

NIOSH Warns of Deadly Carbon Monoxide Hazard



from Using Pressure Washers Indoors

According to the National Institute for Occupational Safety and Health (NIOSH), Americans who use gasoline-powered pressure washers indoors are risking their lives. NIOSH warns all workers not to use these machines indoors--it can be a deadly mistake.

"We must act before this silent killer' strikes again. Workers must be aware of the hazard and prevent exposure to this potentially fatal gas. Carbon monoxide strikes quickly, and it strikes without warning, the gas is colorless, odorless, tasteless, and gives no signs of its presence.

It is critical that workers know when carbon monoxide can be a danger and how they can be protected. All gasoline-powered engines produce carbon monoxide. This gas can rapidly build up in any indoor area, and individuals can be overcome without even realizing they are being exposed. Confusion, headache, dizziness, fatigue, and weakness may set in too quickly for victims to save themselves. Each of the victims interviewed by NIOSH expressed shock at how quickly they were overcome. A farm woman recently poisoned in Iowa stressed, "I was amazed at how it affected my ability to think clearly and to get out." Carbon monoxide poisoning can cause permanent brain damage, including changes in personality and memory. Once inhaled, carbon monoxide decreased the ability of the blood to carry oxygen to the brain and other vital organs. Even low levels of carbon monoxide can set off chest pains and heart attacks in people with coronary artery disease.

This document describes five incidents in which farmers were overcome while using gasoline-powered pressure washers to clean buildings used to house animals. While we do not know how many farmers are using this hazardous procedure, we do know that the number of Americans using this type of washers is rising. According to Vernon Meyer, Swine housing Specialist, Iowa State University, "Two-thirds of swine producers now use pressure washers for cleaning, and that number is expected to go up." As the market for these devices in agriculture and other industries continues to increase, it is essential that users be informed of the carbon monoxide hazard. We must insure that fatalities do not increase with the market.

In each of the injuries identified, the farmer had brought the machine into a building. Though the machines themselves should be placed outside and the hoses brought inside, farmers sometimes place the equipment inside the building because the hose is not long

enough to reach all the area being cleaned or because of concern about water in the machine freezing during cold weather. The following page describes the fatal and near fatal incidents and the methods of preventing future injury and death from this hazard. Though all of these incidents occurred on farms, any indoor use of gasoline powered equipment could be disabling or fatal.

Preventable Poisonings

Steps for Prevention

Do not operate machinery with gasoline engines inside any building.

Though warning notices in operating manuals advise that the equipments not to be used without adequate ventilation, it can be difficult to determine how much ventilation is adequate. One Episode described in this report occurred with three doors open and exhaust fans on.

Remember that even small engines can produce deadly levels of carbon monoxide.

NIOSH will continue to investigate the problem of using gasoline-powered pressure washers in farm buildings and will address ventilation, warning labels, and freezing problems in an upcoming report.

For information about this or other occupational safety and health concerns, call toll free: 1-800-35-NIOSH.