# Shoptalk

## WINTER 2022

SCIENTISTS DISCOVER WHY **MANY SALMON DIE BEFORE SPAWNING.**

**PFAS ARE NOW HAZARDOUS CHEMICALS.** WHAT DOES THIS MEAN FOR GENERATORS?

DEPARTMENT OF ECOLOGY
State of Washington

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# About Shoptalk

## Publication information

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# A fitting tribute to a beloved colleague

While we are grieving the loss of our dear friend and colleague Ken Zarker, his memory will live on through an award named in his honor. The National Pollution Prevention Roundtable (NPPR) MVP2 award program celebrates pollution prevention (P2) successes around the United States.

After Ken's recent passing, NPPR renamed an award to commemorate his life and work: it's called the Ken Zarker Memorial P2 Champion Award.

Ken Zarker was a state and national leader in pollution prevention and safer alternatives. He worked with us at Ecology for 16 years and 23 years in Texas.[1] We will miss him and his passionate energy.

# WHAT'S **NEW** WITH **DANGEROUS WASTE** TODAY?

# PFAS are now hazardous chemicals

**CHRISTA COLOUZIS**

**Last October, EPA announced they will regulate per- and polyfluoroalkyl substance (PFAS) contamination under the hazardous waste law known as the Resource Conservation and Recovery Act (RCRA).**

PFAS[2] are human-made chemicals that have been added to products since the 1940s. This group of chemicals makes products grease-, water-, and stain-resistant. Nonstick pans, waterproof fabrics, and stain-resistant carpets rely on PFAS chemicals for their unique characteristics. PFAS persist in the environment and in the human body—meaning they don't break down and they accumulate over time. Evidence shows that PFAS exposure can lead to adverse human health effects such as decreased liver function, thyroid problems, and birth defects.

New Mexico's governor recently petitioned EPA to identify PFAS chemicals as hazardous waste under RCRA. In response, EPA announced they now classify four PFAS chemicals as RCRA Hazardous Constituents:

- PFOA (perfluorooctanoic acid)
- PFOS (perfluorooctane sulfonic acid)
- PFBS (perfluorobutane sulfonic acid)
- GenX[3]

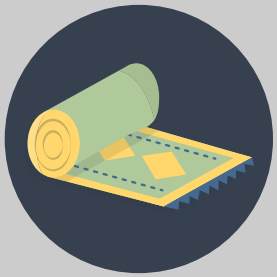
Listing these chemicals as RCRA Hazardous Constituents means they're subject to site cleanup requirements. With this change, we may regulate PFAS as hazardous waste in the near future.

EPA clarified that the RCRA Corrective Action Program now has the authority to require investigation and cleanup for these four PFAS wastes. This helps ensure that emerging contaminants like PFAS can be cleaned up.

These actions are part of EPA's broader strategy to address PFAS pollution[4] across the country. Find more details in their PFAS Strategic Roadmap,[5] which explains how they plan to safeguard public health, protect the environment, and hold polluters accountable. This roadmap will also guide our steps toward safeguarding communities from PFAS contamination. The actions build on one another and lead to more enduring and protective solutions. ◆

**PFAS may be found in these manufactured products:**

**Nonstick cookware**



**Stain-resistant carpets**

**Waterproof clothing**

**Moisture-resistant food packaging**

**Stain-resistant furniture & textiles**

# New PFAS chemicals added to the Toxics Release Inventory list

**DIANE FOWLER**

**EPA added three new types of per- and polyfluoroalkyl substances (PFAS) to their list of chemicals covered by the Toxics Release Inventory (TRI).**

They are:

- Silver(I) perfluorooctanoate (CAS number: 335-93-3)
- Perfluorooctyl iodide (CAS number: 507-63-1)
- Potassium perfluorooctanoate (CAS number: 2395-00-8)

Businesses must complete this toxics inventory as part of the Emergency Planning and Community Right-to-Know Act (EPCRA).

In general, TRI covers chemicals that may cause:

- Cancer or other chronic human health effects.
- Significant adverse acute human health effects.
- Significant adverse environmental effects.

