

Pentachlorophenol - ToxFAQs™

What is pentachlorophenol?

Pentachlorophenol is a man-made chemical that does not occur naturally. Pure pentachlorophenol exists as colorless or white crystals. Impure pentachlorophenol (the form usually found at hazardous sites) is dark gray to brown and can exist as dust, beads, or flakes.



Pentachlorophenol was widely used as a pesticide and wood preservative. Since 1984, the purchase and use of pentachlorophenol have been restricted to certified applicators. It is no longer available to the general public. It is still used as a wood preservative for utility poles, railroad ties, and wharf pilings.

What happens to pentachlorophenol in the environment?

Pentachlorophenol in the environment is broken down by sunlight, other chemicals, and microorganisms to other chemicals within a couple of days to several months.

How can I be exposed to pentachlorophenol?

Most people are not likely to be exposed to pentachlorophenol. You could be exposed to very small amounts in contaminated food or water or by breathing contaminated air. You could also be exposed to pentachlorophenol if you touch wood surfaces, such as utility poles, railroad ties, or wharf pilings that have been treated with pentachlorophenol. If you live near a wood treatment facility or hazardous waste site, you might be exposed to pentachlorophenol from contaminated air or dirt.

How can pentachlorophenol affect my health?

Most pentachlorophenol that is breathed in, touched, eaten, or swallowed is absorbed into your body. Pentachlorophenol is broken down to form other chemicals. It is slowly excreted in urine; about half of what is in your body is removed after 10–20 days.

Workers who breathed or touched high levels of pentachlorophenol for a long period of time had damage to their liver. Liver damage was also seen in rats ingesting large amounts of pentachlorophenol for a long period of time.

It is not known how pentachlorophenol will affect a baby if pregnant mothers are exposed to this chemical. When pregnant rats were fed high amounts of pentachlorophenol during pregnancy, less pups were born or survived, there were changes in how the pup's bones formed, and the pups did not grow as much.

Pentachlorophenol is still used as a wood preservative for utility poles and railroad ties. Children should avoid touching or playing near them.

Pentachlorophenol

Can pentachlorophenol cause cancer?

Some studies have found that workers exposed to high amounts of pentachlorophenol had an increased risk of cancer, but other studies have not found this. In animal studies, rats that ate high amounts of pentachlorophenol had liver and nose tumors.

The Department of Health and Human Services classifies pentachlorophenol as reasonably anticipated to be a human carcinogen (cause cancer). The U.S. Environmental Protection Agency (EPA) considers pentachlorophenol likely to be carcinogenic to humans. The International Agency for Research on Cancer determined that pentachlorophenol is carcinogenic to humans.

Can I get a medical test to check for pentachlorophenol?

Tests are available to measure levels of pentachlorophenol and its breakdown product in blood, urine, and fat. Because pentachlorophenol leaves the body quickly, these tests are best for finding exposures that occurred within the last several days. These tests cannot predict whether you will have health problems from the exposure to pentachlorophenol. Doctor's offices do not routinely offer these tests.

It is important to note that there are other chemicals that will break down in the body to form pentachlorophenol. Therefore, increased levels in your body may be due to exposure to these other chemicals instead of pentachlorophenol directly.

How can I protect myself and my family from pentachlorophenol?

Most people don't need to take any special steps to avoid pentachlorophenol in their daily lives. Children should avoid playing, climbing, or sitting on utility poles and railroad tracks, especially in the hot summer months during which elevated temperatures will result in increased release of pentachlorophenol into the air from treated wood surfaces.

If you live near a hazardous waste site, you should prevent children from playing in the dirt to avoid coming in contact with pentachlorophenol.

For more information:

Call **CDC-INFO** at 1-800-232-4636, or submit your question online at <https://wwwn.cdc.gov/dcs/ContactUs/Form>

Go to ATSDR's Toxicological Profile for pentachlorophenol: <https://wwwn.cdc.gov/TSP/ToxProfiles/ToxProfiles.aspx?id=402&tid=70>

Go to ATSDR's Toxic Substances Portal: <https://wwwn.cdc.gov/TSP/index.aspx>

Find & contact your ATSDR Regional Representative at http://www.atsdr.cdc.gov/DRO/dro_org.html

