



# Shoptalk

*A newsletter about dangerous waste and pollution prevention*

Volume 25, No. 3, September 2014 – Publication Number 14-04-001c

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Ecology is updating the state's solid and hazardous waste plan and wants your feedback.

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#### Department of Ecology

Your business is liable for all dangerous wastes you generate. If you are uncertain about your responsibilities as a dangerous waste generator, call your nearest Ecology office and ask for a hazardous waste specialist. For more information on reducing or recycling dangerous waste, ask for the toxics reduction staff at:

- Bellevue: (425) 649-7000
- Lacey: (360) 407-6300
- Yakima: (509) 575-2490
- Spokane: (509) 329-3400

To ask about available formats for the visually impaired please call the Hazardous Waste and Toxics Reduction Program at 360-407-6700. Persons with hearing loss can call 711 for Washington Relay Service. Persons with a speech disability can call 877-833-6341.

**Shoptalk** is produced by the Washington State Department of Ecology's Hazardous Waste and Toxics Reduction Program.

**Editor:** Mariann Cook Andrews (360) 407-6740; E-mail: [maco461@ecy.wa.gov](mailto:maco461@ecy.wa.gov)

**Production/layout:** Cathy Bouge

**Technical Editor:** Tom Cusack

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Tests on 125 consumer and children's products show some manufacturers have replaced flame retardants banned in many products sold in Washington, with unregulated – but also potentially toxic – chemicals.

## Announcements

### Another Materials Exchange Resource

A previous Shoptalk article about materials exchanges left out a good resource – [IMEX, the Industrial Materials Exchange](#). Businesses in Washington, Idaho, Alaska, and Oregon can list materials they want to sell and find materials they want to buy. The Local Hazardous Waste Management Program in King County runs this free service.



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### Safer Chemistry Champion Nominations Due September 8

Get your nominations in by September 8 for the Safer Chemistry Champion awards. The awards from the [Safer Chemistry Challenge](#) program honor businesses and organizations making significant improvements in safer products and cleaner manufacturing methods. The awards will be presented October 28, during the Northwest Green Chemistry roundtable in Tacoma. Winners do not have to be participants in the Safer Chemistry Challenge. [Click here](#) to download the nomination form.

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### Rule Amendment Public Hearing/Webinar - September 24

Ecology will hold a public hearing webinar on September 24, on the formal proposal to change the Dangerous Waste Rule, Chapter 173-303 Washington Administrative Code (WAC). Interested parties can provide formal comments on the proposed rules during the webinar. They can also submit comments via email or fax. Commenting deadline is October 1. [See inside story for details and commenting instructions.](#)

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### Chemical Hazard Assessment Training - September 25

In this one-day workshop, the Washington Department of Ecology will provide an introduction to chemical hazard assessments using the Quick Chemical Assessment Tool (QCAT), which was developed to provide small businesses, educational institutions, and nonprofits a simpler way to evaluate and rank common potential chemical hazards. [See inside story for details.](#)

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## **Biz Fair 2014 – Saturday, September 27 – One Day, One Place**

One day, one place – learn how to form and run a small business. Connect with government agencies and business organizations to get the information you need. Attend seminars that cover topics for all stages of business ownership. Visit [www.bizfair.org](http://www.bizfair.org) and follow us on Facebook at [www.facebook.com/bizfair](http://www.facebook.com/bizfair).

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## **Comments Sought on PCB Chemical Action Plan**

Tests of 68 consumer products confirmed that [polychlorinated biphenyls \(PCBs\)](#) are present in commonly used items. Forty-nine, or 72 percent, of the products contained at least one of four PCB types.

Governor Inslee's [Clean Water Initiative](#) to update [water quality standards](#) and [reduce toxic threats](#) includes PCBs as a key chemical of concern. The Washington Department of Ecology drafted a [chemical action plan](#) identifying PCB sources in the state, and is recommending ways to reduce exposures. The plan is open for [public comment](#) Aug. 6 to Oct. 6, 2014.

