



Irrigated Lands Program

SUMMARY OF LABORATORY SAMPLE RESULTS FOR ON-FARM DOMESTIC WELL USERS

Information for On-Farm Domestic Well Users

You are receiving this notification to inform you about the quality of water from an on-farm domestic well you may be using for drinking, cooking, or other typical household purposes.

The Central Coast Regional Water Quality Control Board requires all on-farm domestic wells to be sampled every year between March 1 and May 31, and the samples tested by a laboratory for nitrate and 1,2,3-trichloropropane (1,2,3-TCP) due to health considerations associated with these substances that are commonly found in groundwater in agricultural areas.

The following information indicates the amount of nitrate and 1,2,3-TCP a laboratory has detected in a water sample from a domestic well on the farm where you may live, work, or visit. *If the laboratory detected nitrate and/or 1,2,3-TCP in the water sample from the well, the presence of these substances does not necessarily indicate the water is unsafe to use or poses a risk to your health.*

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The state of California and the U. S. Environmental Protection Agency (EPA) have determined the highest levels of many substances that are allowed in drinking water; these levels are known as Drinking Water Standards or Maximum Contaminant Levels (MCLs). The MCLs for nitrate and 1,2,3-TCP are included in the information below so they can be compared to the amount of these substances detected in the well sample. If the amount of nitrate in the well sample is greater than its MCL, the water should not be used for drinking, making baby formula, cooking, or other purposes where the water could be consumed. If 1,2,3-TCP in the well sample is greater than its MCL, the water should not be used for drinking, cooking, or other sanitary uses, including showering/bathing. In such situations, the Central Coast Regional Water Quality Control Board advises use of an alternative water source (e.g., bottled water for consumption) or treatment of the water by a treatment system approved by the State Water Resources Control Board's Division of Drinking Water¹. Domestic well users may choose to use a treatment system or an alternative source of water even if the amount of nitrate and/or 1,2,3-TCP is less than -- but close to -- its MCL.

More information about nitrate and 1,2,3-TCP, including related health risk information, is also provided with this notification.

If you have any questions about the information provided to you, please contact the following:

- Central Coast Regional Water Quality Control Board Irrigated Lands Program staff at AgNOI@waterboards.ca.gov or (805) 549-3148.
- The U.S. EPA's Safe Drinking Water Hotline: (800) 426-4791.
- The U.S. EPA's Drinking Water website at <https://www.epa.gov/ground-water-and-drinking-water>.
- Your health care provider and/or the health department in your county (see the following page).

¹ https://www.waterboards.ca.gov/drinking_water/certlic/device/watertreatmentdevices.html

Central Coast County Health Departments

Monterey County

- Ric Encarnacion, Director
 - encarnacionr@co.monterey.ca.us (831) 755-4542
- Cheryl Sandoval, Supervisor Drinking Water Protection Program
 - sandovalcl@co.monterey.ca.us (831) 755-4552

San Benito County

- Daryl Wong, Environmental Health Manager
 - dwong@cosb.us (831) 636-4035
- Lynn Mello, Deputy Director for Public Health
 - (831) 636-4035 (main line)

San Luis Obispo County

- Elizabeth A. Pozzebon, DrPH, REHS, Environmental Health Division Director
 - (805) 781-5544 (main line)
- Leslie Terry, Environmental Health Supervisor
 - lterry@co.slo.ca.us (805) 781-5553

Santa Barbara County

- Lars Seifert, Environmental Health Services Director
 - lars.seifert@sbcphd.org (805) 681-4934
- Marilyn Merrifield, REHS, Santa Barbara Water Well Plan Checker
 - marilyn.merrifield@sbcphd.org (805) 681-4941
- Jason Johnston, REHS, Santa Maria Water Well Plan Checker / Technical Services Supervisor
 - jjohnston@sbcphd.org (805) 346-7348

Santa Clara County

- Rochelle Gaddi, Interim Director, Department of Environmental Health
 - rochelle.gaddi@cep.sccgov.org (408) 918-3449
- Valley Water Main Line
 - (408) 265-2600

Santa Cruz County

- Dr. Marilyn Underwood, Director of Environmental Health
 - marilyn.underwood@santacruzcounty.us (831) 454-2797
- Nathan Salazar, Drinking Water Regulatory Program
 - nathan.salazar@santacruzcounty.us (831) 454-2145

