

Table of Contents

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Committee on Environment
and Public WorksSubcommittee on Chemical Safety, Waste Management,
Environmental Justice and Regulatory Oversight

Washington, D.C.

STATEMENT OF:	PAGE:
THE HONORABLE JEFF MERKLEY, A UNITED STATES SENATOR FROM THE STATE OF OREGON	3
THE HONORABLE MARKWAYNE MULLIN, A UNITED STATES SENATOR FROM THE STATE OF OKLAHOMA	7
KATRINA LASSITER, PROGRAM MANAGER, HAZARDOUS WASTE AND TOXICS REDUCTION PROGRAM, WASHINGTON STATE DEPARTMENT OF ECOLOGY	11
TRACEY NORBERG, EXECUTIVE VICE PRESIDENT AND GENERAL COUNSEL, U.S. TIRE MANUFACTURERS ASSOCIATION	15
DAVID B. FISCHER, MPH, COUNSEL, KELLER AND HECKMAN LLP	20

UNDERSTANDING THE POTENTIAL ENVIRONMENTAL IMPACTS OF THE
CHEMICAL 6PPD

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Subcommittee on Chemical Safety, Waste Management,

Environmental Justice and Regulatory Oversight

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The committee met, pursuant to notice, at 2:29 p.m. in room 406, Dirksen Senate Office Building, the Honorable Jeff Merkley [chairman of the subcommittee] presiding.

Present: Senators Merkley, Mullin.

STATEMENT OF THE HONORABLE JEFF MERKLEY, A UNITED STATES SENATOR
FROM THE STATE OF OREGON

Senator Merkley. Good afternoon. The subcommittee hearing on Understanding the Potential Environmental Impacts of the Chemical 6PPD will come to order.

When we think about the Pacific Northwest, we think of salmon. Salmon are vital to my home State of Oregon's history, vital to our Tribes, vital to our ecosystems, vital to our economy. Unfortunately, since the middle of the 20th century, juvenile coho salmon have been dying at extraordinary rates. In the 1990s, they were listed under the Endangered Species Act.

In 2020, researchers linked some of the salmon deaths to the chemical known as 6PPD, and we will hear more about that from our witnesses. 6PPD is an additive to car tires that prevents the tires from wearing out as fast as they would otherwise. It has been used as an additive since the 1960s, around the same time we started noticing that coho salmon were suffering.

The process for how 6PPD gets from our tires in the waterways is straightforward: tires wear down, they create, essentially, tire dust. Those little particles contain the chemical 6PPD, and then it rains, and the rains sweeps it into the streams, and then that toxic chemical kills the salmon.

When it gets into the stream, by the way, it reacts with

ozone, and it is that 6PPD-Q that becomes one of the most toxic chemicals to aquatic species ever evaluated by the Environmental Protection Agency.

So, that is a challenge. The EPA reports "concentrations of 6PPD-Q in stormwater in the Pacific Northwest were found to be lethal to coho salmon after only a few hours of exposure." 6PPD can be deadly to steelhead trout and deadly to other fish species, as well.

It is not just marine life. These chemicals are being found in sediments and soils, dirt and dust, and even inside all of us. In one study testing 150 people, 6PPD was found in nearly everyone. And an intriguing situation is it was found in higher concentrations in pregnant women, though I don't yet know that we have an explanation for that.

6PPD is a disaster for the ecosystems, our economy, our tribes. So, that is why it is important as we wrestle with restoring salmon or recovering salmon, that we learn more about this issue.

In November 2023, 15 Northwest Tribal Nations shared how disappearing salmon populations have affected them. They are asking us to stop using 6PPD immediately. Sacred salmon, trout, and other fish species are unlikely to recover unless we do so.

In 2023, three tribes from across the Pacific Northwest petitioned the Environmental Protection Agency to establish

regulations prohibiting the manufacturing, processing, use, and distribution of 6PPD in tires. Unfortunately, there is no known commercially viable replacements for 6PPD in tires. The U.S. Tire Manufacturers Association, with us here today, has been a strong voice to say that any replacements must provide equivalent tire safety while improving environmental impacts.

In Fiscal Year 2024, Congress invested \$1 million through the U.S. Department of Agriculture's Agricultural Research Service to develop an alternative to 6PPD. This research is being done in partnership with the company Flexsys, and we hope that it will accelerate the transition.

But stopping 6PPD's use is only one piece of the puzzle. We also need a strategy for dealing with it in our environment. It has been used, as I have mentioned, on tires for more than half a century. My home State of Oregon alone produces four million waste tires per year, two-thirds of which get shredded or illegally dumped. Even when tires are recycled and they are used in playground services, they are used for erosion or flood control, sometimes they are burned, all these things further allow 6PPD and other chemicals to continue to contaminate ecosystems.

