Diesel Exhaust Dangers and Safeguards Stats and Facts

FACTS

1. Workers exposed to diesel exhaust face the risk of health effects ranging from irritation of the eyes and nose, headaches and nausea, to respiratory disease and lung cancer.
2. There is no national occupational standard for exposure to diesel emissions
3. Diesel exhaust is the second most common cause of cancer after UV exposure
4. Underground production workers, including diesel loader operators and shotcreters, face the highest risk.
5. Three effective controls to eliminate or reduce exposure to diesel exhaust are the use of: engine exhaust filters, local tailpipe exhaust ventilation, dilution ventilation.
6. Substituting diesel fuel with a safer fuel, for example, dimethyl ether or low Sulphur diesel fuel.

STATS

1. Using Department of Mines and Petroleum data from 2003 to 2015 and other studies, it modelled the average levels of exposure among employees in a range of occupations on Western Australian mine sites.

- It then estimated the number of lung cancer deaths caused by those levels with stark results.
- Diesel exhaust could be causing fatal lung cancer in underground miners at a rate up to 38 times the accepted occupational risk.
- Above-ground mine workers were found to face lower levels of risk, with an average exposure of 14 ug/m3 over 45 years causing about 5.5 lung cancer deaths per 1,000 workers.
- For workers, exposure to diesel soot, also called diesel

particulate matter or DPM, in diesel exhaust can cause health problems ranging from eye and skin irritation to breathing difficulty and, potentially, cancer. In 2008 throughout the US, 84 workers died as a result of same level falls. *(Bureau of Labor Statistics)*

2. Using the California limit for comparison, NIOSH researchers tested DPM levels in 104 air samples on oil and gas worksites in Colorado, North Dakota, Texas, and New Mexico from 2008 to 2012. Of these samples, 49 were from personal breathing zones of workers and 55 were from the general work area where workers spend part of their shifts. The results showed that the level of DPM varied widely. Measured values ranged from less than 1 to 52 micrograms per cubic meter of air over the workday. The average level measured in workers' breathing zone samples was 10 micrograms per cubic meter over the accepted range.