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# 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]

The Office of Environmental Health Hazard Assessment (OEHHA) established its [public health goals \(PHGs\) for nitrate and nitrite \(PDF\)](#) in 1997. The PHGs, based on methemoglobinemia in the infant, are the same as the MCLs.

There's more information on nitrates and nitrites from the websites listed below.



## What are the MCLs for nitrate in drinking water?

The MCLs, in [22 CCR §63341](#), 10 mg/L for nitrate as nitrogen (N); 10 mg/L for nitrate plus nitrite as N; and 1 mg/L for nitrite as N.



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](#).
- OEHHA's [technical support document for the PHGs for nitrate and nitrite](#)
- The SWRCB's [fact sheet for nitrate \(PDF\)](#). Also see SWRCB's [Pilot Nitrate Projects: Tulare Lake Basin and Salinas Valley](#).
- The US Environmental Protection Agency's [information on nitrates and nitrites](#).
- The World Health Organization's [document on nitrates and nitrites in drinking water \(PDF\)](#).

## More Information for Water Systems

[Division of Drinking Water](#)





[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](#)

[Lab-To-State Portal - Electronically Lead and Copper Submittal](#)

[Operator Certification - Drinking Water](#)

[Permits](#)

[Perfluorooctanoic acid \(PFOA\) and Perfluorooctanesulfonic acid \(PFOS\)](#)

[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](#)

[Water Quality Data](#)

[Water Recycling](#)

*Water is a precious resource in California, and maintaining its quality is of utmost importance to safeguard the health of the public and the environment.*

## Statewide Campaigns

 [EPA Water Sense](#)

 [Report an Environmental Concern](#)

 [Save Our Water](#)

 [Flex Alert](#)

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## Quick Links



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