
Sources of Lead in Washington State and Recommendations for Human Health and the Environment

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Abstract: The departments of Ecology and Health prepared a Lead Chemical Action Plan (CAP) as part of our strategy to reduce threats from persistent, bioaccumulative, and toxic chemicals (PBTs). The goal of the PBT Rule is to reduce and phase-out PBT uses, releases, and exposures in Washington for both people and the environment. To prepare the Lead CAP, data on the health effects of lead, the prevalence in Washington, its uses, current laws and regulations, and economic costs was gathered from state and federal agencies, industry, environmental groups, and the published scientific literature. Options to reduce or phase out uses, releases and exposures were discussed with an advisory committee of 17 representatives of business, health, environmental and local government organizations. The options were evaluated on economic and social impacts, environmental and human health benefits associated with implementing the action, feasibility, and the availability and effectiveness of safer alternatives.

There is no known safe level of lead exposure for children and the most critical time to prevent lead exposure is during the first few years of life. Lead also accumulates in individuals, so relatively small amounts of lead from many sources can add up to significant exposures. Because harmful lead exposure is relatively common and comes from many sources, an effective program to reduce exposure requires the use of several different approaches including public education, increased blood lead testing, continued environmental testing, removal of existing exposure sources, and preventing new sources of exposure.

The most critical recommendations in the Lead CAP are to reduce children's exposure to lead-based paint, which is the largest source of lead exposure for U.S. children. Lead has not been thought to be a problem in Washington State, but 60% of our housing units were built prior to the ban on lead paint in 1978, and half of those were built prior to 1960 when lead-based paint was more common and had higher concentrations of lead. We need to find children with elevated blood lead levels and intervene to reduce their blood lead levels, but the effects of lead are permanent, so primary prevention of lead poisoning is a high priority. We recommend requiring remediation in rental homes when there is a child with an elevated blood lead level and the house was the source of lead exposure. We also recommend lead assessment in all pre-1960 rental homes.