Summary of Laboratory Sample Results for On-Farm Domestic Well Users

Ranch name:		AGL Number:	
Well Name:		Date Sample Collected:	

Substance	Laboratory Sample Results ¹	Units	Drinking Water Standard (MCL) ²	Is Sample Greater Than the Drinking Water Standard (MCL)? Yes/No/Not Applicable ³
Nitrate ⁴		Milligrams per liter (mg/L)	10 mg/L	
1,2,3-TCP		Micrograms per liter (µg/L)	0.005 µg/L	

¹ If Laboratory Sample Results are “NA” (meaning “Not Applicable”) for 1,2,3-TCP, it is because the Central Coast Regional Water Quality Control Board allowed the sampling and laboratory testing for 1,2,3-TCP to be discontinued based on a history of non-detects.

² The Drinking Water Standard (also known as the Maximum Contaminant Level, or MCL) is the highest level of a chemical contaminant allowed in drinking water.

³ “NA” means “Not Applicable” and is used only if testing for 1,2,3-TCP was discontinued.

⁴ Nitrate measured as nitrogen (or “N”) or nitrate + nitrite measured as N. The laboratory should not be measuring nitrate as nitrate (or “NO₃”), which has an MCL of 45 mg/L.

Name of person providing this notification to well users:	
Title/Position:	
Phone number:	
Email address:	
Date this notification was provided to well users:	
Action taken if laboratory sample results are greater than an MCL:	

NITRATE (NO₃) HEALTH INFORMATION

Nitrate is a colorless and odorless substance that easily dissolves into and moves with the flow of groundwater. If nitrate gets into groundwater, it has the potential to pollute drinking water supplies. Common sources of nitrate in drinking water supplies are runoff and seepage to groundwater from fertilizer use, septic tanks, sewage, and confined animal operations. The amount of nitrate measured in water can change over time due to rainfall or changes in agricultural activity.

Nitrate is sometimes referred to by its chemical composition, which is “NO₃.”

The safe drinking water standard, also known as the Maximum Contaminant Level (or “MCL”), for nitrate measured as nitrogen is 10 milligrams per liter (mg/L).

Health considerations: Nitrate in drinking water at levels above the MCL (10 mg/L when nitrate is reported as nitrogen²) is a health risk for infants less than six months of age. Infants below the age of six months who drink water or baby formula made with water containing nitrate at levels above 10 mg/L may become seriously ill very quickly and, if untreated, may die. This is because high nitrate levels in drinking water can interfere with the ability of the infant’s blood to carry oxygen, resulting in the serious illness called “blue baby syndrome” or methemoglobinemia. Symptoms include shortness of breath and blueness of the skin. If symptoms occur, seek medical attention immediately. Nitrate levels above 10 mg/L may also affect the ability of the blood to carry oxygen in pregnant women. If you are caring for an infant, or are pregnant, you should ask for advice about nitrate from your health care provider and/or the environmental health department in your county.

Tips for reducing exposure:

- Use an alternative source of water for drinking, cooking, preparation of baby formula, making ice cubes, and brushing teeth.
- Boiling, freezing, filtering, or letting water stand does not reduce the nitrate level.
- Do not boil water to reduce nitrate concentrations in water, as it can increase the nitrate level in the remaining water.
- Install and maintain a water treatment system capable of reducing nitrate levels below the MCL. Treatment systems are available that can treat (1) all water used at all taps in a building, or (2) water used at a single tap. Consultation with a water treatment professional is advised. Treatment systems approved by the state of California can be found here: https://www.waterboards.ca.gov/drinking_water/certlic/device/watertreatmentdevices.html (refer to *Registered Water Treatment Devices* for nitrate).

To learn more, please see the attached Nitrate References.

² When nitrate is measured “as nitrogen” or “as N”, the MCL is 10 mg/L. Laboratory results that report nitrate “as nitrate” or “as NO₃” should be compared to a drinking water standard of 45 mg/L.

