



Commonwealth of Massachusetts
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Lithium: Fact Sheet, Levels in MA, and Recommendations for Public Water Systems

Drinking Water Program

Lithium and Drinking Water

Lithium is a naturally occurring metal that can be found in drinking water at varying concentrations throughout the country. Certain areas of the country, specifically arid locations where geologic formations contain lithium salts, tend to have higher concentrations of lithium in groundwater sources. The primary source of lithium in drinking water is lithium-containing geologic formations weathering over time. Other sources can include treatment technologies, local land use, and commercial use (lithium-ion batteries, pharmaceutical drugs, industrial chemical catalysts, sanitizing agents).

For more information, see the US Environmental Protection Agency's (EPA) Lithium Technical Fact Sheet: [Technical Fact Sheet: Lithium in Drinking Water](#).

EPA's Lithium Risk Estimates

While there are uncertainties associated with lithium risk estimates for drinking water, the EPA prescribed a screening Health Reference Level (HRL) of 10 parts per billion (ppb). An HRL is an unenforceable risk-derived concentration developed by EPA to determine whether contaminants occur at levels of public health concern. This is based on an estimated daily drinking water ingestion rate and an assumption that 20% of the lithium is ingested from drinking water.

For more information, see the EPA's Lithium Technical Fact Sheet: [Technical Fact Sheet: Lithium in Drinking Water](#).

Lithium Levels in Massachusetts (MA)

EPA selected MA Public Water Systems (PWS) to sample for lithium beginning in January of 2023 to satisfy EPA's Fifth Unregulated Contaminant Monitoring Rule (UCMR5) requirements. Of the 1,583 active PWSs in Massachusetts, 262 (16%) were required to monitor under UCMR5 for lithium. Ten (10) of these PWSs (3.8%) exceeded the HRL for lithium in one or more sampling events. The general public can view UCMR5 monitoring results here: [Fifth Unregulated Contaminant Monitoring Rule Data Finder | US EPA](#).

MassDEP's Drinking Water Program (DWP) is reviewing UCMR5 results and providing technical assistance to PWSs that detected lithium over the HRL to determine if the likely cause of the lithium levels may be linked to geographic location, treatment technology, local land use, or commercial use.

Recommendations and Other Actions for PWS

For any PWS with results over the unenforceable HRL, MassDEP DWP recommends additional lithium sampling to establish an annual baseline and to understand any fluctuations in levels, identifying any potential lithium sources and developing a plan to address elevated lithium levels. Systems that perform additional monitoring should use a UCMR5-approved laboratory and are required to report their results to MassDEP.

Consumer Confidence Report (CCR) Information

Any system that has a UCMR5 detection for lithium is required to report that in their annual CCR. If they perform additional monitoring for lithium, they must also include those detections in their CCR.

CCR Guidance is available at: <https://www.mass.gov/doc/preparing-your-massachusetts-drinking-water-consumer-confidence-report-0/download>