EPA can add new chemicals to the TRI list annually. The current list[6] contains 770 chemicals and 33 chemical categories. This includes 175 individual PFAS chemicals.[7]

If your business is in a TRI-covered industry,[8] determine if the newly added PFAS are present in the products you manufacture, import, process, or use. If you meet the 100-pound PFAS reporting threshold, submit reports for these chemicals **by July 1, 2022**. Visit EPA's website[9] to learn more about TRI's reporting requirements. ◆

# Scientists discover why many salmon die before spawning

**CRAIG MANAHAN**

**Researchers have been trying to figure out why many Coho salmon die before they have a chance to spawn. Scientists call this condition—specific to Coho salmon—urban runoff mortality syndrome (URMS).**

URMS can kill 50–90% of an entire salmon run before spawning. The syndrome contributed to an over 90% decline in the Coho population in some areas of the Pacific Northwest since the 1940s. Only within the last year have researchers identified the chemical responsible for these deaths: 6PPD-quinone.

## Where does it come from?

6PPD-quinone prevents symptoms of tire aging[10] like cracking and brittleness. Unfortunately, it's toxic to Coho salmon even at very low concentrations (less than 1 part per billion). Concentrations frequently exceed this level in urban streams in cities like Seattle, San Francisco, and Los Angeles—particularly during storm events. To identify safer alternatives to replace 6PPD-quinone in tires, we acquired GreenScreen® assessments of nine potential alternatives.

## What's GreenScreen®?

GreenScreen® assessments include data from peer-reviewed science, authoritative bodies, and regulatory studies to assess toxicity. Assessors use GreenScreen®—a standardized method—to assign a benchmark (BM) score on a scale of 1 to 4 for the chemical. A BM-1 score is for chemicals of highest concern, and a BM-4 score is a preferred safer chemical.

## Still looking for the best replacement

We need more data to determine whether any of these alternatives can replicate the performance characteristics needed to protect tires from aging. The results of the GreenScreen® assessments may help guide further research by identifying compounds suitable from a hazard perspective. The results also help us identify regrettable substitutions: chemicals that may work from a performance perspective, but are just as hazardous or more hazardous than the chemical of concern (6PPD-quinone). View the technical memo with assessments and results on our EZview project website.[11]

## Findings so far

The assessment identified 6PPD as a BM-1 chemical ("avoid—chemical of high concern"). Of the nine alternatives, the assessment identified four chemicals as BM-2 ("use but search for safer substitutes") or safer. We need to conduct more research to investigate how these chemicals contribute to URMS, as well as how they perform in tires. ◆

### How does 6PPD get from tires to salmon?

**Toxic particles release from tires**

**Particles build up on roads**

**Heavy rains wash particles into runoff**

**Runoff enters nearby storm drains**

**Drains lead to waterways, exposing salmon**

# Reporting season is here

**SHAWNA GRIFFIN**

**Reporting season has arrived—and that means it's time to submit your Dangerous Waste Annual Report[12] by March 1.**

## What's new this year?

You can now update all legal owner information online except the name of the legal owner. Legal owner name changes still require you submit the paper form with a wet-ink signature.

We also updated validations in the application to some of our more complicated codes used for reporting your waste:

- Source codes: G25 and G61
- Management method codes
- Form codes

Read our Dangerous Waste Annual Reporting Guide[13] for more information.

## Protecting your information

SecureAccess Washington (SAW) and the Electronic Signature Agreement (ESA) both add layers of security. All dangerous waste reporters must apply for the TurboWaste service in SAW. If you are an existing SAW user, you can add the TurboWaste service to your account.

All authorized representatives must submit an ESA. This applies to all generators submitting Dangerous Waste Annual Reports and notifications electronically.

SAW recently updated its security measures. If you have any trouble accessing SAW, please contact SAW's Help Team.[14] Unfortunately, we cannot access or help with SAW accounts.

## Getting help with TurboWaste

Check out our instructions on how to set up your TurboWaste account.[15]

We're here to help you succeed. Email the Annual Reporting Team at turbowaste@ecy.wa.gov if you need help submitting your report in TurboWaste. ◆

# Do you manufacture or sell products? This new rulemaking might affect your business

**LAUREN TAMBOER**

**Ecology's Safer Products for Washington program[16] recently started rulemaking[17] to reduce toxic chemicals in consumer products. The goal: to protect human health and the environment.**

In a recent draft report,[18] we identified our regulatory determinations, addressing five classes of toxic chemicals in 11 categories of products. See a list of the regulatory actions on the next page.