The study's [report](#) on Ecology's website has the full details – including a complete product listing.

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## **Northwest Green Chemistry Roundtable October 28 in Tacoma**

Leading voices in green chemistry, toxicology, sustainability, and commercialization will share their experiences at the Northwest Green Chemistry Roundtable. Panels will discuss the search for solutions to the widespread toxics that pollute Puget Sound, how considering material health can spur innovation, partnerships in academic research in the Northwest, and developing green chemistry solutions. The roundtable will be held at the Greater Tacoma Convention and Trade Center. [Learn more](#) about Northwest Green Chemistry. [Register here](#) for the roundtable.

# Ecology Close to Adopting Changes to Dangerous Waste Rule

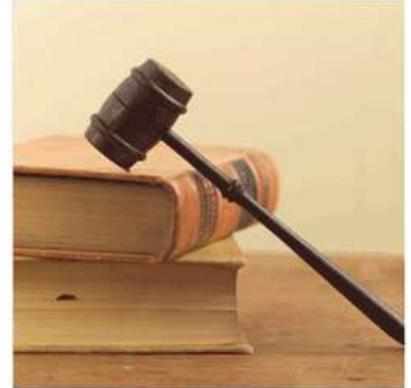
Ecology will hold a public hearing webinar on September 24, on the formal proposal to change the [Dangerous Waste Rule, Chapter 173-303 Washington Administrative Code \(WAC\)](#). Interested parties can provide formal comments on the proposed rules during the webinar. They can also [submit comments](#) via email or fax. Commenting deadline is October 1.

See [Dangerous Waste Rule Development](#) for details about joining the webinar and submitting comments. Ecology expects to adopt the changes in December 2014.

The proposed changes include recent changes to the federal hazardous waste regulations, and changes initiated by the state.

## Federal Changes

- A new rule simplifying waste management at university and college laboratories.
- Changes to import/export rules.
- Incorporating federal corrections to hazardous waste regulations.
- A few other new, minor federal rules.



## Washington State's Proposed Changes

- Clarifying rules for special waste, including a time limit for special wastes stored at transfer stations.
- Deleting a public disclosure rule that conflicts with the Public Records Act.
- Changing some financial assurance rules, including new rules for corrective action facilities.
- Adopting a federal rule to allow enforceable documents in place of a post-closure permit.
- Clarifying rules about professional engineers certifying permitted facilities.
- Clarifying test methods in [Chemical Test Methods](#) (publication #97-407).
- Correcting technical and editorial typos.

## Comments drove changes to the draft rule

Ecology held a public workshop in March 2014 to explain the draft rules and hear audience feedback. We also made the draft rules available for public comment. In light of the comments received, Ecology made additional changes to the draft rules.

- **Fuel/water mixtures exclusion**  
We decided not to propose an exclusion for fuel water mixtures. The exclusion was not needed to accomplish the objective, and was likely to cause confusion about managing this common waste stream.
- **Independent professional engineer for construction certification**  
We also decided not to propose three specific rules that required use of an independent professional engineer in certifying construction work at dangerous waste treatment, storage, and disposal (TSD) facilities. For long-term projects at these facilities, it is not practical to require the use of an outside consultant who is not familiar with the project. We will continue to propose eleven similar rules requiring use of an independent professional engineer to certify work at TSDs.

# Chemical Hazard Assessment Training September 25

A chemical hazard assessment is a tool to help companies evaluate a chemical's potential impact on human health and the environment. Chemical formulators, retailers, manufacturers, governments, and nonprofits use chemical hazard assessments. The assessments help these organizations judge the safety of a chemical ingredient, or compare potential alternative ingredients on a level playing field.



In this one-day workshop, the Washington Department of Ecology will provide an introduction to chemical hazard assessments using the Quick Chemical Assessment Tool (QCAT), which was developed to provide small businesses, educational institutions, and nonprofits a simpler way to evaluate and rank common potential chemical hazards.

