

Exemption guidance

Guidance on lamps containing radioactive substances

**October 2011
Version 1**

**Radioactive Substances Act 1993
The Environmental Permitting (England and Wales) (Amendment)
Regulations 2011**

What is a lamp containing radioactive substances?

Some types of high efficiency lamps contain small amount of radioactivity. They usually contain the radioactive gas Krypton-85 and can also contain Thorium-232 in the lamps electrodes. The radioactive substances are sealed in the lamp and cannot escape under normal situations.

Who is this guidance for?

This guidance is for:

- all businesses that use lamps containing radioactivity
- businesses that install and remove such lamps
- businesses that are involved in the transport and storage of lamps
- businesses that recycle such lamps

This guidance is not aimed at manufacturers of such lamps

Does this guidance apply in England, Wales, Scotland and Northern Ireland?

Yes, it applies across the UK.

What premises are exempt from the need for a permit?

All types of premises may be exempt providing that the radioactivity in any given lamp and the total radioactivity in all the lamps on the premises is less than values specified in legislation. These values are explained below

The regulations do not apply to domestic homes and no permit is needed.

Which individual lamps containing radioactivity are exempt?

Lamps are considered to be sealed sources. Individual sealed sources containing up to 4 MBq of radioactivity are exempt. All lamps containing radioactivity that are currently on the market contain significantly less than 4 MBq of radioactivity.

The keeping and use of up to 5kg of thorium is also exempt. The amount of thorium in a typical lamp is thousands of times smaller than this.

How many lamps may I keep and still be exempt?

The total radioactive content in all the sealed sources on any premises must be less than 200 MBq. The exact number of lamps that you could keep will depend on the model of lamp that you use and its radioactive content. It is likely to be more than 40,000 lamps.

If you are involved in the storage of large quantities of lamps (more than 40,000), i.e. a warehouse or distribution centre then you should contact the lamp manufacturer to determine that total quantity of radioactive substances that you will be keeping.

Are there any special conditions that I need to comply with?

The exemption has a number of conditions that must be complied with, however, it is likely that the day to day procedures of the majority of businesses that use lamps will satisfy these conditions. The conditions that must be complied with are listed below along with the arrangements that could be used to satisfy these requirements

Keep adequate records

No special requirement over and above routine stock control. For suppliers of such lamps, normal stock control and despatch records will be sufficient, but must be kept for 2 years.

Label as radioactive where practicable

We do not consider it practicable to add additional labels onto lamps over and above any manufacturer labels.

Not modify or mutilate the sources

You should not intentionally break the lamps. Waste lamps should be disposed of appropriately as waste electronic and electrical equipment (WEEE). Destruction of the lamps may be an integral part of the recycling process and this is allowed (see below).

Allow access to records / premises

You must allow environment agency inspectors access to your records and premises so they can check compliance with this exemption. Such requests for access are likely to be very infrequent

Prevent accidental removal, loss or theft

Normal arrangements to prevent theft of any goods or equipment

How should I dispose of waste lamps?

There are no special requirements relating to the disposal of these lamps by users from a radiological perspective. However such lamps are classed as waste electronic and electrical equipment (WEEE) and need to be managed accordingly. In most cases we anticipate that waste lamps will be removed by installers and sent for recycling.

If you recycle these lamps, then there are additional controls on you, see below

I recycle lamps containing radioactivity, are there special requirements on me?

Recycling the lamps involves releasing the Kr-85 which is trapped inside the lamps. This is a disposal of radioactive waste but is exempted from permitting provided that you comply with a number of conditions.

- You must not dispose of more than 100 GBq of K-85 from any premises in any given year.

It is expected that recycling facilities would keep a record of the number of lamps recycled and an estimate of the radioactivity released.

- If the waste arises in a building, where reasonably practicable you must ensure that the gaseous waste is vented into the atmosphere.
- You must also take all reasonably practicable measures to prevent the gaseous waste released during recycling from entering (or re-entering) buildings.