The Department of Ecology for the State of Washington is with us here today. It and others are researching strategies to address these challenges, from stormwater mitigation to source

control, street sweeping, the use of filters in water infrastructure, and so forth. These are difficult questions of science, of consumer safety, of tribal rights, of species extinction, so we are thankful to have today's panel of experts to help us understand these issues.

Katrina Lassiter is a program manager for the Hazardous Waste and Toxics Reduction Program at Washington State Department of Ecology. Her program identifies chemicals that pose the greatest risk to human health and the environment and finds ways to mitigate them.

Also joining us is Tracey Norberg, Executive Vice President and General Counsel for the U.S. Tire Manufacturers Association. She oversees the Association's environment, health, safety, and sustainability portfolio.

Finally, we are joined by David Fischer, Counsel for the law firm Keller and Heckman. He has served as Deputy Assistant Administrator for the EPA's Office of Chemical Safety and Pollution Prevention from 2019 to 2021.

Thank you all for taking the time to share your expertise with us today.

Now, let me turn this over to Ranking Member Mullin for any opening comments.

[The prepared statement of Senator Merkley follows:]

STATEMENT OF THE HONORABLE MARKWAYNE MULLIN, A UNITED STATES
SENATOR FROM THE STATE OF OKLAHOMA

Senator Mullin. Thank you, Chairman Merkley, and thank you to all our witnesses for attending today's hearing.

As we know, today we are here to discuss the alternatives to a chemical called 6PPD that has been used in automotive tires since the 1960s to help them last longer. In other words, every car on the road today, regardless if it is gas powered or electric powered, has tires containing 6PPD to protect them against oxygen exposure, which is what we call dry rot, which would otherwise cause them to quickly degrade.

This protection improves passenger safety by helping to prevent car accidents from tire blowouts and other tire-related issues. This is important, given that car accidents remain a leading cause of death in the U.S.

Very recently, scientists have discovered that when 6PPD and oxygen react, it forms a product called 6PPD-Q that can run off into streams, causing harm, specifically to fish like coho salmon. The problem is that there is no existing replacement to replace 6PPD currently available. The human health impacts of 6PPD are still unknown.

Once a science-backed replacement is found, EPA's unreasonable slow pace in approving new chemicals will further delay commercializing a replacement substance. Congress

provided clear direction to the EPA to make determinations of new chemical approvals within 60 days under the Toxic Substance Control Act, and EPA consistently fails to meet their statutory deadline. Today, of the 413 new chemicals under EPA's review, only 48 have been under review for less than 90 days. That means 88 percent of those reviews don't meet the deadline.

Here is the real problem, though. Out of those 48, what percentage, at day 82, will be asked by the EPA to be paused, which is the way EPA currently is handling business? Chairman, I know you and I both have had different companies coming and telling us about this. When they pause it at day 82, it is sometimes paused for an indefinite amount of time.

This backlog is completely unacceptable from both the legal and domestic manufacturing perspectives. If we were to actually care about bringing a nontoxic replacement to 6PPD to the market, we also have to care about EPA's new chemical review failures.

If we were to get a sustainable chemical replacement to the market, how long would it take to improve? How long would it take for it to actually go into effect?

Today's hearing on 6PPD shows us why fixing our New Chemical program shouldn't be a bipartisan fight. It should benefit everyone, and we should start by looking at the way the EPA reviews these chemicals.

Thank you, Chairman. I yield back.

[The prepared statement of Senator Mullin follows:]

Senator Merkley. Thank you very much.

We are now turning to your testimony. Katrina Lassiter,
would you like to begin?

STATEMENT OF KATRINA LASSITER, PROGRAM MANAGER, HAZARDOUS WASTE AND TOXICS REDUCTION PROGRAM, WASHINGTON STATE DEPARTMENT OF ECOLOGY

Ms. Lassiter. Thank you, Chair Merkley, Ranking Member Mullin, and distinguished members of the subcommittee. My name is Katrina Lassiter, and as the Chair said, I manage the Hazardous Waste and Toxics Reduction Program at Washington State's Department of Ecology.

I am honored to be here today, and I thank you for holding this hearing. Some of this may sound redundant to Chair Merkley's opening statement.

For more than 20 years, scientists faced a mystery. Coho salmon in Washington streams and rivers were dying. The culprit was unknown, but it seemed linked to toxic chemicals running off roadways and into rivers and streams. To find the cause, researchers in Washington State spent three years searching through more than 2,000 chemicals that can leech from tires.

In 2020, they finally found it, a chemical called 6PPD-quinone, that kills coho salmon within hours of exposure. 6PPD-quinone comes from 6PPD. 6PPD is a chemical used in tires to prevent cracking and blowouts. It has been used for decades and is found in tires worldwide.