We are aiming this training at professionals in supply chain management, environmental health and safety, sustainability, regulatory affairs, materials selection, procurement, and product and process design. It will be especially helpful for small- or medium-sized businesses interested in chemical hazard assessments. The training includes a certificate of completion.

We will hold the training from 8:30 a.m. - 4 p.m., September 25, at the Ecology Lacey offices, 300 Martin Dr. SE, Lacey, WA 98504. The class is free, but space is limited. [Register here.](#)

## For One Yakima Company, Safer Chemistry Means a Better Drinking Bottle

### What does safer chemistry look like?

At Liberty Bottleworks, safer chemistry looks like an aluminum drinking bottle. The small manufacturing company, based in Union Gap outside of Yakima, manufactures sports bottles sold at REI and other major retailers.

The aluminum used in the bottles is recycled and Liberty Bottleworks manufactures them in a zero-waste plant. But what's really "safer" about the company's products is the food-grade powder coating used to line the inside of the bottles.

Tim Andis, Liberty's CEO and president, founded the company to provide an alternative to products that use Bisphenol-A, or BPA. Some manufacturers used the chemical in plastic drinking bottles or as a lining inside steel and aluminum bottles. A number of national and international scientific organizations have expressed concerns that BPA can interfere with the body's hormone systems. Washington State banned the use of BPA in bottles, cups, and containers intended for young children in 2011, and in sports bottles in 2012.

Andis told his suppliers he wanted the cleanest, safest, most sustainable materials possible to use in his products. "If we avoid volatile organic compounds, if we avoid resins, if we avoid toxins, then we don't have to deal with it at the end of the pipe," he said.



Liberty Bottleworks recycles aluminum into sports bottles.

That formula has been a recipe for success. After shipping its first bottle in 2011, Liberty Bottleworks has now sold more than a million bottles and Andis predicts sales will soar by 75 percent this year.

Liberty Bottleworks is one of the founding members of the [Safer Chemistry Challenge](#). The Challenge encourages Northwest businesses to use chemical ingredients that are as safe as possible in their products and manufacturing processes. It's a new program sponsored by the Department of Ecology, the [National Pollution Prevention Roundtable](#), and the U.S. Environmental Protection Agency.

Learn more about the Safer Chemistry Challenge and Ecology's green chemistry initiative at [Green Chemistry at Ecology](#). In the [Case Studies](#), you'll see how Liberty Bottleworks and other Northwest companies and organizations are pursuing safer products.



### **“Champions” to be Honored**

In October, the Challenge will honor several Northwest businesses as “Safer Chemistry Champions” for their commitment to producing safer products and cleaner manufacturing methods. The awards will be presented October 28 at the Northwest Green Chemistry Roundtable in Tacoma.

Nominations for the Safer Chemistry Champion Awards are due September 8. Download the nomination form [here](#).

For more information on the Safer Chemistry Challenge and nominating a business as a “Champion,” contact [Andrew Wineke](#), 360-407-6979.

## **Looking for Input on State Waste Plan (Beyond Waste)**

The Washington State Department of Ecology is updating the state's solid and hazardous waste plan, known as the [Beyond Waste Plan](#). The plan supports the state's hierarchy for practices that deal with waste. In order of importance, these are:

1. Waste and toxics prevention and reduction
2. Recycling
3. Safe disposal

### **Goals for the update**

Ecology's goals for the update are to continue focusing on reducing most waste and toxics. We also want to address where we are now, connecting the future vision and the current system.

The current Beyond Waste Plan focuses on key concerns and largest components of our waste stream. Many of the issues identified – construction and demolition debris, toxic reduction, and laws and authorities – have been included in state waste plans since Washington's first plan in 1972. The update process will identify areas that need strengthening, as well as new areas of concern.



### **First step – We listened to you**

Everyone who works in solid and hazardous waste management has an important role to play in developing the plan. The first step in the update, listening to stakeholders, began last fall. From September 2013 through

January 2014, Ecology staff held meetings and hosted an online survey. We wanted to hear what people wanted in the next version of the state solid and hazardous waste plan.