## What would this potential rule do?

These restrictions would prevent products with these chemicals from being sold in Washington state (regardless of where they were made). On the other hand, reporting requirements would mean manufacturers notify us when they use these chemicals in their products.

## The bright side

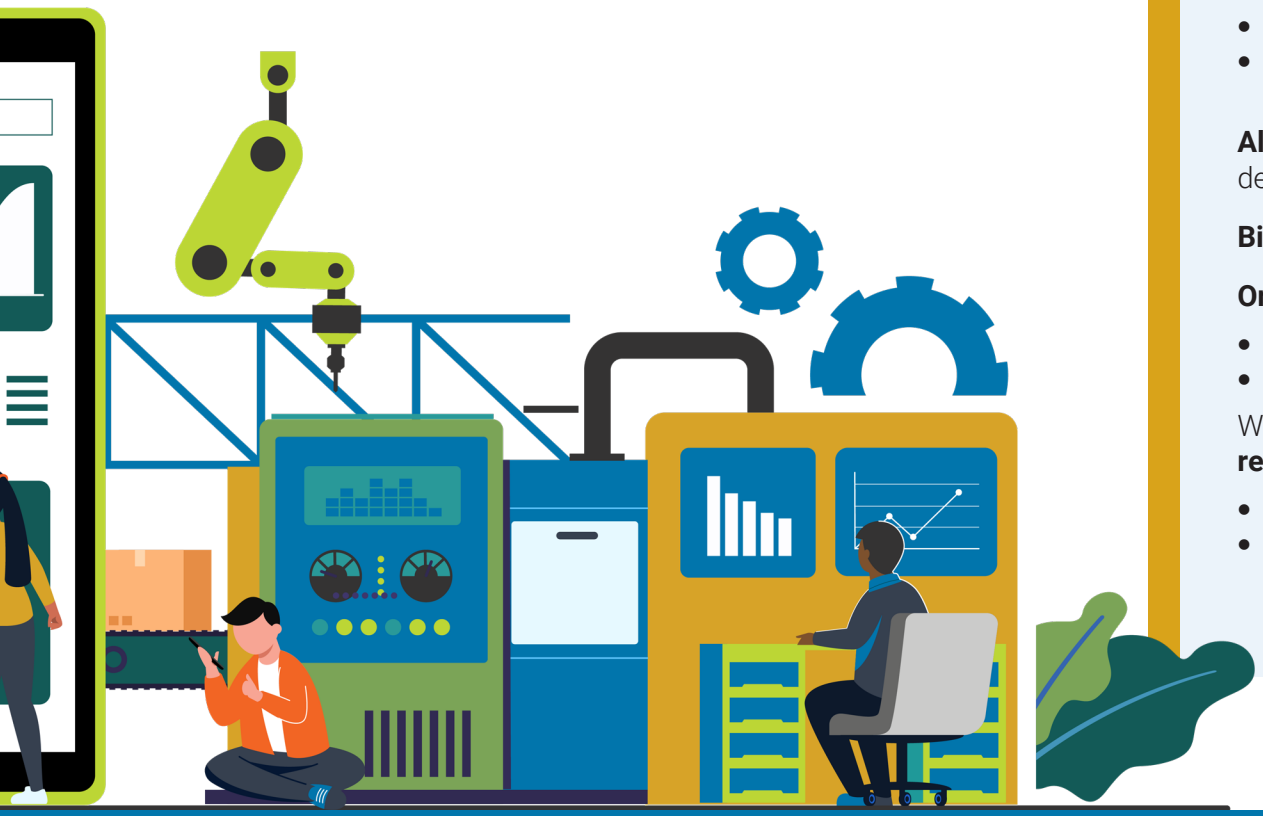
We found 74 alternative chemicals and processes that are safer than the toxic chemicals we want to replace. The alternatives are feasible to use in the relevant product(s) and are available to purchase. These alternatives can help manufacturers transition to safer options and create safer consumer goods.

## We value your input

There's still time for you to get involved and share your input about the regulatory determinations in the draft report and to help us shape the rule—through online input sessions, meetings with our team, comment periods, and more. Find more information:

- Safer Products webpage[19]
- Stakeholder webpage[20]

You can also subscribe to the Safer Products for Washington email list[21] to stay up to date. If you have questions or want to connect, reach out to the team at SaferProductsWA@ecy.wa.gov.



