

Frequently Asked Questions: 1,2,3-Trichloropropane (1, 2, 3-TCP) in Drinking Water

This information accompanies the required State notification regarding (1, 2, 3- TCP) in Drinking Water. All Questions/comments can be directed to Nick Capogni, Water Treatment Plant Supervisor at (909) 620-2248.

What Is 1,2,3-TCP, and Where Does It Come From?

1,2,3- TCP is a human-made chemical found at industrial or hazardous waste sites. It has been used as a cleaning and degreasing solvent and also is associated with pesticide products. It is a [chlorinated hydrocarbon](#) with high chemical stability.

Why Is There A Public Health Concern?

1,2,3-TCP is recognized in California as a [carcinogen](#). It has been found in numerous drinking water sources in the State. In August 2009, a public health goal (PHG) for 1,2,3-TCP was developed by the Office of Environmental Health Hazard Assessment (OEHHA) for use by the State Water Board to establish a maximum contaminant level (MCL). This PHG represents the level of 1,2,3-TCP in drinking water that does not pose a significant risk to health over a lifetime of exposure (70 years). The PHG for 1,2,3-TCP is 0.0007 µg/L, or 0.7 parts per trillion (ppt).

Public health goals are established solely on the basis of health-effects data and do not consider technical or economic feasibility. Therefore, they can sometimes be set at levels lower than can be detected by current laboratory methods or be removed from drinking water with currently available treatment technologies. PHGs are not regulatory requirements.

What Are The Specific Health Impacts From Being Exposed To 1,2,3-TCP?

If you drink water over a lifetime that contains 1,2,3-TCP at concentrations higher than the PHG, there is an increased lifetime risk of developing cancer. The increased risk depends on the 1,2,3-TCP concentration in the water. For water with a 1,2,3-TCP concentration of 5 ppt, the increased lifetime cancer risk is less than one cancer case per 100,000 people. For water with a 1,2,3-TCP concentration of 70 ppt, the increased lifetime cancer risk is about one in 10,000 people.

Why Is The MCL Being Set At 5 PPT, When The Public Health Goal Is 0.7 PPT?

The determination of whether water is safe to drink and use is made by public health experts, which have calculated the theoretical health risks of 1, 2, 3-TCP at the MCL at a 1-in-142,857 cancer risk over a *lifetime* of exposure. Five PPT is the level that the State has established as the detection reporting limit using currently approved testing methods. A public health goal is the level of a contaminant below which there is no known or expected risk to health over a lifetime (assuming a person drinks half a gallon per day for 70 years) without regard to available treatment technology.

What Studies Have Been Done On 1,2,3-Trichloropropane?

Most of the information that we have on how 1,2,3-TCP can affect your health comes from studies in lab animals. Damage to the nose and liver have been seen in animals that inhaled large amounts of 1,2,3-TCP. Animals that ingested large amounts of 1,2,3-TCP had damage to liver, kidneys, nose, and lungs. Exposure to 1,2,3-TCP can also result in blood changes. A study in rats orally exposed to 1,2,3-TCP found a decrease in fertility and a decrease in the number of offspring.

If you are exposed to more concentrated forms of 1,2,3-TCP (such as working around 1,2,3-TCP or being exposed to heavy fumes), there is a risk of short-term health impacts such as:

- Irritation of the skin, nose, eyes and throat
- Drowsiness
- Headache
- Impacts on concentration, memory and muscle coordination

What Happens To 1,2,3-TCP In The Environment?

1,2,3-Trichloropropane in the atmosphere breaks down when exposed to sunlight. It evaporates from surface water and surface soil. It can move from deeper soil into the groundwater where it breaks down slowly. It is not expected to build up in fish or plants.

What is the City of Pomona planning to do about 1,2,3-TCP?

Pomona currently has treatment plants that remove 1, 2, 3-TCP from several sources. Additionally, other sources are blended to levels that are below the MCL.