PH: 8.0

Alkalinity: 148 ppm

Calcium hardness: 100 ppm

Iron: 0.10 ppm

Sulfate: 42 mg/L

PH: 8.0

The correct pH range for drinking water is 6.5 to 8.5, as recommended by the U.S. Environmental Protection Agency (EPA).

- Neutral Baseline: Pure water has a neutral pH of 7.0, though typical tap water hovers around 7.5.
- Acidic Water (Below 6.5): Water with a pH under 6.5 is considered acidic and can corrode metal plumbing, potentially leaching toxic heavy metals like lead and copper into your supply.
- Alkaline Water (Above 8.5): Water with a pH higher than 8.5 is basic or alkaline. While generally safe to drink, very high levels can taste bitter or cause mineral scaling in pipes and appliances.

Alkalinity: 148 ppm

The U.S. Environmental Protection Agency (EPA) does not set a federal Maximum Contaminant Level (MCL) or strict health-based standard for total alkalinity in drinking water.

However, water quality guidelines and industry standards define typical and acceptable ranges:

- Ideal Drinking Water Range: Generally considered to be between 20 and 200 mg/L (or ppm) as $CaCO_3$ (some guidelines stretch up to 400 ppm for domestic supplies).
- Permissible Limit (Aesthetic/Operational): In areas where alternative water sources are unavailable, a maximum limit of 600 mg/L is often used, though levels that high frequently cause aesthetic issues.

Calcium: 100 ppm (white spots when washing a car in the sun / plumbing fixtures have white crust around aerator.)

There is no federal maximum contaminant limit (MCL) or health-based standard for calcium in drinking water set by the U.S. Environmental Protection Agency (EPA), as calcium is not considered a health hazard.

Drinking Water Standards & Levels

- Typical Municipal Levels: Most public water supplies contain roughly 12 to 110 mg/L (ppm) of calcium, though overall concentrations in U.S. and Canadian tap and mineral water can range from 1 to over 200 mg/L.

- Aesthetic & Hardness Classification: Calcium is a primary contributor to water hardness (along with magnesium). Hardness levels are generally categorized by the Vermont Department of Health and industry standards as follows:

- Soft: 0–10 mg/L

- Moderately Hard: 61–120 mg/L

- Hard: 121–180 mg/L

- Very Hard: 180+ mg/L (waters exceeding 200–500 mg/L are often considered poor or cause heavy scaling, and concentrations over ~100 ppm may start to affect taste)

- Health Impact: Drinking water with calcium is safe and contributes a small amount to daily mineral intake (providing roughly 5% to 20% of daily nutritional needs), though it is not a substitute for dietary sources like dairy.

Iron: 0.10 ppm (rust)

The U.S. Environmental Protection Agency (EPA) recommends a secondary maximum contaminant level (SMCL) of 0.3 mg/L (or 0.3 parts per million / 300 ppb) for iron in drinking water, as outlined by the US EPA Drinking Water Regulations and Contaminants Guide.

Sulfate: 42 mg/L (sulfur smell)

The U.S. Environmental Protection Agency (EPA) recommends a secondary maximum contaminant level (SMCL) of 250 milligrams per liter (mg/L)—or parts per million (ppm)—for sulfate in drinking water.

Key Details on Sulfate Limits and Water Quality

- Non-Enforceable Guideline: The 250 mg/L limit is a secondary standard, meaning it is an advisory guideline based on aesthetic qualities (such as a bitter or medicinal taste and unpleasant odor) rather than a strict federal health-enforceable mandate.