As traffic passes on roads, tire wear particles containing 6PPD travel through the air and stormwater runoff and enter

rivers, creeks, and streams. When 6PPD reacts with ozone, it transforms into 6PPD-quinone, also known as 6PPD-Q.

6PPD-Q kills salmon at such low concentrations that it is one of the most toxic chemicals to aquatic life ever identified. I just want to repeat that for emphasis. It is one of the most toxic chemicals to aquatic life that has ever been identified. That is why we need to be doing two things. We need to find safer alternatives to 6PPD so we can get 6PPD out of tires, and we need stormwater control and treatment so we can reduce 6PPD chemicals in the environment.

The need for 6PPD alternatives and stormwater control is a national problem. Rainbow trout, steelhead brook trout, coho salmon, and lake trout, which are found throughout the Country, all die when they are exposed to 6PPD-Q at concentrations that we have measured in the environment. Depleted salmon and trout populations have negative economic impacts on recreational and commercial fisheries, tourism, employment, and food supplies, and there are growing concerns about potential impacts to human health, too.

We are still learning about 6PPD and 6PPD-Q, but tribes, States, and Federal agencies know enough to take action now. Federal agencies, including the EPA, but also NOAA, USDOT, and USGS are leading efforts to address 6PPD chemicals in the environment. Tribes are taking action to protect their treaty

resources and have petitioned the EPA to ban 6PPD manufacturing and use through the Toxic Substances Control Act.

In Washington State, we are tackling this problem head-on by researching and installing stormwater solutions to protect aquatic life now. We are developing methods to monitor 6PPD chemicals in the environment, and we are finding locations where these chemicals are causing harm. We are evaluating options for what to do with our used tires, and we are funding research to find a safety alternative for 6PPD.

In all of this, we are working with the tribes, Federal and State agencies, and industry. But solving this problem does require a national and coordinated effort.

Today, I ask for your support. Resource Federal agencies to make progress on this work. Invest in research to advance our understanding of 6PPD so we can find a safer alternative. Require nationwide transportation projects to include stormwater controls for roadway runoff to protect fish now. Help us work with manufacturers to increase transparency of chemicals used in products, and support legislation that reduces the use of 6PPD, because polluted waterways are not bound by State waters.

I want to thank those who have turned their attention to this problem. Thank you, and I look forward to answering your questions.

[The prepared statement of Ms. Lassiter follows:]

Senator Merkley. Thank you very much.

Now, we will turn to the perspective from the industry of making tires and the expertise they bring to bear, Tracey Norberg.

STATEMENT OF TRACEY NORBERG, EXECUTIVE VICE PRESIDENT AND
GENERAL COUNSEL, U.S. TIRE MANUFACTURERS ASSOCIATION

Ms. Norberg. Good afternoon, Chairman Merkley, Ranking Member Mullin, and distinguished members of the subcommittee. My name is Tracey Norberg, and I am testifying today on behalf of the U.S. Tire Manufacturers Association.

You have my written comments, so I will just touch on a few key points now. USTMA is the national trade association for tire manufacturers that produce tires in the United States. Tire manufacturing directly supports more than 291,000 U.S. jobs, and our 12 member companies and 4 affiliates account for roughly 82 percent of the 327 million tires shipped in the U.S. last year.

6PPD serves an essential safety function in tires, as we have heard from both the Chairman and the Ranking Member and my colleague from Washington Ecology. Protecting the components of the tire from attack by ozone, oxygen, and other factors are key to 6PPD's function. Without 6PPD, a tire's integrity would be seriously and severely quickly compromised, jeopardizing motorists' safety.

6PPD is currently used in all tires sold in the United States, including all of our member tires available for on-road use. We are not aware of any new motor vehicle tires available today that do not contain 6PPD.

6PPD-quinone is not used in tire manufacturing. This material is a recently discovered transformation product of 6PPD that may form when 6PPD reacts with ozone or oxygen under certain conditions. Today, there are no commercially available alternatives to 6PPD that both provide comparable safety and performance in motor vehicle tires and minimize the potential for environmental effects.

Nonetheless, our industry has embraced this challenge to find a suitable alternative. In December 2020, the same month that 6PPD-quinone was first identified, USTMA requested that the California Department of Toxic Substances Control prioritize the review of 6PPD in tires under its Safer Consumer Products regulations. To our knowledge, ours is the only industry that has ever invited this regulation upon itself.

USTMA assembled a consortium of 32 tire manufacturers from across the world to identify and evaluate potential alternatives to 6PPD in tires. In accordance with California regulations, each consortium member submitted the USTMA preliminary, or stage one, alternatives analysis this past spring and submitted an updated report last week in response to DTSC comments.

