

US EPA ARCHIVE DOCUMENT

Consumer Factsheet on: PENTACHLOROPHENOL

[List of Contaminants](#)

As part of the Drinking Water and Health pages, this fact sheet is part of a larger publication:
National Primary Drinking Water Regulations

This is a factsheet about a chemical that may be found in some public or private drinking water supplies. It may cause health problems if found in amounts greater than the health standard set by the United States Environmental Protection Agency (EPA).

What is Pentachlorophenol and how is it used?

Pentachlorophenol (PCP) is a white organic solid with needle-like crystals and a phenolic odor. The greatest use of pentachlorophenol is as a wood preservative (fungicide). Though once widely used as an herbicide, it was banned in 1987 for these and other uses, as well as for any over-the-counter sales.

The list of trade names given below may help you find out whether you are using this chemical at home or work.

Trade Names and Synonyms:

PCP
Penchlorol
Dowicide 7
Permasan
Fungifen
Grundier arbezol
Lauxtol
Liroprem
Chlon
Dura Treet II
Santophen 20
Woodtreat
Penta Ready
Penta WR
Forpen-50
Ontrack WE Herbicide
Ortho Triox
Osmose WPC
Watershed WP
Weed and Brush KillerH

Why is Pentachlorophenol being Regulated?

In 1974, Congress passed the Safe Drinking Water Act. This law requires EPA to determine safe levels of chemicals in drinking water which do or may cause health problems. These non-enforceable levels, based solely on possible health risks and exposure, are called Maximum Contaminant Level Goals.

The MCLG for pentachlorophenol has been set at zero because EPA believes this level of protection would not cause any of the potential health problems described below.

Based on this MCLG, EPA has set an enforceable standard called a Maximum Contaminant Level (MCL). MCLs are set as close to the MCLGs as possible, considering the ability of public water systems to detect and remove contaminants using suitable treatment technologies.

The MCL has been set at 1 part per billion (ppb) because EPA believes, given present technology and resources, this is the lowest level to which water systems can reasonably be required to remove this contaminant should it occur in drinking water.

These drinking water standards and the regulations for ensuring these standards are met, are called National Primary Drinking Water Regulations. All public water supplies must abide by these regulations.

What are the Health Effects?

Short-term: EPA has found pentachlorophenol to potentially cause the following health effects when people are exposed to it at levels above the MCL for relatively short periods of time: damage to the central nervous system

Long-term: Pentachlorophenol has the potential to cause the following effects from a lifetime exposure at levels above the MCL: reproductive effects and damage to liver and kidneys; cancer.

How much Pentachlorophenol is produced and released to the environment?

Production of pentachlorophenol was 45 million lbs in 1983. It may be released to the environment as a result of its manufacture, storage, transport, or use as an industrial wood preservative. From 1987 to 1993, according to EPA's Toxic Chemical Release Inventory, releases to land and water totalled nearly 100,000 lbs.

The most widespread releases were primarily from wood preserving industries in many states. However, the greatest volume of releases occurred at a military munitions plant in Nevada.

What happens to Pentachlorophenol when it is released to the environment?

When released to soil or water, PCP will be slowly broken down by microbes and may gradually leach into ground water. If released in water, it will adsorb to sediment, or be degraded by sunlight. Its accumulation in fish will be moderate.

How will Pentachlorophenol be Detected in and Removed from My Drinking Water?

The regulation for pentachlorophenol became effective in 1992. Between 1993 and 1995, EPA required your water supplier to collect water samples every 3 months for one year and analyze them to find out if pentachlorophenol is present above 0.04 ppb. If it is present above this level, the system must continue to monitor this contaminant.

If contaminant levels are found to be consistently above the MCL, your water supplier must take steps to reduce the amount of pentachlorophenol so that it is consistently below that level. The following treatment methods have been approved by EPA for removing pentachlorophenol: Granular activated charcoal.

How will I know if Pentachlorophenol is in my drinking water?

If the levels of pentachlorophenol exceed the MCL, 1 ppb, the system must notify the public via newspapers, radio, TV and other means. Additional actions, such as providing alternative drinking water supplies, may be required to prevent serious risks to public health.

Drinking Water Standards:

Mclg: zero

Mcl: 1 ppb

Pentachlorophenol Releases to Water and Land, 1987 to 1993 (in pounds):

		Water	Land
TOTALS (in pounds)		18,700	79,780
Top Five States			
NV	0	64,100	
OR	4,313	5,405	
WA	3,310	5,995	
AR	2,735	1,615	
GA	783	1,255	
Major Industries			
Explosives			34,100
Wood preserving			15,678
Misc. Chemicals			30,000

* Water/Land totals only include facilities with releases greater than a certain amount - usually 1000 to 10,000 lbs.

Learn more about your drinking water!

EPA strongly encourages people to learn more about their drinking water, and to support local efforts to protect and upgrade the supply of safe drinking water. Your water bill or telephone book's government listings are a good starting point.

Your local water supplier can give you a list of the chemicals they test for in your water, as well as how your water is treated.

Your state Department of Health/Environment is also a valuable source of information.

For help in locating these agencies or for information on drinking water in general, call: EPA's Safe Drinking Water Hotline: (800) 426-4791.

For additional information on the uses and releases of chemicals in your state, contact the: Community Right-to-Know Hotline: (800) 424-9346