

This guide is for officials, representatives and members to help them when they are dealing with exposure to DEEE in the workplace.

## What is DEEE?

DEEEs are the product of diesel engine combustion. It contains a complex mixture of gases, vapours, liquid aerosols and particulate substances.

## Who is at risk from being exposed to DEEEs?

Delivery vehicle drivers and distribution centre workers or anyone working with or around diesel-powered equipment or vehicles can be affected – and those who particularly work in enclosed workspaces such as delivery points and warehouses.

## What are the health risks from exposure?

In the short-term, workers exposed to high concentrations of DEEE may within minutes have irritation to their eyes, nose and throat, dizziness and headaches. Workers should report any symptoms to their employer and complete the accident log.

Long-term exposure may impact on pre-existing respiratory diseases, such as emphysema or bronchitis, or may aggravate existing heart disease. It has also been linked to an increased risk of cancer.

HSE's stance on DEEE is there is insufficient evidence to categorise DEEE as a category 1 or 2 carcinogen and have not set a workplace exposure limit for elemental carbon and they have no plans which would bring them in line with the EU. This means the HSE does not consider DEEE meets the particular provisions in COSHH for the control of carcinogens. However, DEEEs are considered by HSE to be 'a substance hazardous to health' and are therefore subject to the general provisions of the COSHH Regulations.

Trade unions are critical of the HSE's stance on DEEE and think employers should consider the evidence below from professional bodies and experts when they are looking at what control measures to introduce to protect their workers.

In 2013, the International Agency for Research on Cancer (IARC), which is part of the World Health Organization (WHO), classified DEEE as known to be carcinogenic to humans (Group 1a), based on sufficient evidence that exposure is associated with an increased risk of lung cancer.

The EU has set an occupational exposure level for elemental carbon in DEEE of 0.05 mg per cubic metre and employers are required to meet this standard.

The professional body for occupational health and safety in the UK, Institute for Occupational Safety and Health (IOSH); are running a campaign to highlight occupational cancer called [No Time To Lose](#) (NTTL) and it includes the following workplace carcinogens:

- Asbestos.
- Silica dust.
- Solar radiation.
- DEEE.

IOSH indicate that even the most conservative estimates show that prolonged exposure to diesel exhaust is responsible for around 800 cases of bladder and lung cancer every year leading to 650 deaths, although the total may be even higher. If workers are concerned regarding what impact workplace DEEE could have on their pre-existing health condition they should raise their concerns with their employer and seek medical advice.

### **What should employers be doing to control DEEE?**

DEEE has no legal workplace exposure limit (WEL). The absence of a WEL does not indicate that it is safe.

DEEE is classed as hazardous and is covered by the Control of Substances Hazardous to Health (COSHH) Regulations. This requires employers to assess the risk of people being affected by diesel fumes and involves:

- Initially look at preventing exposure.
- If this is not possible, where reasonably practicable, to substitute diesel for a lower polluting fuel, such as electric.
- If these options are not possible, the employer should produce a DEEE risk assessment and include a series of control measures in order reduce worker's exposure.
- Please note, PPE is the least effective control measure.

### **What should employers be doing to control DEEE?**

Simple measures that help reduce DEEE exposure include:

- Drivers turning off their engine when they are making a delivery and keeping delivery bay doors and windows open.
- Reducing the number of workers present in the area when the deliveries are being done.
- Where it is necessary to keep the engine running when stationary, then further measures will need to be considered, for example – using an extraction system or a suitable filter system attached to the tailpipe.

On the road, employers should consider:

- Ensure the vehicle is in good condition and is regularly maintained.
- Consider an in-cabin filter; it can reduce exposure to pollutants.
- Plan routes carefully to avoid congested areas and always try to avoid tunnels.
- Move shifts to reduce the time drivers spend in busy traffic.

Simple measures for professional drivers while out on the road include:

- As part of the vehicle safety inspection before taking a van/lorry out on the road, check for excessive smoke from the exhaust.
- Drive with their windows closed.
- Ventilate their vehicle using the recirculate air setting, but use it sparingly as it circulates the carbon dioxide we breathe out which can be harmful.

The employer should also review their DEEE risk assessment where the frequency of work or the work practices change.

Please see the references:

HSE Control DEEE in the workplace guidance:

[Control of diesel engine exhaust emissions in the workplace \(hse.gov.uk\)](https://www.hse.gov.uk/control-diesel-engine-exhaust-emissions-workplace/).

TUC guide to control workplace diesel exposure:

<https://www.tuc.org.uk/sites/default/files/DieselExhaustWorkplace1.pdf>.

Revised July 2022