun, because it is absorbed by ozone in the atmosphere. But it is much more damaging to DNA than the more common UV-A or UV-B radiation. Damage to DNA can cause mutations that lead to cancer.

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 centre for genome damage and stability at Sussex University.

The most immediate risk from the lightbulbs is a reddening of the skin similar to sunburn, but "there is also a small increased risk of skin cancer associated with this, again similar to that of sunburn, but as the areas of skin affected by exposure to [these bulbs] is very small compared to sunbathing, so the risk proportionately less," the HPA said.

The warning comes as the EU's 27 energy ministers, meeting in Luxembourg on Friday, are expected to confirm a complete ban on the sale and import of conventional incandescent lightbulbs in Europe from 2010. Some exceptions will be for hospital equipment and people sensitive to compact fluorescent bulbs.

The ban is expected to save 2-3m tonnes of CO2 per year in the UK and up to 23m tonnes of CO2 per year throughout the EU.

The agency's chief executive, Justin McCracken, said the risk of health problems from the lightbulbs was not so high that people should remove them from their homes. "We are advising people to avoid using the open lightbulbs for prolonged close work until the problem is sorted out and to use encapsulated bulbs instead," he said.

The Lighting Association, an industry body for lighting manufacturers, is now conducting its own studies on the lightbulbs.

In a statement, the association said: "The industry welcomes the precautionary measure which purely relates to single envelope compact fluorescent lamps (CFLs) for desk or task lighting in very close proximity. The use of commonly available double envelope type CFLs in these situations is considered entirely safe."

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