

Notice! As the state transitions from the COVID-19 emergency, please contact your local Water Board to arrange necessary file reviews. ✕

[About Us](#) [Contact Us](#) [Subscribe](#) [Settings](#)



[Home](#) | [Drinking Water](#) | [Certlic](#) | [Drinkingwater](#) | [Nitrate](#)

Nitrates and Nitrites in Drinking Water

Announcement

- [Important Change to Nitrate Reporting Requirements - see Water Quality Data Page](#)

Nitrate Fact Sheet

- [Nitrate Fact Sheet \(En Español\)](#)

What is nitrate?

Nitrates can be found in drinking water supplies. Their presence in groundwater is generally associated with septic systems, confined animal feeding operations, or fertilizer use. These sources of nitrate contamination are more associated with rural settings, and are often subjects of [drinking water source protection programs](#).

Nitrates are also present in treated wastewater, and as such can be present in surface water, or in treated wastewater used in [groundwater recharge projects](#). These sources can pose risks to urban drinking water supplies.

Nitrates are also used in industry, for example, in the production of fertilizers and explosives.

What's the concern about nitrate/nitrite in drinking water?

Nitrite can interfere with the ability of red blood cells to carry oxygen to the tissues of the body, producing a condition called methemoglobinemia. It is of greatest concern in infants, whose immature stomach environment enables conversion of nitrate to nitrite, which is then absorbed into the blood stream. The effects of nitrite are often referred to as the "blue baby syndrome. High nitrate levels may also affect the oxygen-carrying ability of the blood of pregnant women. These potential effects are identified in [notification requirements](#) [22 CCR §64465, Appendix 64465.D]

Notice! As the state transitions from the COVID-19 emergency, please contact your local Water Board to arrange necessary file reviews.

[About Us](#) [Contact Us](#) [Subscribe](#)  [Settings](#)



mg/L for nitrite as N.

Where's nitrate been found in drinking water in California?

Public water systems, because they are regulated by the State, (unlike private wells) , are required to analyze for nitrates and report the results to DDW. Among regulated contaminants detected at levels greater than their MCLs in California, nitrates rank high. For example, based on monitoring data submitted to the Department of Public Health's Drinking Water Program, DDW's precursor, from 2002-2005, there were these findings:

- Nitrate as NO₃ (the prior nitrate standard, now nitrate as N) was detected at least once above its MCL in 731 sources. The counties with the greatest number of sources include Los Angeles (123 sources), San Bernardino (82), Riverside (67), Kern (41), and Monterey (30)
- Nitrate + nitrite as N was detected at least once above its MCL in 169 sources. Sources per county include San Bernardino (38), Los Angeles (36), and Riverside (24)
- Nitrite as N was detected at least once above its MCL in 21 sources. The counties with the greatest number of sources include: Alameda (7), San Joaquin (5), and Kern (4)

More recent data from DDW along with maps are included in the GAMA Program's [fact sheet for nitrate \(PDF\)](#).

What about water from private wells?

- Private wells are not subject to drinking water regulation by DDW. They are not public water systems - see [22 CCR §116275 \(h\)](#).
- The MCLs can be used for guidance.

Where can I find laboratories that can do nitrate analyses?

The [Environmental Laboratory Accreditation Program \(ELAP\)](#) certifies analytical laboratories, and lists certified laboratories on [its website](#).

What other information is available?

There's more from these sites:

- The Agency for Toxic Substances and Disease Registry's [ToxFAQs on Nitrates and Nitrites](#).

Notice! As the state transitions from the COVID-19 emergency, please contact your local Water Board to arrange necessary file reviews.

[About Us](#) [Contact Us](#) [Subscribe](#) [Settings](#)



More Information for Water Systems

[Division of Drinking Water](#)

(Page last updated 11/18/20)

Drinking Water Resources

- [California Laboratory Intake Portal \(CLIP\)](#)
- [Contaminants in Drinking Water](#)
- [Consolidation and Extension of Service](#)
- [COVID-19 Drinking Water](#)
- [Cyanobacteria/Cyanotoxins in Drinking Water](#)
- [Consumer Confidence Reports \(CCRs\)](#)
- [DRINC Portal](#)
- [Drinking Water Branch Districts](#)
- [Drinking Water Supply Service Area Lookup Tool](#)
- [Drinking Water Watch Database](#)
- [Electronic Annual Reports \(EAR\)](#)
- [Environmental Laboratory Accreditation Program \(ELAP\)](#)
- [Funding for Public Water Systems](#)
- [Information for Public Water Systems](#)
- [Operator Certification - Drinking Water](#)
- [Permits](#)
- [PFAS: Per- and Polyfluoroalkyl Substances](#)
- [Public Water System Monitoring Schedules](#)
- [Public Safety Power Shutoff and Wildfire Info](#)
- [Regulations and Statutes](#)
- [Residential Water Treatment Devices](#)
- [Safe Drinking Water Plan for California](#)
- [SAFER Drinking Water](#)

Notice! As the state transitions from the COVID-19 emergency, please contact your local Water Board to arrange necessary file reviews.

[About Us](#) [Contact Us](#) [Subscribe](#) [Settings](#)



- [EPA Water Sense](#)
- [Report an Environmental Concern](#)
- [Save Our Water](#)
- [Flex Alert](#)
- [Register to Vote](#)



Quick Links

- [Board Agendas](#)
- [Fees](#)
- [Make a Payment](#)
- [Grievance Procedure](#)
- [Help / Business Help](#)
- [Uniform Grants Guidance](#)



Resources

- [OIMA](#)
- [CEDEN](#)
- [Data & Databases](#)
- [Drought Information](#)
- [FAAST](#)
- [Language Access Form](#)
- [Formulario de Acceso al Idioma](#)
- [My Water Quality](#)
- [Performance Report](#)
- [Tribal Affairs](#)

Notice! As the state transitions from the COVID-19 emergency, please contact your local Water Board to arrange necessary file reviews.

[About Us](#) [Contact Us](#) [Subscribe](#) [Settings](#)



- [Opportunities for Public Participation](#)
- [Employment](#)
- [Frequently Asked Questions](#)
- [Grants & Loans](#)
- [Laws / Regulations](#)
- [Plans / Policies](#)
- [Public Records Center](#)
- [Publications / Forms](#)

[Back to Top](#)

[Conditions of Use](#)

[Privacy Policy](#)

[Accessibility](#)

[Contact Us](#)



[Website Accessibility Certification](#)

Copyright © 2023 State of California

The California Water Boards include the [State Water Resources Control Board](#) and nine [Regional Boards](#)

The State Water Board is one of six environmental entities operating under the authority of the California Environmental Protection Agency

[CalEPA](#) | [ARB](#) | [CalRecycle](#) | [DPR](#) | [DTSC](#) | [OEHHA](#) | [SWRCB](#)