

Press Release No. 58/2010

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Mercury from burst energy saving lamps

Random sampling by Federal Environment Agency reveals elevated indoor air pollution - more measurements necessary

Energy saving lamps, or compact fluorescent lamps as the experts call them, are good for the climate but contain small amounts of mercury. Should a lamp burst the toxic heavy metal can escape to indoor air. The first basic sampling of two lamps done by the Federal Environment Agency (UBA) revealed that mercury pollution immediately after breakage can be 20 times over the guideline limit of 0.35 microgrammes/cubic metre (\rightarrow g/m³) for indoor space, a level at which UBA and its Indoor Air Commission recommends that the pollution source be removed. However, thorough airing reduces ambient mercury concentration. Children and expectant mothers should keep away from burst energy saving lamps. "The presence of mercury is the downside to energy saving lamps. We need a lamp technology that can prevent mercury pollution soon," said UBA President Jochen Flasbarth. "The positive and necessary energy savings of up to 80 percent as compared to light bulbs must go hand in hand with a safe product that poses no risks to health." Flasbarth advises consumers the use of energy saving lamps in children's rooms and other areas at higher risk of lamp breakage in connection with a plastic casing or other measures to protect against breakage. He also called on industry to make more such lamps available on the market which-- should this not occur on a voluntary basis- the EU must proscribe by law, Flasbarth continued.

The tests simulated a "worst case" situation in two energy saving lamps produced by European manufacturers, lamps with 2 milligrammes (mg) and 5 mg mercury, respectively. Neither lamp had a protective casing, and both were broken while hot and in operation. In both energy saving lamps, concentrations of mercury at one metre above the floor were measured after five minutes as well as after five hours at levels that could impact the health of pregnant women, small children and sensitised individuals should the broken pieces be left lying around. Tests done by other institutions indicate that proper disposal of broken compact fluorescent lamps (energy saving lamps) also can make significant reduce airborne mercury concentration.

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Lamps with breakage protection offer best defense - but must be improved

Especially in children's bedrooms, schools, sports facilities, or child day care centres, UBA recommends unbreakable energy saving lamps in a protective casing or other protective measures that prevent the lamp from breaking. Moreover, alternative lighting that makes do without mercury is available for most needs (LED, halogen). Break-proof types are already on the market. Should industry not voluntarily produce more break-proof energy saving lamps, UBA recommends that the European Union establish a corresponding legal requirement. Consumers currently must accept certain compromises on comfort in favour of greater safety, since the warm-up time to achieve maximum brightness is longer and the lamps are comparatively more expensive.

Furthermore, UBA strongly advises that warnings and disposal instructions be included in packaging for the event that a lamp should break. Industry must be obliged to include such information in packaging. Consumers can find the most important tips and advice on clean-up and disposal of broken energy saving lamps here:

<http://www.umweltbundesamt.de/energie/licht/hgf.htm>.

Used energy saving lamps must be disposed of near households and in breakage-proof containers

Besides the safe handling of compact fluorescent lamps (energy saving lamps), UBA also emphasises the importance of safe disposal of defective and spent energy saving lamps. Up to now, consumers have had the duty to return spent energy saving lamps to town and municipal collection points. Although take-back is free of charge, it is seldom feasible for consumers, says UBA President Flasbarth. "It can hardly be expected that citizens drive long distances to the nearest collection point for a single lamp. It would be more practical if used lamps could be returned directly to the shop." UBA is calling on merchants to institute a systematic take-back system of their own accord. Should this not occur in short order, UBA recommends that the legislator establish by law the institution of a take-back system near to households.

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EU should create incentives to produce mercury-free lamp technology

From an environmental medicine point of view, energy saving lamps should operate with the least amount of mercury possible. UBA believes that lamp technology should soon do without mercury altogether. Energy saving lamps may presently contain up to 5 mg mercury which-- although it is far below that of the conventional fluorescent bulbs (also known as striplights) that have been common at many workplaces for decades- is still too much.

The Federal Environment Agency will review results measured by the Fraunhofer Wilhelm-Klauditz Institute (WKI) and undertake further series of measurements that include other lamp types.

For more detailed information and safe handling of broken lamps see <http://www.umweltbundesamt.de/energie/licht/hgf.htm>.

More information is available in the Energiesparlampen in der Diskussion background paper at <http://www.uba.de/uba-info-medien-e/3964.html>.

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