

Legislative Session 2025

Focus on reducing toxic tire chemical exposure

The Problem

6PPD is a chemical that prevents automotive tires from breaking down and helps them last longer. When 6PPD is exposed to air, it reacts with ozone to create 6PPD-quinone (6PPDQ). In 2020, researchers identified 6PPDQ as the chemical that causes pre-spawn mortality in Coho salmon. We are learning more about this toxic chemical's impact on all salmonids and aquatic life.

Driving causes tires to release dust and small particles. These particles contain 6PPD-quinone, which then washes into stormwater and can then spread to rivers, streams, and Puget Sound.

Source Reduction and Safer Alternatives

It is not possible to immediately stop using 6PPD in tires. Even once a safer alternative is identified, transitioning to alternatives will take time. With funding provided in the 2023-25 operating budget, Ecology is developing two products: a 6PPD Action Plan and a 6PPD Alternatives Assessment.

The 6PPD Action Plan will include an assessment of 6PPD and 6PPDQ and recommend actions for these chemicals. It will summarize existing information on the hazards of 6PPD and share the current state of safer alternatives and identify source reduction actions. The Alternatives Assessment will analyze research to determine whether safer alternatives are feasible and available. This work will include expanded hazard assessments, research to fill data needs, performance data collection, and report development.

Ecology finalized the first phase of a 6PPD Action Plan in 2024 and submitted [a progress report](#) to the Legislature in November 2024.

Previous Legislative Funding

In 2021, the Legislature provided one-time funding for Ecology to complete a hazard assessment of 6PPD and nine possible alternatives. In 2022 and 2023-25, the Legislature provided additional one-time funding to expand this work and directed Ecology to complete a full alternatives assessment for 6PPD compounds used in tires.

2025-27 Budget request: \$3 million, 6.3 FTEs

The work started in 2022 and continued in 2023-25 is underway. Ecology will continue to work toward reducing the use of 6PPD in tires and prevent the release of 6PPDQ into the environment through work identified in the 6PPD Action Plan and 6PPD Alternatives Assessment.

Best management practices and prevention

BMP research is critical to protecting salmon and trout from 6PPDQ. We must continue to identify and validate the most effective BMPs, so stormwater permittees have the best guidance to support them meeting their permit conditions. Ecology is making progress on managing this toxic chemical in stormwater runoff by addressing 6PPDQ in our water quality criteria, permits, and guidance. In 2024, we:

- Issued updated municipal stormwater permits and manuals on July 1, 2024, that include actions to help address 6PPDQ.
- Adopted acute aquatic life freshwater criterion for 6PPDQ—the first state in the nation to do so. As of August 2024, it is with the Environmental Protection Agency for Clean Water Act approval.

- Issued the updated Industrial Stormwater General Permit in December 2024, which includes sampling for 6PPDQ at transportation, waste management and hazardous waste facilities.

Previous legislative funding

Ecology has received a series of one-time funding for stormwater BMP research. This research is underway and supports several pilot studies to assess BMP effectiveness. Some preliminary results will be available in June 2025.

2025-27 Budget request: \$4.4 million, 4.6 FTEs

Ecology will continue this research for two more years in preparation for the 2029 municipal stormwater permit renewal, update necessary guidance to permittees to help prevent the release of this toxic chemical into our waterbodies. Ecology will also continue to work with the Stormwater Work Group, an external oversight committee, on this work.

Monitoring and research

Ecology has made great strides in developing the collaborative science needed to characterize and analyze 6PPDQ in the environment. Ecology developed effective approaches to monitoring for 6PPD in watersheds. Ecology's Manchester Environmental Lab (MEL) developed analytical methods and became the first (and currently only) accredited lab in the state for surface water analysis for 6PPDQ. The MEL is working on accreditation for sediment and animal tissue methods.

Previous legislative funding

Ecology received one-time funding in 2023-25 to develop monitoring protocols for 6PPDQ in watersheds and develop lab testing methods.

2025-27 Budget request: \$1.1 million, 4.0 FTEs

Ongoing development of this science is needed to help Washington State resource managers prioritize where to invest stormwater treatment infrastructure to reduce harm to salmonids and other aquatic species. With the requested funding, Ecology will continue developing field sampling

methods for 6PPDQ; develop laboratory methods for measuring 6PPDQ; support lab capacity at MEL for 6PPDQ monitoring and research; identify collaborative sampling opportunities with parallel monitoring efforts to characterize 6PPDQ across the urban gradient; and conduct source identification monitoring when high levels of 6PPDQ are found.

Laboratory accreditation

The workload for the laboratory accreditation unit has increased significantly, in part due to the technical assistance needed for new compounds like 6PPD-quinone. The unit currently does not have enough staff to keep up to date on laboratory audits and provide needed technical assistance to labs.

Previous legislative funding

Ecology received one-time funding in 2023-25 to increase lab accreditation capacity which provided short-term relief but the work continues as new chemicals are added to the list of pollutants to monitor.

2025-27 Budget request: \$1.9 million, 5.8 FTEs

A portion of this request will provide capacity to deliver the technical assistance required by labs seeking to obtain and maintain accreditation for complex, novel compounds such as 6PPD-quinone.

Learn more

Visit ecology.wa.gov/6ppd to learn more and to sign up for our email list.

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