

Toolbox Talk # 1.12 – Diesel Exhaust

What is Diesel Exhaust?

The diesel engines in automobiles, buses, and trucks produce exhaust from the combustion of diesel fuel. Diesel exhaust is made up of harmful chemicals including very small toxic particles and hazardous gases. Some of the hazardous gases in diesel exhaust (e.g. nitrogen oxides, benzene, sulfur dioxide and formaldehyde) have been found to possibly cause cancer.

Health Hazards of Diesel Exhaust

Breathing diesel exhaust is the most common method of exposure. As we breathe, the fine particles and toxic gases in diesel exhaust can enter into the lungs. Being exposed to diesel exhaust for short periods of time may cause headaches, nausea, chest tightness, wheezing, cough and irritation of the eyes, nose, and throat.

Exposure to diesel exhaust over long periods of time (usually years) may increase the chances of getting cancer. Those workers who already have respiratory illnesses, such as bronchitis, emphysema and/or asthma, may be adversely affected if they are exposed to long-term, or chronic exposure to diesel exhaust.

Who is at Risk?

Workers most likely to be exposed to diesel exhaust include bridge, tunnel, and loading dock workers, truck and bus maintenance garage workers, miners, toll booth collectors, truck and forklift drivers, and material handling machine operators.

Methods of Control of Diesel Exhaust

Substitution

Where possible, replace diesel engines with propane engines. Propane burns more completely with fewer emissions than diesel fuel. However, it is important to ensure there is adequate ventilation when using any combustion engine (diesel or propane) indoors, such as in warehouses or garages. Breathing harmful levels of combustion gases, such as carbon monoxide, carbon dioxide, and nitrogen oxides can be harmful to your health.

Ventilation

If you cannot replace your diesel engine, diesel exhaust can be removed by using local exhaust ventilation. Local exhaust ventilation should include both intake and exhaust fans that remove diesel exhaust at its source. General ventilation air movement by opening doors, windows, roof vents, roof fans and floor fans is helpful, but not as effective as local exhaust ventilation.

Safe Work Practices

Some possible methods to reduce and/or minimize diesel exhaust emissions are:

- When diesel equipment is not in use, the engine should not be allowed to idle.
- Diesel equipment should be turned off and restarted as needed.
- Enforce diesel equipment (bus, truck, etc) idling restrictions.
- Check all ventilation systems to ensure proper functioning.
- Conduct routine maintenance of engines to minimize emissions.

- Diesel equipment that is producing visible, smoky exhaust should be removed from service until the condition has been corrected. · Vehicles should be fitted with emission controls (e.g. collectors, air cleaners, ceramic particle traps, etc.).

Emissions controls should be checked regularly and replaced when necessary.

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Project: _____

Date: _____

Supervisor: _____

Company: _____

Other safety issues covered or comments from crew members:

Attendees:

Name: (please print)	Signature:	Company:
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