Lithium (Li)

What is Lithium?

Lithium is a soft silver-white naturally occurring metal found in the Earth's crust and is the lightest metal known. It may be found in higher concentrations in certain parts of the country, particularly in groundwater sources in arid locations in the Western United States.

Lithium has numerous commercial uses including as a main component of batteries, an industrial chemical catalyst, and a sanitizing agent for swimming pools and hot tubs. It is also likely found in a variety of foods such as leafy greens and root crops. Lithium has been used clinically for decades as a mood-stabilizing medication, primarily for bipolar disorder.

What are the known health effects?

Lithium can have beneficial effects when used for medical reasons with therapeutic doses of lithium compounds ranging from 600-1200 mg/day. While research on the use of lithium as a pharmaceutical indicates that exposure at certain levels may be connected to adverse effects on the body's kidneys and nervous system, there is limited information available concerning health risks for people exposed to lower levels of lithium from drinking water.

How does exposure occur?

Exposure occurs by ingesting small amounts present in food and water or breathing air containing very low levels of lithium, living in areas with unusually high natural levels of lithium in the drinking water, working in a job that involves lithium production or use, or living or working near waste sites where lithium has been disposed of.

Is this contaminant regulated?

Lithium is not yet regulated but is on the list for analysis under the EPA's Fifth Unregulated Contaminant Monitoring Rule (UCMR 5). Mount Laurel MUA is scheduled by the EPA to begin monitoring for lithium under this rule beginning in January 2024 with results expected sometime after the second quarter of 2024.

How can I reduce exposure?

Literature suggests that lithium may be removed at point of use by ion exchange and adsorption using certain types of media. EPA continues to review treatment literature and publish details regarding removal efficiencies of lithium from drinking water for various technology types.

Additional information regarding Lithium, including the information referenced, can be found at:
https://tdb.epa.gov/tdb/contaminant?id=1183142512