We identified **potential restrictions** on:

**Organohalogen flame retardants** in electric and electronic enclosures, specifically plastic device casings.

**Organohalogen and certain organophosphate flame retardants** in recreational polyurethane foam products, including floor mats and padding, open foam for pits, and outdoor foam products.

**Per- and polyfluoroalkyl substances (PFAS)** in:

- Carpets and rugs.
- Aftermarket stain- and water-resistance treatments.
- Leather and textile furniture and furnishings.

**Inadvertent polychlorinated biphenyls (PCBs)** in:

- Paints.
- Cyan, magenta, yellow, and black (CMYK) printing inks.

**Alkylphenol ethoxylates (APEs)** in laundry detergents.

**Bisphenols** in drink can linings.

**Ortho-phthalates** in:

- Vinyl flooring.
- Personal care and beauty products.

We also identified **potential reporting requirements** on:

- **Bisphenols** in food can linings.
- **Organohalogen and certain organophosphate flame retardants** in polyurethane foam wall padding. ◆

# SMALL CHANGES, **BIG** RESULTS: DANGEROUS WASTE **SUCCESS STORIES**

# Now offering reimbursements—does your business qualify?

THATCHER MONTGOMERY

**You want your car to be clean, but is it green? Some automotive degreasers used in repair and maintenance facilities are toxic to humans and the environment. Shops that switch to safer products may receive reimbursements of up to $10,000. Satch Works Auto Repair in Port Hadlock made the switch and you can too.**

Satch Works Auto was one of the first shops to take part in our degreaser replacement program. They switched from a petroleum naphtha parts washer to the EPA Safer Choice certified Ozzyjuice SW-4.

Submit your application now. We look forward to helping more auto shops use products that are safer for their employees and the environment.

Apply now at ecology.wa.gov/autodegreasers

We review applications on a regular basis. If selected to take part in the program, you'll work with a pollution prevention[22] specialist to submit a reimbursement voucher. Satch Works Auto already knew which replacement product they wanted to use, but you don't have to. We can work with your vendor to find a safer product that's right for you.

We offer different amounts of reimbursement depending on the hazards of the product. Our tiers start at $1,000 for some solvent-based products without ingredients like methanol or toluene. Companies that switch to water-based degreasers with certifications like EPA's Safer Choice could receive up to $10,000. Satch Works Auto switched to an EPA Safer Choice product and the reimbursement fully covers their equipment costs.

If you're ready to switch, or if you're just curious about safer degreasers, let us know. You can find our application and more information on our webpage,[23] or you can contact Thatcher Montgomery directly.

**Thatcher Montgomery**
509-575-2724
thatcher.montgomery@ecy.wa.gov

# Old fluorescent light fixtures may contain toxic PCBs

**ELINOR FANNING**

**In the United States, manufacturers haven't used polychlorinated biphenyls (PCBs) in their products in decades thanks to a 1979 ban on the entire class of chemicals. However, PCBs are still present in items made before the ban like fluorescent light ballasts. Old ballasts made with PCBs put people and the environment at risk for exposure.**

## What are PCBs?

PCBs are a group of 209 human-made chlorinated chemicals usually present as complex mixtures. PCBs were used extensively in electrical equipment and other applications before they were banned for most uses by federal law passed in 1976 due to their toxic, bioaccumulative, and persistent properties.

## Why are we concerned about PCBs?

- PCBs cause harmful health effects.[24]
- PCBs build up in marine life, animals, and humans because they don't readily break down into less toxic products for elimination.
- PCBs contaminated the environment for most of the twentieth century, and we're still working today to clean up and reduce contamination.

## What is Ecology doing?

- Ecology's Product Replacement Program[25] has a new project to find and remove the remaining PCB-containing light ballasts from school buildings across Washington state. As we make progress in schools, we'll develop guidance to help businesses address this problem too.
- We'll also develop technical guidance for property owners, developers, contractors, local governments, and other businesses that may have PCBs present in other old building materials[26] such as caulk, mortar, adhesives, and paint.
- Ecology's regional offices[27] can connect businesses and other entities with resources and answer PCB waste management questions.

## What can I do at my business or school?

Here's what you can do right now! Walk through your buildings paying special attention to low-occupancy areas where there may be old fluorescent lights (installed before 1980). See the next page for more information on what to look for. If you suspect you have PCB-containing light ballasts, reach out to us for more guidance about next steps.