1,2,3-TRICHLOROPROPANE (1,2,3-TCP) HEALTH INFORMATION

1,2,3- TCP is a man-made chemical compound that easily moves with the flow of groundwater. It has been detected throughout California in some public water systems, monitoring wells, and private domestic wells. 1,2,3-TCP has been used as a cleaning and degreasing solvent, and is sometimes detected at industrial or hazardous waste sites. In agricultural areas, 1,2,3-TCP is associated with the application of soil fumigants (i.e., pesticides) which contained 1,2,3-TCP as an impurity. The use of soil fumigants containing 1,2,3-TCP in agricultural areas most commonly occurred from the 1950s until the 1990s. In locations where 1,2,3-TCP has moved into groundwater, it remains in groundwater for a long time.

The California safe drinking water standard, also known as the Maximum Contaminant Level (or "MCL"), for 1,2,3-TCP is 0.005 micrograms per liter ($\mu\text{g/L}$), or 5 parts per trillion (a very low concentration).

Health considerations: Exposure can occur by drinking or cooking with water containing 1,2,3-TCP, or by breathing in 1,2,3-TCP in vapor form as it evaporates from tap water during showering and other household water uses. Some people who drink water containing 1,2,3-TCP at levels greater than the MCL over many years may have an increased risk of getting cancer. For more information on health risks associated with 1,2,3-TCP, consultation with a healthcare provider and/or the environmental health department in your county is advised.

Tips for reducing exposure:

- Use an alternative source of water for drinking, cooking, making ice, brushing teeth, showering/bathing, and hand-washing dishes.
- Install and maintain a water treatment system capable of reducing 1,2,3-TCP levels below the MCL. Treatment systems are available that can treat all water used at all taps in a building. Treatment systems that treat water only at individual taps are not advised for treatment of 1,2,3-TCP. Consultation with a water treatment professional is advised. Treatment systems approved by the state of California can be found here: https://www.waterboards.ca.gov/drinking_water/certlic/device/watertreatmentdevices.html (refer to Registered Water Treatment Devices as of January 2019 for volatile organic compounds, or VOCs because 1,2,3-TCP is classified as a VOC).

To learn more, please see the attached 1,2,3-TCP References.

Nitrate References:

California State Water Resources Control Board - Division of Drinking Water. 2016. "Nitrates and Nitrites in Drinking Water."

https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Nitrate.html

California State Water Resources Control Board - Division of Drinking Water. 2017. "Groundwater Information Sheet - Nitrate." Groundwater Ambient Monitoring and Assessment (GAMA) Program.

https://www.waterboards.ca.gov/water_issues/programs/gama/docs/coc_nitrate.pdf

California State Water Resources Control Board - Division of Drinking Water. 2022. "Instructions for Completing the 2021 Consumer Confidence Report (CCR) for Small Water Systems."

https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/CCR.html

1,2,3-TCP References:

California Office of Environmental Health Hazard Assessment. 2022. "The Proposition 65 List."

<https://oehha.ca.gov/proposition-65/chemicals/123-trichloropropane>

California State Water Resources Control Board - Division of Drinking Water. 2020. "1,2,3-Trichloropropane (1,2,3-TCP)."

https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/123TCP.html

California State Water Resources Control Board - Division of Drinking Water. 2022. "Instructions for Completing the 2021 Consumer Confidence Report (CCR) for Small Water Systems."

https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/CCR.html

California State Water Resources Control Board - Division of Water Quality. 2017. "Groundwater Information Sheet 1,2,3- Trichloropropane (TCP)." Groundwater Ambient Monitoring and Assessment (GAMA) Program.

https://www.waterboards.ca.gov/gama/docs/coc_tcp123.pdf

National Library of Medicine. ChemDplus. 2022. "1,2,3-Trichloropropane."

<https://chem.nlm.nih.gov/chemidplus/rn/96-18-4>

U.S. Department of Health and Human Services. 2011. "Report on Carcinogens, Twelfth Edition." Public Health Service, National Toxicology Program. 12th Edition.

<http://ntp.niehs.nih.gov/ntp/roc/twelfth/roc12.pdf>

U.S. Environmental Protection Agency. Federal Facilities Restoration and Reuse Office. 2014. "Technical Fact Sheet – 1,2,3-Trichloropropane (TCP) January 2014."

https://www.epa.gov/sites/default/files/2014-03/documents/ffrrofactsheet_contaminant_tcp_january2014_final.pdf