As part of the stage one report, we screened more than 60 potential alternatives for their suitability to replace 6PPD in tires, and 7 of those merited further evaluation in stage two of the process that will commence shortly.

By the end of this alternatives analysis process, we are optimistic that we will have identified one or more possible alternatives that hold promise to replace 6PPD or materially reduce the level of 6PPD in motor vehicle tires, subject, of course, to future performance testing to ensure tire safety and performance.

The search for an alternative is complex, and research in this space is continually evolving. We continue to work actively, transparently, and collaboratively with a broad array of stakeholders and academia and at the State, Federal, tribal, and international levels on this important work.

Our collaboration with Washington Ecology extends back to 2019, actually predating the identification of 6PPD-quinone, and includes providing information on tire materials that may be found in stormwater runoff, providing technical expertise on identifying and researching tire and road-wear particles, and providing samples of cryogenically milled tire tread to support research.

I hope it is clear that the industry is moving forward with great alacrity. While efforts to find and implement a suitable alternative to 6PPD will take time, there are things that can be done now to reduce 6PPD and 6PPD-quinone in the environment. Those measures, some of them have already been mentioned, but they do include street sweeping in urban areas, choosing

pavement surfaces such as rubber modified asphalt and permeable pavement that reduced tire abrasion and mitigate stormwater impacts, installing bioretention technologies to treat stormwater, and maintaining proper tire inflation pressure to reduce tire abrasion. Research in Oregon and Washington have demonstrated the effectiveness of some of these technologies in improving stormwater quality.

We welcome the opportunity to collaborate with Congress as well as regulators, affected partners, and interested stakeholders to develop policies that take advantage of technologies to help mitigate stormwater impacts associated with roadways for a more immediate positive effect on the aquatic environment.

We appreciate your time and the opportunity to be here today, and we welcome the opportunity to be part of this discussion moving forward. I am happy to answer your questions.

Thank you.

[The prepared statement of Ms. Norberg follows:]

Senator Merkley. Thank you very much.

Both of you have submitted longer versions of testimony, and if there is no objection, we will submit the longer version for the record. Because you are kind of amazing us up here, you are completing exactly under the five minutes allocated. Really well presented.

Mr. Fischer, let's turn to you.

STATEMENT OF DAVID B. FISCHER, MPH, COUNSEL, KELLER AND HECKMAN
LLP

Mr. Fischer. Thank you. Good afternoon, Chairman Merkley, Ranking Member Mullin, and members of the subcommittee. Thank you for the opportunity to participate in today's hearing on 6PPD.

My name is David Fischer, and I am counsel at the law firm of Keller and Heckman where I help clients navigate the Toxic Substances Control Act. Prior to joining Keller and Heckman, I had the great privilege of serving as the Deputy Assistant Administrator for the Office of Chemical Safety and Pollution Prevention at EPA.

Today's hearing on 6PPD, its environmental impacts, and ongoing research into potential alternatives prompts a discussion of EPA's New Chemicals Program and Section 5 of TSCA, which governs the review of new chemicals and new chemical uses. After all, a 6PPD alternative will need to undergo substantive review by EPA's New Chemicals Division before it can be used in tires or other applications.

We all know this, but it is worth repeating, that nothing is possible without chemistry. But innovation in the U.S. relies on a wholly functioning and efficient New Chemicals Division. Under the 2016 revisions to TSCA, Congress gave clear direction to the EPA on the timeline in which to complete new

chemical reviews. EPA has 90 to 180 days to render a determination regarding the new chemical substance's effect on human health and/or the environment. But until EPA makes such a determination, however long that may take, the submitter is in limbo and cannot commercially manufacture the chemical.

Unfortunately, chemical reviews now take many months, if not years. If the ultimate goal is for industry to find a replacement for 6PPD, then we should all be concerned with a potential replacement getting held up in regulatory limbo at EPA. This is why EPA needs to amend its New Chemical regulations.

Unfortunately, in proposing regulatory changes last year, EPA missed an opportunity for real change. EPA's final regulations to be issued later this year may yet reflect the concrete suggestions made by me and others during the public comment period.

Today's hearing also prompts a closer look at the TSCA Section 21 petition process, which Earth Justice relied on in seeking a Section 6 rule to prohibit the use of 6PPD in tires.

EPA acknowledged that petitioners have the burden to show why a rule for 6PPD is necessary, but then EPA considered other available information that it did not present in granting the petition. Moreover, EPA granted the petition and plans to initiate rulemaking this fall, even though EPA plans to collect

data to inform a human health risk assessment on 6PPD-Q and may issue Section 4 test orders to require the development of new information.

