

Oregon Department of Human Services

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TECHNICAL BULLETIN

HEALTH EFFECTS INFORMATION

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Department of Human Services
ENVIRONMENTAL TOXICOLOGY SECTION
Office of Environmental Public Health
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(1,1,1 – TCA)
1,1,1-Trichloroethane

For More Information Contact:

Environmental Toxicology Section
(971) 673-0440

Drinking Water Section
(971) 673-0405

1,1,1 - TCA

1,1,1 - TCA is a volatile organic chemical with no natural sources. It is used primarily as a cleaning and degreasing agent, and as a septic tank cleaner. The release of 1,1,1 - TCA to the environment can occur in any industrialized area.

OCCURRENCES OF 1,1,1 - TCA IN WATER

The major source of 1,1,1 - TCA released to the environment is from its use as a metal degreaser. Most of the release is to the atmosphere by evaporation. When released to the land it does not bind up with soils, but migrates readily to groundwater, where it can remain for several months. Although regular sampling of public water supplies is just beginning, past surveys have shown that 3% of all public water systems using well water around the country contain 1,1,1 - TCA at levels of 0.5 micrograms per liter (ug/L), or 0.5 parts per billion (ppb), or higher. Public water supplies derived from surface water have contained 1,1,1 - TCA but generally at lower levels than underground water.

HEALTH EFFECTS OF DRINKING 1,1,1 - TCA CONTAMINATED WATER

The United States Environmental Protection Agency (US EPA) has established a maximum contaminant level (MCL) of 0.2 milligrams per liter (mg/L) for 1,1,1 - TCA in public drinking water supplies. There are no short-term or immediate illness symptoms due to exposure at these levels.

The carcinogenic risk of 1,1,1 - TCA has not been classified by the US EPA. Studies done thus far, however, do not show this compound to be carcinogenic (causing cancer) to laboratory animals, or to humans.

WHAT TO DO ABOUT 1,1,1 - TCA CONTAMINATION

Although an MCL has been set for 1,1,1 - TCA which is very protective of public health, the Department of Human Services recommends that exposure to this compound be kept as low as possible. To accomplish this, public water suppliers and other affected persons can take a variety of actions, such as closing contaminated wells, finding other supplies, or installing treatment systems at contaminated wells.

Persons whose supplies exceed the standard or who do not wish to consume even small amounts of 1,1,1 - TCA can take several actions for short-term protection,

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including using bottled water or using in-home treatment devices to treat water for drinking and cooking purposes. Those who want to obtain home treatment systems are encouraged to contact the Department of Human Services for information on selecting the appropriate equipment.

For More Information on 1,1,1 - TCA contact the Drinking Water Section of the Department of Human Services at (971) 673-0405.