



A-Z SEED - D



DIESEL EXHAUST IN THE WORKPLACE

Diesel exhaust is a pervasive airborne contaminant in workplaces where diesel-powered equipment is used. Due to expanding use of diesel equipment, more and more workers are exposed to diesel exhaust. More than one million workers are exposed to diesel exhaust and face the risk of adverse health effects, ranging from headaches and nausea to cancer and respiratory disease. Such workers include mine workers, bridge and tunnel workers, railroad workers, loading dock workers, truck drivers, material handling machine operators, farm workers, longshoring employees, and auto, truck and bus maintenance garage workers.

- aldehydes;
- nitrogen dioxide;
- sulphur dioxide;
- polycyclic aromatic hydrocarbons.

The carbon particle or soot content varies from 60% to 80% depending on the fuel used and the type of engine. Most of the contaminants are adsorbed onto the soot. Petrol engines produce more carbon monoxide but much less soot than diesel engines.



WHAT FACTORS AFFECT THE COMPOSITION OF DIESEL FUMES?

The quantity and composition of diesel fumes in your workplace may vary depending on:

- the quality of diesel fuel used;
- the type of engine, eg standard, turbo or injector;
- the state of engine tuning;
- the fuel pump setting;
- the workload demand on the engine;
- the engine temperature;
- whether the engine has been regularly maintained.

DIESEL ENGINE EXHAUST EMISSIONS

Diesel engine exhaust emissions (commonly known as 'diesel fumes') are a mixture of gases, vapours, liquid aerosols and substances made up of particles. They contain the products of combustion including:

- carbon (soot);
- nitrogen;
- water;
- carbon monoxide;

DIESEL FUMES AND YOUR HEALTH

Breathing in diesel fumes can affect your health, and exposure to the fumes can cause irritation of your eyes or respiratory tract. These effects are generally short term and should disappear when you are away from the source of exposure.

SAFETY AND ENVIRONMENTAL EDUCATION FOR DEVELOPMENT

SEED

www.seedforsafety.org





A-Z SEED - D



However, prolonged exposure to diesel fumes, in particular to any blue or black smoke, could lead to coughing, chestiness and breathlessness.

In the long term, there is some evidence that repeated exposure to diesel fumes over a period of about 20 years may increase the risk of lung cancer. Exposure to petrol engine exhaust emissions does not have the same risk.

Skin contact with cold diesel fuel may cause dermatitis.

WHAT CAN I DO TO PROTECT MY OWN HEALTH?

You can do a number of things to protect your health from exposure to diesel fumes. These include:

- **ask** your employer for information on the hazards associated with diesel fumes, read it, make sure you understand it and if not, seek clarification;
- **avoid** exposure where possible;
- **make** full use of any controls provided;
- **know** how to use the controls provided and be able to detect any faults;
- **report** any faults in the controls to your employer, eg poor extraction fans;
- **keep** doors and windows open to remove any diesel fumes where possible;
- **turn** off engines when not required;
- **know** how to correctly wear any respiratory protective equipment or personal protective equipment your employer provides;
- **keep** it clean and serviced, and store in a clean area provided by your employer.

In addition to these controls, there are a number of personal hygiene measures you can take:

- **do not** eat or smoke in areas where there is likely to be exposure;
- **wash** your hands and face before drinking, eating or leaving work;
- **avoid** skin contact with cold diesel fuel and hot fuel or oil.



Remember, you have a duty not only to protect your own health and safety but also to ensure that your actions do not put others around you at risk.

SAFETY AND ENVIRONMENTAL EDUCATION FOR DEVELOPMENT

SEED

www.seedforsafety.org