The petition process as currently implemented by EPA stands in stark contrast to the Section 6 prioritization, risk evaluation, and risk management paradigm for existing chemicals. Although EPA must seek public comment for any rule issued pursuant to Section 21, EPA does not need to request either public comment or scientific peer review on a Section 21 petition itself or on EPA's basis for granting the petition.

With respect to 6PPD, EPA appears to have granted the petition with respect to a single condition of use: 6PPD's use in tires. For Section 6 risk evaluations, however, EPA recently changed its regulations to mandate a whole chemical approach in which EPA reviews all conditions of use for a chemical and renders a single unreasonable risk determination for the whole chemical, rather than for any condition of use.

My fear is that Section 21 is fast becoming an end-run around Section 6, especially at a time when EPA's refrain is a plea for more funds to implement Section 5 and Section 6. By granting Section 21 petitions, EPA diverts resources away from its statutory obligations under Sections 5 and 6.

EPA doesn't collect fees from Section 21 petitioners, but it does collect these fees from new chemical submissions and

Section 6 risk evaluations. It may be that Congress will need to further amend TSCA to address these and other ongoing challenges with TSCA implementation, but those are likely topics for future hearings.

I thank you for the opportunity and look forward to your questions.

[The prepared statement of Mr. Fischer follows:]

Senator Merkley. Yes, thank you very much, Mr. Fischer.

As you were testifying, I was taken back to the extensive bipartisan discussions we had a couple years ago when we were kind of reformulating TSCA and trying to make it work more effectively. I imagine there will be future hearings like that. It seems to be a challenging process.

I want to begin with some questions for you, Ms. Lassiter. I am trying to understand the impact of this chemical. When I was growing up in Oregon, we never saw raptors. The hawks disappeared; the eagles disappeared; the osprey disappeared. I say disappeared; I never saw them, and now they are abundant. The cause was a particular pesticide, DDT, which caused the shells of the eggs to be so weak that they would get crushed.

What is the death mechanism here? What is this chemical doing to the fish that is killing them? Is it interfering with their brain, is it causing liver disease? What is going on?

Ms. Lassiter. Thank you for that question, Senator. As you know, we just, in 2020, discovered that 6PPD-Q is so toxic to coho salmon and other fish, and so we are still learning. We are conducting research in Washington.

We are funding research at other agencies, like USGS, to study fish and to figure out what is happening with them. We have a number of agencies looking into fish tissue studies to get a closer look at what is happening in the fish themselves,

but we are working toward developing monitoring now.

Senator Merkley. So, just in short, we don't really know yet?

Ms. Lassiter. That is right.

Senator Merkley. Okay. So, is it, are we finding that it is toxic to eggs, the fish eggs?

Ms. Lassiter. We don't know that yet, either.

Senator Merkley. Is it toxic only to adult fish, or also to the small fry?

Ms. Lassiter. It seems to be toxic to returning salmon, so it is pre-spawn mortality, so they are coming back in the streams to spawn, and that is when we see the mass mortality events.

Senator Merkley. They are dying before they spawn?

Ms. Lassiter. Correct.

Senator Merkley. Well, that would have a big impact.

In the Washington State area where you have these streams running into ocean inlets and so forth, and salt water, are we finding that it is also killing the salmon? Because I saw a reference to the impact on the orcas. Is it also affecting the adult fish when they are still in ocean water?

Ms. Lassiter. We don't know that yet. What we have seen is where they are dying in mass quantities where they are coming back to spawn, and there are hotspots that we are still

identifying, but often in urban streams.

Senator Merkley. When it comes to salmon, I keep hearing the coho mentioned, but we have many types of salmon. What about other types of salmon?

Ms. Lassiter. We know that there are impacts to other fish, like rainbow trout. But the instant mortality, the within hours from exposure, that is specifically coho salmon. The impact isn't the same on other salmon, like Chinook, which, as you know, are the primary food source for our resident orca whales.

Senator Merkley. Okay, so a lot to be learned in terms of what is the mechanism that is killing them, and what other fish are affected. But you do not think it is having the same impact on Chinook?

Ms. Lassiter. That is right.

Senator Merkley. That is really interesting, but for another moment.

Ms. Norberg, when this chemical was introduced to affect the oxygenation deterioration, did it, I think I saw a reference somewhere to, it increases the wear by about 20 percent. Is that accurate, or how would you characterize the extension of life of the tire?

Ms. Norberg. Yes, in general terms, it is at least, tires are lasting at least two-thirds longer than they would without

6PPD. Before 6PPD became widespread in its use, other waxes were used to protect the tire, and they don't protect the tire from dynamic wear and ozone exposure.

