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ROADMAP ON CARCINOGENS

THE FACTS
DIESEL ENGINE EXHAUST

In Europe estimations show that there may be more than 3.6 million workers exposed to diesel engine exhaust emissions above the background levels found in cities. In the EU, estimations reveal that there are nearly 4,700 cases of lung cancer yearly, and more than 4,200 deaths all linked to diesel exhaust exposure. Workers that are regularly exposed to diesel exhaust fumes have an increased risk of up to 40 per cent to develop lung cancer. Diesel exhaust fumes are classified as Group 1 carcinogen by the IARC, meaning they are seen as a definite cause of cancer in humans.

Where risks occur

Diesel engines provide power to a wide variety of vehicles, heavy equipment, and machinery used in a large number of industries including mining, transportation, construction, agriculture, maritime, and various types of manufacturing operations.

Occupations that are exposed could for example be: mechanics in bus garages and truck terminals, truck drivers, firefighters (also in fire stations), construction workers and forklift operators in several settings, people working with fixed power sources like compressors, generators, workers loading and unloading ships or airplanes, oil and gas workers, toll-booth workers.

More about the substance

Diesel engine exhaust fumes are a complex mixture of gases, vapours, liquid aerosols and particles created by burning diesel fuels. The composition of the mixture depends on the nature of the engine, fuel and operating conditions. The fumes contain relatively high amounts of soot particles (much higher than in petrol fumes) and the mixture includes several carcinogenic substances.

How symptoms can affect you

Short term exposure can cause irritation of the eyes, nose, throat and lungs. Prolonged exposure can increase the risk of developing chronic respiratory disease and lung cancer.

Latency period between exposure and lung-cancer could be as long as 10-20 years.

What you can do

Perform a proper risk assessment on diesel exhaust fume exposure to your employees. For instance:
Are diesel exhaust fumes being released into enclosed working areas like garages? Are measures taken? Do workers report irritated eyes or lungs?

Best solution is to control exposure, for example use other engines or ventilation systems and good engine management. Respiratory protective equipment, designed to protect the wearer from inhaling harmful dusts, fumes, vapours or gases, should only be used as a last resort. However, for some jobs or work tasks respiratory protective equipment may be the only practicable solution.

References: IOSH, IARC, OSHA

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