

Diesel Exhaust?

When diesel fuel burns in an engine, the resulting exhaust is made up of soot, a mixture of many gases, vapours and solid particles. Diesel engines are in many buses, cars, trains, trucks and generators.

Why Is Diesel Exhaust Harmful?

Diesel exhaust contains a mixture of thousands of different chemical substances. Many of the components of diesel exhaust, such as carbon monoxide, carbon dioxide, nitrogen oxides, sulphur dioxides, hydrocarbon gases and diesel particulate matter (soot), arsenic and benzene, can cause health problems. Diesel exhaust contains 20-100 times more harmful particles than gasoline exhaust.

How Can You Be Exposed To Diesel Exhaust?

You can breathe diesel exhaust whenever you are in an area where a diesel engine is or has been recently running. Diesel exhaust contains tiny particles so small that you can easily breathe them in through your nose and mouth. You can breathe in diesel exhaust while driving the vehicle, as a passenger of the vehicle, or if you are working in and around the area where the vehicle is running.

How Can Diesel Exhaust Harm You?

If you are exposed to diesel exhaust for a short time, you may

- have headaches, nausea or feelings of lightheadedness
- have watery, irritated eyes or runny nose
- have a scratchy throat, cough, phlegm, wheezing, or difficulty breathing
- have heartburn

If you are exposed to diesel exhaust over a long period of time, you may

- develop lung problems and/or have reduced lung capacity (shortness of breath)
- be at risk for developing certain cancers (such as lung cancer)

If you have other conditions such as asthma, emphysema or heart disease, you may be more likely to suffer from the unhealthy effects of diesel exhaust.

What Can Your Employer Do?

Are You At Risk?

You can be exposed to diesel exhaust if you drive a diesel vehicle such as a truck, bus or forklift. You are also at risk if you work in areas where diesel engines are run, such as at loading docks, garages, bridges, mines, railways and tunnels. You can be exposed anywhere these diesel vehicles are used, stored or maintained

- ✓ **Substitute** diesel engines with gasoline, propane or electric powered engines.
- ✓ **Ventilate** the enclosed areas (garages, warehouses, loading docks) using local exhaust ventilation systems that will remove harmful exhaust at the source. Tail pipe hoses should be used if the engine needs to be running inside.
- ✓ **Isolate** the exhaust from the worker. For example, diesel trucks should have air-conditioned cabs so that windows can be kept closed.
- ✓ **Develop safe work practices** with the health and safety committee to reduce workers exposure to diesel exhaust.
 - Diesel engines should have regular tune ups and maintenance to check for leaks, ensure vehicles do not have any holes or cracks that exhaust can escape.

- Use the purest form of diesel fuel available so that it burns more cleanly
- Prohibit diesel vehicle idling
- Fit vehicles with air cleaners such as scrubbers, filters and particle traps that can reduce/trap harmful particles in the exhaust

- ✓ **Provide training** on the potential hazards of diesel exposure, use of control measures and personal protective equipment.
- ✓ **Provide personal protective equipment (PPE's)**, such as appropriate respirators, and train workers on how to use them properly.

What Can You Do?

- ✓ Work with your employer. Make sure the diesel engine is working properly.
- ✓ Work with your workplace health and safety committee to develop safe practices to eliminate or reduce exposure.
- ✓ Follow all workplace procedures and policies regarding diesel engines.
- ✓ Ventilate the area where diesel exhaust engines are run (e.g., open garage door)
- ✓ Turn engines off when they are not needed.
- ✓ Keep windows rolled up when driving diesel vehicles, whenever possible.
- ✓ Wear personal protective equipment (PPE), if it recommended.
- ✓ Limit your exposure to cancer causing substances such as cigarettes, asbestos and welding fumes. Exposure to these substances in combination with diesel exhaust can increase your risk of developing some cancers.
- ✓ Report any symptoms to your doctor if you think they may be related to diesel exhaust exposure.

What Can Your Workplace Health and Safety Committee Do?

- ✓ Research ways to introduce safer substitutes into the workplace (e.g., gasoline powered engines, cleaner burning diesel fuel)
- ✓ Ensure that personal protective equipment (PPE) is available for all employees if it is needed, and research the newest PPE's
- ✓ Work with employers to find safer work practices

References

1. CAL EPA diesel exhaust fact sheet: www.oehha.ca.gov/public_info/facts/dieselfacts.html
2. Health Assessment Document for Diesel Engine Exhaust – US EPA

If you need more information contact the

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