

US EPA ARCHIVE DOCUMENT

# Pentachlorophenol

CAS Number: 87-86-5

## What is pentachlorophenol?

In its purest form, pentachlorophenol is a colorless crystal. It is a man-made chemical that is not found naturally in the environment. When it is really hot, it has a sharp chemical smell but at room temperature there is just a very faint odor.

## What is pentachlorophenol used for?

Pentachlorophenol was used as a biocide to kill small organisms and is now used as a wood preservative to protect wood from decay and insect attack. Although pentachlorophenol was widely used as a pesticide, its use has been restricted so that only people with special certification or a licence can purchase and use it.

It is not commercially available for use in your home; however, it is still used as a wood preservative to protect power line poles, cross arms, and fence posts from decay and insect attack.

## How can pentachlorophenol enter and leave your body?

If you breathe contaminated air, pentachlorophenol can get into your lungs. You can also be exposed by eating or drinking contaminated food or water. Pentachlorophenol can also enter your body through skin contact and can leave your body through urine.

## How can you be exposed to pentachlorophenol?

The greatest exposure to pentachlorophenol comes from inhaling contaminated air. If you work in a lumber mill or a business that does wood treatment, you could be exposed to pentachlorophenol contaminated air. You could breathe contaminated air if you are near a waste site where it is disposed or it can get into your skin if you touch contaminated soil. Drinking contaminated water near a waste site, accidental spill or work site is another source of exposure. You could also eat contaminated food such as fish. However, keep in mind that exposure to pentachlorophenol by eating and drinking contaminated food and water is not very common.

## What are the health effects of exposure to pentachlorophenol?

If you are exposed to large doses of pentachlorophenol over a short period of time, or small doses over a long period, your liver, kidneys, blood, lungs, nervous system, immune system and gastrointestinal tract could be damaged. If you come into direct contact with pentachlorophenol it could bother your skin, eyes, and mouth. This is especially true if pentachlorophenol is in the form of a hot vapor.

Animal studies show that the number of offspring born to animals exposed to pentachlorophenol during pregnancy decreased. It is unknown if exposure will cause birth defects in humans.

Based on animal studies that show increased risk of cancer to the livers and adrenal glands of mice, the International Agency for Research on Cancer believes pentachlorophenol could

possibly cause cancer. But strong evidence that can link it to causing cancer in humans doesn't exist.

### **What levels of exposure can result in harmful health effects?**

If you eat or drink about 50 - 500 milligrams per kilograms of pentachlorophenol, it is considered a lethal dose. Breathing pentachlorophenol over a short period of time can also cause death because of heart failure and changes in your body's circulatory system.

### **Where can you get more information?**

Contact your state health or environmental department, or:

Agency for Toxic Substances and Disease Registry  
Division of Toxicology  
1600 Clifton Road, N.E., E-29  
Atlanta, Georgia 30333

### **References**

1. Agency for Toxic Substances and Disease Registry (ATSDR). *Toxicological Profile, Pentachlorophenol*. Atlanta, GA: U.S. Department of Health and Human Services, 1995.