

## Bus Garage Ventilation



If you work in the school bus garage or are in the garage frequently, measures you should take. The most important of these is making s ventilation.

### Why?

**Hazards of Diesel Exhaust:** Most school buses run on diesel fuel and the exhaust from those buses includes toxic soot and gases. You can inhale the particles in the soot. These are a danger to the lungs because they contain cancer -causing substances called *polynuclear aromatic hydrocarbons (PAHs)*. Other gases in diesel exhaust include carbon monoxide, nitrous oxide, nitrogen dioxide, formaldehyde, benzene and hydrogen sulfide. These gases can also create health problems.

High levels of diesel exhaust can have the following short-term health symptoms:

- irritation of eyes, nose and throat
- lightheadedness
- feeling "high"
- heartburn
- headache
- weakness, numbness, and tingling in extremities
- chest tightness
- wheezing
- vomiting

Available studies suggest that long-term exposure to diesel exhaust may be harmful to you. Some studies indicate that workers with exposure o diesel exhaust are more likely to have chronic respiratory symptoms such as persistent cough and mucous, bronchitis, and reduced lung capacity.

The National Institute of Occupational Safety and Health (NIOSH) reports that human and animal studies show that people should treat diesel exhaust as a human carcinogen (cancer-causing substance). Combining diesel exposure with other cancer causing substances such as cigarette smoke, welding fumes and asbestos may increase a worker's risk of getting lung cancer. If you work around diesel-fueled equipment, you should avoid exposure to these other hazards.

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## Controlling Exhaust in the Bus Garage

The best way to control diesel exhaust is to use ventilation.

Local exhaust ventilation is the best way to reduce exposure to exhaust. *Tailpipe* or *stack exhaust hoses* should be provided for any vehicle being run in a maintenance shop.

General ventilation uses roof vents, open doors and windows, roof fans or floor fans to move air through the work area. If not designed or planned properly, this ventilation might only spread the exhaust around the work area. This kind of exhaust system is important if there are long periods of engine idling i.e. during winter warm-ups. If bay doors can be opened and buses are parked front forward, there may be less need for general ventilation. When in doubt, have administration bring in someone to test levels of exhaust gases, including carbon monoxide. Levels should be below 15 parts per million (PPM). Get the employer to purchase a carbon monoxide sensor that alarms at 35 PPM.

General ventilation alone may not adequately reduce the diesel exhaust. A combination of both local and general ventilation is best. If you don't have local exhaust ventilation, make sure to use greatest level of general ventilation available.

### Safe Work Practices

Safe work practices can also help lower exposure to diesel exhaust. Examples of those practices are:

- Perform regular maintenance and tune-ups on diesel equipment. Check exhaust systems for leaks.
- Fit vehicles with emission control devices (air cleaners) such as collectors, scrubbers and ceramic particle traps. Check the cleaners regularly and replace them when they get dirty.
- Avoid letting vehicles idle. Workers should not be in the vehicle when it is idling for a long time.
- Cracks in the vehicle need to be fitted with weather stripping to prevent exhaust from leaking in.
- Make sure the floor of the vehicle does not have any holes.

**Diesel exhaust is unhealthy at any level. Do your best to reduce your exposure!**



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legal advice. It does not identify all the issues surrounding the particular topic. You are encouraged to review your safety and health procedures with an expert or attorney knowledgeable about the topic.