Stay safe while inspecting your facilities! Don't allow anyone other than certified electricians to handle the ballasts in light fixtures. If you see any signs that PCBs leaked, stop work and make sure you have certified hazardous waste personnel conduct cleanup procedures.

**For more information about our program on PCBs in building materials:**

**Myles Perkins**

PCBs in Building Materials Project Lead
myles.perkins@ecy.wa.gov
206-594-0034

**For schools interested in learning about our new program:**

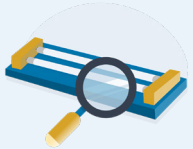
**Elinor Fanning**

PCB Ballasts in Schools Project Lead
PCB-FLBproject@doh.wa.gov
360-236-3395

## How to identify PCB-containing fluorescent lamp ballasts

The only sure-fire way to know if ballasts contain PCBs is to take a close look. However, use these easy steps to determine whether a certified professional should inspect more closely:


**Do you know the age of the building?** Most PCB-containing ballasts were installed between 1950 and 1980 during initial construction or renovation.



**Does your facility use T12 (tubular lamps 12/8" or 1.5" diameter) lamps in any fixtures?** These lamps are fatter than the tubular lamps more commonly used today. Fixtures that use T12 lamps are highly likely to have PCB-containing ballasts.

**Do you have fixtures with magnetic ballasts?** Some of the old magnetic ballasts contain PCBs, while electronic ballasts are all PCB-free. Turn the lights on and then look for a wavy or barred pattern through your cell phone camera—this pattern indicates a frequency change associated with magnetic ballasts.

**Do any fixtures show staining with a brown oily substance?** If you see staining or a brown-oily substance, call the Region 10 EPA coordinator.[28] Anyone inspecting leaking ballasts for PCBs must follow EPA guidance.[29]


**When were the light ballasts manufactured?** Assume that ballasts made pre-1980 contain PCBs. If manufactured between 1978 and 1998[30] look for "no PCBs" marked on the ballast. Remember that ballasts may have been changed out of light fixtures since original installation, and only an electrician should closely inspect them. ◆

# Ongoing product replacement programs

Many of our product replacement programs will continue to operate until funds run out or until June 30, 2023. We may extend programs in the future.

If you want to participate in any of the product replacement programs, contact the program manager listed below:

## PERC

Replace PERC dry cleaning machines with high flash hydrocarbon (up to $10,000) or professional wet cleaning (up to $40,000).

**Sean Smith**
206-594-0029
Sean.Smith@ecy.wa.gov

## Automotive Degreasers

Replace hazardous auto degreasers with safer alternatives. Reimbursement up to $10,000 available.

**Thatcher Montgomery**
509-571-7339
Thatcher.Montgomery@ecy.wa.gov

## PCBs In School Light Ballasts

Remove PCB-containing fluorescent light ballasts from public schools in Washington state.

**Elinor Fanning**
360-236-3395
PCB-FLBproject@doh.wa.gov

# NEW OR UPDATED **RESOURCES** FOR DANGEROUS WASTE GENERATORS

## Guides

Dangerous Waste Annual Reporting Instructions[31]
Dangerous Waste Site Identification Form Instructions[32]
Setting Up Your TurboWaste Account[33]
Pollution Prevention Practices for Metalworking Fluids[34]
Guide to Dangerous Waste by Generator Category[35]

## Reports

Pollution Prevention Assistance Partnership: 2019–2021 Biennium Report[36]
Product Replacement Program Update: 2021[37]
Draft Regulatory Determinations Report to the Legislature: Safer Products for Washington Implementation Phase 3[38]
Problem Wastes for Property Managers[39]

## Forms

Episodic Event Withdraw Form[40]
Automotive Degreaser Replacement Application[41]

# UPCOMING
# **EVENTS & TRAININGS**

* The following information and references are provided as a convenience only. Any reference in this publication to persons, organizations, services, or activities does not constitute or imply endorsement, recommendation, or preference by the Washington State Department of Ecology.

