

Frequently Asked Questions

Radioactive Materials in DULUX® Lamps

Are there radioactive materials in DULUX compact fluorescent lamps?

SYLVANIA DULUX compact fluorescent lamps with 2-pin bases contain starter switches. Each of these switches contain 0.01 microcuries of the radioactive material Krypton-85. The function of the Kr-85 is to insure that the lamp starts quickly (approximately 0.5 seconds) and reliably. There is no radioactive material in either 4-pin or self-ballasted screw base DULUX compact fluorescent lamps.

OSRAM SYLVANIA is licensed by New York State to manufacture these lamps and by the US Nuclear Regulatory Commission (USNRC) to sell the lamps to the public. The USNRC allows 30 microcuries of Kr-85 in each starter switch. Other consumer products authorized by the USNRC include luminous dial watches and clocks that may contain as much as 100 microcuries and 200 microcuries of the radioactive material, respectively.

Careful consideration went into choosing the material. In the unlikely event that it escapes its housing, the Kr-85 will not cause any contamination because it is a noble gas and does not react chemically with any substance nor is it absorbed by the body.

Radioactive Kr-85 emits beta particle radiation. Due to the small quantity of Kr-85 involved and the glass walls of the glow switches and lamps, so few beta particles penetrate the glass that they cannot be distinguished from naturally-occurring background radiation with a standard Geiger counter.

The following radiation emission data is provided for comparison purposes:

OSRAM SYLVANIA starter switches – 0.001 millirems/hr @ 1 centimeter distance
Watch (allowable) - 10.0 millirems/hr @ 1 centimeter distance
Clock (allowable) - 20.0 millirems/hr @ 1 centimeter distance
Transcontinental flight - 2.5 millirems/flight
Cosmic radiation (New York) - 31 millirems/year
Cosmic radiation (Denver) - 80 millirems/year (due to elevation)

Microcurie: A measurement of radioactive material in terms of its radioactivity.

Millirem: A measurement of the radiation dose to the human body.

Cosmic Radiation: Radiation from outer space