



1,2,3-Trichloropropane (1,2,3-TCP)

- Maximum Contaminant Level (MCL): 0.005 µg/L^a
- Public Health Goal (PHG): 0.0007 µg/L^b

Common sources of the contaminant in the Central Valley and Central Coast

Most 1,2,3-TCP contamination stems from the extensive application of soil fumigants manufactured by Shell Oil and Dow Chemical Company containing the unnecessary impurity 1,2,3-TCP prior to the 1980s. 1,2,3-TCP has also been used as an industrial solvent, and as a cleaning and degreasing agent.^c Even though 1,2,3-TCP is no longer being applied to fields as a pesticide ingredient, it is extremely persistent and remains in groundwater a very long time.^d

Possible health impacts of short-term exposure^e

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

Possible health impacts of long-term exposure

- Liver and kidney damage^f
- Cancer^{g, h}

Sensitive populations

Communities in agricultural regions (even many urban areas that were former agricultural regions) frequently have 1,2,3-TCP in their groundwater from its historic application as a pesticide byproduct.^d Communities at locations that manufactured the chemical or near hazardous waste sites where 1,2,3-TCP was improperly stored or disposed, are also at risk. Fetuses, infants, and children have higher sensitivity to carcinogenic chemicals.

Pathways of exposure

Exposure can occur through inhalation (usually from steam produced from 1,2,3-TCP contaminated water), dermal (skin) exposure, or ingestion of contaminated water (by drinking, cooking, showering, etc.).

Tips for reducing exposure at home

Completely avoiding exposure to contaminated water may not be feasible. However, limiting or minimizing exposure could reduce the overall risk of health impacts.

- Buy bottled water for drinking, cooking, making ice cubes, and brushing teeth.
- Avoid bathing, showering, or washing dishes and produce with hot water that produces excess steam.
- Take cooler temperature showers and limit the length of your showers to minimize exposure.

Community-driven water solutions through organizing, education, and advocacy.

Soluciones de agua impulsadas por la comunidad a través de la organización, educación y defensa al acceso al agua potable.

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1,2,3-TCP References

- a. The Maximum Contaminant Level (MCL) is the highest level of a contaminant allowed in drinking water, as set by the California State Water Resources Control Board (SWRCB). MCLs are set taking into consideration the PHG as well as technological and economic feasibility of treatment.
- b. Thomson Reuters Westlaw. “§ 64444. Maximum Contaminant Levels - Organic Chemicals,” available at [22 CCR § 64444.](#), 22 Feb. 2019. 22 CCR § 64444. PHGs are set solely considering the potential impact to human health.
- c. SWRCB (2019), “Groundwater Information Sheet,” available at www.waterboards.ca.gov/gama/docs/coc_tcp123.pdf (last visited March 6, 2019).
- d. US Environmental Protection Agency(2017), “Technical Fact Sheet – 1,2,3-Trichloropropane (TCP)” available at https://www.epa.gov/sites/production/files/2017-10/documents/ffrrofactsheet_contaminants_tcp_9-15-17_5o8.pdf (last visited March 6, 2019).
- e. *Ibid.*
- f. *Ibid.*
- g. California Water Boards (2018) “1,2,3, -Trichloropropane (1,2,3 - TCP)” available at www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/123TCP.html (last visited March 6, 2019).
- h. National Toxicology Program, Department of Health and Human Services, “1,2,3-Trichloropropane CAS No. 96-18-4, available at <http://ntp.niehs.nih.gov/ntp/roc/content/profiles/trichloropropane.pdf> (last visited March 6, 2019).

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