## pH Wastewater Remediation for Food Processors

**When:**

Part 1: Feb. 8, 2022
Part 2: Feb. 10, 2022

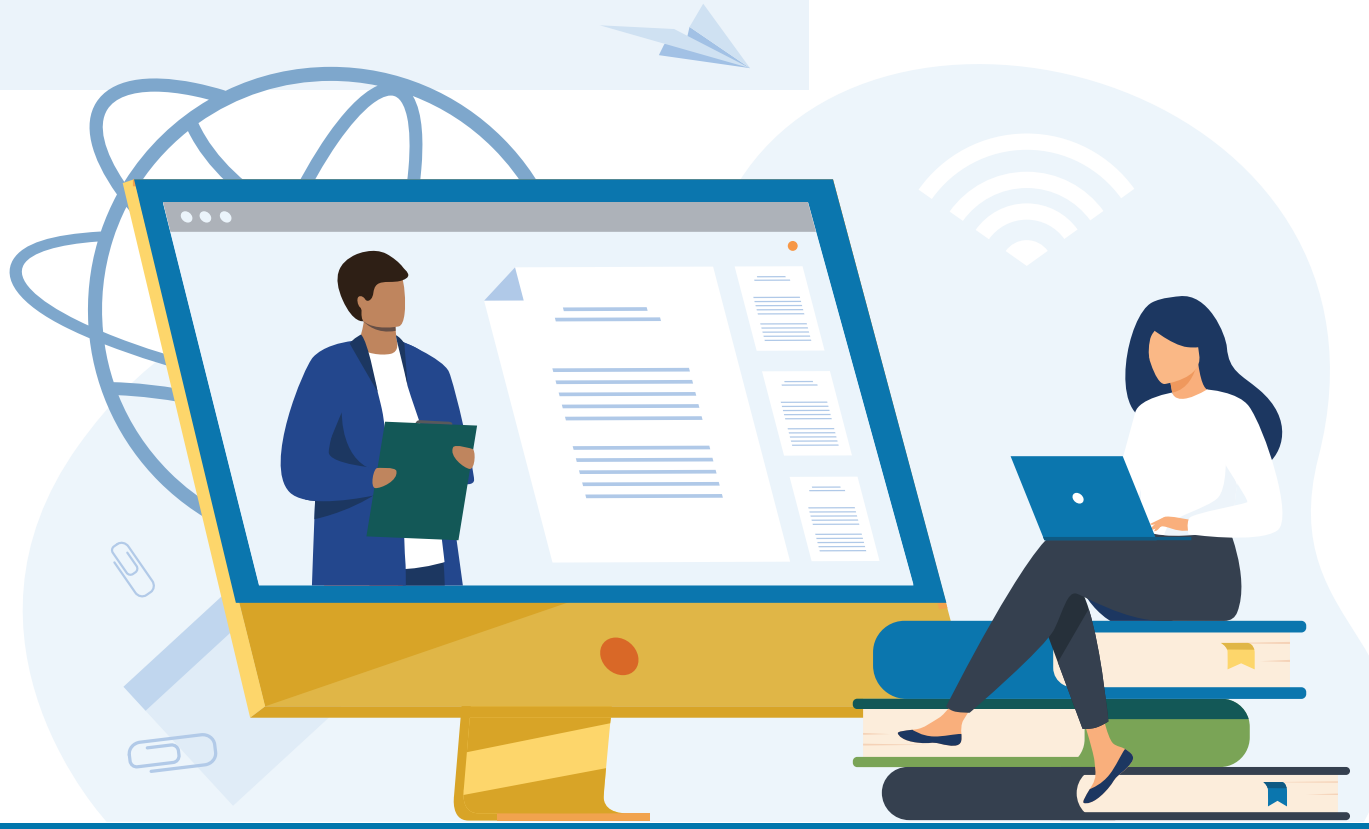
**Where:**

Online

**About:**

Join us for the first webinar in our two-part webinar series where food processors can learn how to control the pH in their wastewater.

Learn to analyze the various food processing wastewater streams and make simple adjustments to the pH on-site.



# **IMAGE** CREDITS

1. Business vector created by Makyzz. www.freepik.com
2. Manufacturing vector created by jcomp. www.freepik.com
3. Book stack vector created by Pch.Vector. www.freepik.com
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# **END**NOTES


1 https://www.texaslegacy.org/narrator/ken-zarker/
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9 https://www.epa.gov/toxics-release-inventory-tri-program/reporting-tri-facilities
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23 ecology.wa.gov/autodegreasers

24 https://www.doh.wa.gov/CommunityandEnvironment/Contaminants/PCBs

25 https://ecology.wa.gov/Waste-Toxics/Reducing-toxic-chemicals/Product-Replacement-Program/PCB-lights

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