Senator Merkley. Crudely, are we talking about a tire that, with 6PPD, is a 50,000-mile tire, and it becomes a 30,000-mile tire?

Ms. Norberg. I think it would be much more severe than that.

Senator Merkley. Well, 30,000 to 50,000 would be a two-thirds increase of 20,000 on top. I am trying to get a general characteristic we can put our hands around.

Ms. Norberg. Maybe the best way to say is that a tire would last a third as long.

Senator Merkley. One-third as long?

Ms. Norberg. Yes, typically. I may have misspoke, yes. Typically, a tire now, average lifespan of a tire is somewhere in the 40,000 mile range. We would expect a tire to last a third of that time on the outside.

Senator Merkley. That is a dramatic change.

Ms. Norberg. It is very dramatic, yes.

Senator Merkley. For sure. I really appreciate the cooperation of the tire industry in tackling this challenge, because not every industry says yes, we recognize it is an issue, and we want to be partners and try to find a solution.

So that is very, very helpful.

So, as I understand it, you presented that there were 70 chemicals or so that were being analyzed, and now, sort of that ballpark, 60 or 70, and now 7 of those are promising? Do those seven chemicals, do we know that they do not have the same lethal impact on trout and coho that 6PPD-Q has?

Ms. Norberg. In the alternatives analysis that we are conducting, we have identified that understanding toxicity to coho and other salmonids is really critical to identifying an alternative. The seven materials that we have moved forward to stage two have met our initial screening for hazard criteria, but we have not fully evaluated all of those chemicals for sensitivity to coho and other salmonids. That will be part of the stage two analysis, not only for those seven chemicals, but beyond that, as we get more toxicity and hazard data for other chemicals. We may be evaluating additional materials as we move forward.

Senator Merkley. My time has expired, so I am going to turn this over to our co-chair, and then I will have some additional questions. Thank you.

Senator Mullin. Did you call me co-chair? Did I get upgraded?

Senator Merkley. Absolutely. Vice-chair, co-chair. Any title you want, Senator Mullin.

[Laughter.]

Senator Mullin. Thank you. My wife has some nicknames for me too, and they are not always good.

Thank you guys, once again, for being here. I do appreciate your time. This is something somewhat new to me until we started actually recognizing this hearing. I hadn't really heard this problem with the coho, even though I am Cherokee, and I meet with the tribes on a very regular basis. Obviously, it is a concern to them.

Typically, what we hear about is the habitat, that they are having a hard time spawning, going back upstream, because of dams and infrastructures put in place. That, I totally understand, so this is kind of new to me.

I have some questions for you, Ms. Lassiter. Is that right?

Ms. Lassiter. Yes.

Senator Mullin. When they are doing the test for the 6, what is it, 699? I am looking at my notes here. What is it?

Ms. Lassiter. 6PPD-Q.

Senator Mullin. 6PPD-Q. Thank you. When they are doing the tests on that, what was the concentration rate of it? Was it tested in open streams, was it tested in concentrated pools? Then what was the mixture rate that we are looking at?

Ms. Lassiter. We have tested at concentrations that are

found in the environment. I don't have the exact numbers in front of me. I don't know how meaningful they would be.

Senator Mullin. Was it tested in the environment or in a moving body of water, or was it a concentrated pool?

Ms. Lassiter. Mostly, we have been testing in labs. There has been a lot of different testing happening, not just at my agency, so I can't speak to that. But we have tested in the lab at concentrations that have been found in the environment.

Senator Mullin. But not in the environment. So we haven't actually tested this in the moving water environment to see how fast this actually diluted inside the moving water, and then what is the concentration rate per acreage of water per fish.

Ms. Lassiter. Okay. We have sampled for 6PPD-Q in our moving waterways, but when we are doing the tests on fish, that is happening in a laboratory environment.

Senator Mullin. Listen, I am all about finding alternatives, I really am, but we also need to understand the impact of it, too.

Ms. Lassiter. Absolutely.

Senator Mullin. Mr. Chairman, I think what Ms. Norberg was referring to by a third less, remember, this is affected by oxygen when it interacts with it. You can't just look at the tire based on the miles because it is the exposure rate, it is the dry rot.

It is the same thing if a car is sitting there in the environment for four years, five years, even though it is not driven, it can be a brand new tire that will create dry rot, which makes it not safe to drive anymore. It is the amount of time it can be exposed, and I think that is what we need to be looking at here.

If people that are, today, just used to look at the tread rate on it, then you are not going to understand the dry rot, the cracking, that is happening on the sidewalls, which is where the dangerous part happens. It blows out on the front axle; you have all types of issues. Then, it is the effect that happens not just to the driver, but then everyone around the vehicle.

