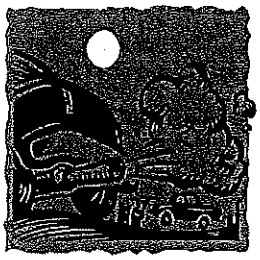
Howard County
MARYLAND
Department of Recreation and Parks
Tailgate Topic # 37



Diesel Exhaust

Overview: Diesel engines produce exhaust from the combustion of diesel fuel. The exhaust is made up of harmful chemicals including very small toxic particles and hazardous gases. These gases have been found to possibly cause cancer.

Breathing diesel exhaust is the most common method of exposure. As we breathe, fine particles and toxic gases in the diesel exhaust enter our lungs. These fine particles and toxic gases can create health problems. The top eight gases in diesel exhaust are:

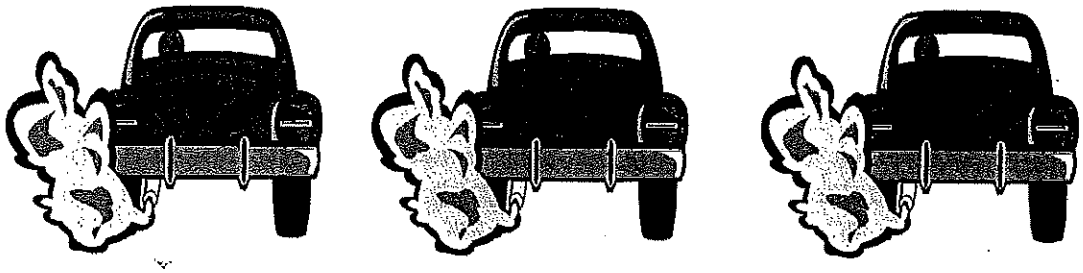
- nitrous oxide
- nitrogen dioxide
- formaldehyde
- benzene
- sulfur dioxide
- hydrogen sulfide
- carbon dioxide
- carbon monoxide

Exposure to diesel exhaust for short periods of time may cause irritations such as; headaches, nausea, chest tightness, wheezing, cough, lightheadedness, feeling "high," heartburn, vomiting, and irritation of the eyes, nose and throat.

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

Safe Work Practices:

- If 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 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.
- Emissions controls should be checked regularly and replaced when necessary.



Few Studies have been done to establish chronic effects in terms of cancer risk; no consistent evidence suggests that diesel emissions induce cancer in rats at sites other than the lung. Prolonged exposure to diesel emissions does not produce lung tumors in hamsters, and the results in mice are equivocal, which suggests that species specific factors play a critical role in the induction of lung tumors by diesel emissions. In addition, few epidemiologic studies have considered the effects of confounding by nondiesel particulates, cigarette smoke, asbestos exposure, diet and socioeconomic factors. However, those studies that have been done, consistently show a weak association of 1.2-1.5 relative risk increase in lung cancer. Thus the EPA, the ACGIH, NIOSH an IARC agree that diesel exhaust is a human carcinogen. Other respiratory disorders caused or exacerbated by diesel exhaust include asthma and chronic bronchitis.

Information from: http://enhs.umn.edu/hazards/hazardsite/dieselexhaust/dieselhealtheffects.html
http://www.scif.com/safety/safetymeeting/Article.asp?ArticleID=35