I do feel very strongly that we need to find the alternatives, but we also need to find the true impact of this. As the industry is looking for an alternative, we need to actually understand the science and the impacts of it, too, and the cost to consumers. My Lord, we are all dealing with massive inflation rate, the way that we are dealing with today, and that is no, I am not making a political point, I am just telling you, that is the fact of the matter, and this would just add to it if we don't understand the cost.

When Congress first set this up, we had to have a reasonable impact of what it was going to be to the consumer moving forward. All this needs to be understood.

Mr. Fischer, you talked about something I was talking about with the EPA and the fact that they are not able to get these approvals done, to actually make the change we need to. Can you elaborate a little bit more on that?

Mr. Fischer. Yes. As I mentioned in my testimony, the statute says 90 days to 180 days. I would say, on average, if you have a PMN going under review at EPA and the review concludes and there is a consent order, attached to that review, we are talking up to a year and a half, maybe longer. If you then add a SNUR to it, a Significant New Use Rule that would follow that approval process, then you are adding on another, probably, two years.

It has now become sort of a multi-year endeavor, versus the 90 days to 180 days that was in the statute. Even when Congress amended the statute in 2016, it didn't change those timelines. Congress still assumed EPA would meet the 90 days to 180 days. And that, as you mentioned, or what was mentioned earlier today, is a rare event. Most of the time, submitters need to anticipate it taking at least a year. In fact, I advise folks, don't expect anything under a year.

Senator Mullin. Mr. Chairman, I think this leads to something that we should be looking at too, that maybe we need to have a hearing with EPA to hold their feet to the fire, so to say, for getting these out. This is important for safety

perspectives. This is important to the tribes. This is important to the consumer, and there is no reason why they can't do this.

I know they talked about not having enough money, but my Lord, it seems like every year we are raising their budget to begin with. They are just not prioritizing the way that Congress has asked them to do.

With that, I yield back.

Senator Merkley. Thank you very much. I will get you a new nameplate, if you would like.

[Laughter.]

Senator Mullin. Thank you.

Senator Merkley. I want to turn back to this question of the coho being affected. You say in the laboratory, so where is this laboratory where the fish are being tested against the chemical?

Ms. Lassiter. We are doing the studies in Washington, I believe, at the Washington Stormwater Center, so associated with WSU, and we have researchers at UW as well.

Senator Merkley. I will follow up, because I want to come see the testing, obviously, close by in Oregon. We talk about salmon so much, and we talk about how much we are spending to move the small fry over the dams or around the dams and all sorts of challenges, obviously. But this issue is really a

significant new addition to the discussion of the challenge we are facing.

I am wondering if we are seeing similar impacts, say, that are being reported from Alaska or from the east coast or from Norway, or other places where there are salmon runs. Has this identification of a challenge occurred in Washington State, really a diligent observation that the fish were dying after a rainstorm, and what is going on? But are we seeing hints of this happening in other areas where there are salmon?

Ms. Lassiter. Certainly, actually being able to see the mass mortality events has been most dramatic in Washington. But we do have researchers across the Country with USGS studying this phenomenon and studying it on other fish, and there is research underway in Europe, as well.

Senator Merkley. What made it easier to detect in Washington? Is it because the streams are shorter, so the adult coho are concentrated, and in an urban area, where they can be easily observed, as opposed to 1,000 miles up the Columbia River, or so forth? What, why?

Ms. Lassiter. That is such a good question, and that is why we are conducting research and monitoring now. We don't have those answers.

Senator Merkley. Okay. I will really want to follow up with this question of the kill mechanism, why it is killing.

Because if we don't understand why it is killing them, I mean, it must be something that is common to the rainbow trout and the coho and the brook trout, I think you mentioned lake trout, that is something different if it is not affecting the Chinook.

Have we had Chinook in the laboratory and these aquariums and they are not affected?

Ms. Lassiter. Yes, they have been tested in the same way.

Senator Merkley. That is really fascinating.

Ms. Norberg, I wanted to turn to the question of whether the tire industry in other countries is also doing research on this.

Ms. Norberg. Yes, we are working as a global tire industry on both this issue, and then the broader issue of tire and road wear particles. There is a global industry organization called the Tire Industry Project that is based in Switzerland. It is part of the World Business Council for Sustainable Development. They have been studying tire and road wear particles for many years and continue that work.

Because 6PPD, really the issue originated here, we are at the tip of the spear when it comes to the 6PPD specific issues, but we are coordinating as a global industry on this issue.

Senator Merkley. So is the primary research on this issue happening in Switzerland?

Ms. Norberg. Broadly, on tire and road wear particles,

they continue that work, yes. Then, we on 6PPD and 6PPD-Q are really in the lead here in the U.S., but coordinating with our global counterparts.

Senator Merkley. So the scientific research that took this many dozens of chemicals, 60, 70 chemicals, and reduced it to 7 promising, that research happened in Switzerland?

Ms. Norberg. No, that research happened here in the U.S., and I led that project. It is ongoing.

Senator Merkley. Okay. So, when you get down to those seven chemicals, and the question is, do these chemicals also have an impact on fish, are you transporting those chemicals to Ms. Lassiter's Washington State laboratories to be tested, or how are you determining the impact?

Ms. Norberg. The work that we have been doing is pursuant to the California regulatory requirements as part of the Safer Consumer Products regulations. That regulation is a very rigorous, very prescribed process for evaluating alternatives to identify safer chemicals in products.

The stage one, which we have completed, is basically a screening step, and then we will continue to do more in-depth research of not only those seven chemicals, but any others where we can garner additional research. The ones we are moving forward don't have indications of negative impacts on salmonids or other species yet to date, but we will continue that

evaluation as we move forward.

Senator Merkley. That screening process -- cloakroom needs us to vote, I am informed.

Senator Mullin. I guess so. I can make my last question very quick.

Senator Merkley. I am going to stop and turn it over to our Vice Chair, co-chair, Ranking Member, all of the above, and then we will adjourn the hearing. I really appreciate you all bringing your information to bear, because this situation where the high lethality of this particular chemical in regards to the coho is a super big deal, and we have to solve it.

Thank you.

Senator Mullin. Thank you once again.

Just real quick, Ms. Norberg, how many other things is 6PPD found in? Are there other products?

Ms. Norberg. I am sorry, I missed the last part of your question.

Senator Mullin. What other products is 6PPD found in, other than just tires?

Ms. Norberg. I don't think I can give you the full list. I am most familiar with tires, but other rubber products most likely contain 6PPD.

Senator Mullin. Ms. Lassiter, do you know? I am just curious; I don't know the answer either. I am just asking.

Ms. Lassiter. Oh, right. No, that is certainly Ms. Norberg's area of expertise.

Ms. Norberg. Yes, I am aware of one study in Washington State that looked at seals for water systems, but I could not -- we are happy to follow up.

Senator Mullin. I would assume so. I would assume they would be in seals.

Mr. Fischer, do you know? I think that is something we need to find out, too, other places it is found.

My last question that I have, real quick, what steps, Mr. Fischer, what steps do you recommend the EPA could do administratively to improve their timeline?

Mr. Fischer. Thank you for that question.

In my written submission, I included a fairly lengthy petition for rulemaking, where we basically took Part 720, which are the regulations that govern new chemical reviews, and made a lot of substantive changes.

But a couple would be sort of requiring EPA to take a much more reasonable approach when they are reviewing a new chemical submission. For example, if they don't have data, their defaults should be reasonable. Right now, they tend to be worst-case scenarios, which are completely unrealistic, implausible, et cetera. I think EPA needs to sort of bring that thinking back into more reasonable areas.

The concept of reasonableness, I think, should be really instilled in how EPA reviews new chemicals.

There are a lot of other suggestions as well in the petition that you now have as part of the record. But another one I would like to mention is, there should be much more of a collaborative exchange between the submitter and EPA staff. There should be an understanding of, if EPA needs more data, if there are issues with the data that have been submitted. That should be conveyed to the submitter on a more timely approach or basis.

Right now, it tends to, you submit, and it tends to go in a bit of a black box. I think that can both frustrate the submitter, and it also may prolong the review process if EPA could have obtained answers to its questions a lot earlier. I really believe there should be much more of a collaborative approach to getting new chemicals reviewed and hopefully approved.

Senator Mullin. Thank you. Thank you guys for being here.

Senator Merkley. Ms. Lassiter, is it appropriate for me to say that 6PPD is to coho as DDT was to eagles? A very short answer. Fair or unfair?

Ms. Lassiter. It is fair. It is considered highly toxic.

Senator Merkley. Given that we are supposed to be voting, I have to run.

Ms. Lassiter. Thank you, Senator.

Senator Merkley. Before we adjourn, I ask unanimous consent from all of the members present to submit for the record a variety of materials that includes letters from stakeholders and other materials related to today's hearing.

[Laughter.]

Senator Merkley. Hearing no objection, so approved.

[The referenced information follows:]

Senator Merkley. Additionally, Senators will be allowed to submit questions for the record through the close of business on Wednesday, August 14th, 2024. We will compile those questions, send them out to all of you, and we will ask for a reply, if possible, by Wednesday, August 28th, 2024.

With that, the hearing is adjourned. I apologize, we will not be coming down to say hello, because I am running out the door. Take care, and thank you.

[Whereupon, at 3:16 p.m., the hearing was adjourned.]