Here are comment summaries from that first step:

- [Quick overview](#)
- [Detailed version](#) (31 pages)

## Next steps – Tell us how we did

A rough first draft of the plan has been released and we are asking for comments by September 17th. Please click on [this link](#) to get to the comment form and instructions. We will take comments we receive on the plan update, revise the document as appropriate, and send out a revised draft for one last round of review later this year.

To stay informed on the state plan update and opportunities to participate, please join the [listserv](#) or visit the [website](#). And you can always contact us:

- [Janine Bogar](#), Waste 2 Resources Program (solid waste), 360-407-6654.
- [Chris Chapman](#), Hazardous Waste & Toxics Reduction Program, 360-407-7160.

## Craft Brew Alliance

### Improving Efficiency to Brew Better Beer with a Better Bottom Line

Most breweries focus on getting product out the door. They have little time to consider what their wastes are costing them. But the [Craft Brew Alliance](#) is at the forefront of eliminating as much waste as possible while becoming more productive.

#### The Alliance

Leading Pacific Northwest craft brewers merged to form the Craft Brew Alliance to preserve and grow one-of-a-kind craft beers and brands. [Redhook Brewery](#) and [Widmer Brothers Brewing](#) joined the Alliance in 2008, followed by [Kona Brewing Company](#) in 2010.

The Alliance's goal: produce better beer with a better bottom line. With this in mind, the Alliance's Julia Person asked Ecology's [Technical Resources for Engineering Efficiency \(TREE\)](#) team to assist her team to cut waste and increase efficiency.

The TREE team focused on the Redhook Brewery in Woodinville. Redhook built this facility in 1994 after outgrowing their breweries in the Ballard and Fremont neighborhoods of Seattle. The facility's expansive grounds are home to the brewery and host many events and festivities.



Dan Ferguson, of Ecology, and Julia Person, of Craft Brew Alliance, take infrared readings of the bottling line motors and gear boxes.

#### Cutting Waste and Improving Efficiency

Redhook's Woodinville Brewery is lucky to have a tasting room and a full service restaurant. Like similar facilities, they wanted to improve handling of solid waste and recycling. Ecology recommended they carefully

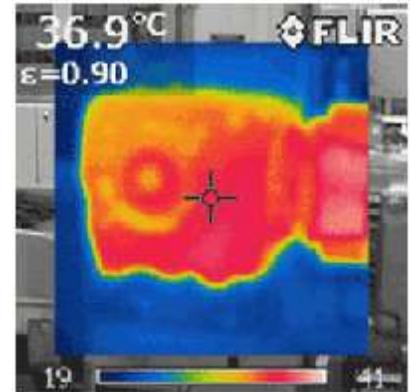
monitor the segregation of bottles, cans, and other solid wastes from the restaurant to help improve the capture of recyclables.

In addition, the brewery had high surcharges on their sewer bill for excessive Biologic Oxygen Demand (BOD measures organic material in their discharge). Breweries struggle with this type of waste because their discharges contain expired beer product, spent grain liquids, and other brewery liquids, which all have high BOD. The trick was figuring out how to better manage these wastes.

## Reducing waste costs, fixing leaks, and saving money

Ecology's TREE team conducted several site visits at no charge to the company. They conferred with facility staff and suggested a number of Best Management Practices to reduce waste and save money. These practices included diverting spent yeast, grains, and liquids from the sewer. Instead, the brewery can provide that material to local dairy farms for cattle feed. This avoided high BOD loads and the resulting high surcharge on their sewer bill.

To help the Redhook Brewery with energy costs, the TREE team audited for air leaks and for inefficient motor function with an infrared device. The air leak audit found 48 leaks costing the company about \$19,000 each year in electricity. Besides saving money, fixing these air leaks will save the brewery about 216,531 kWh per year and cut more than 17,000 pounds of greenhouse gas emissions. The motor function audit found 18 motors and 20 gearboxes running hotter than normal; these were evaluated to determine whether they needed maintenance or replacement.



Infrared picture showing the temperature gradient of a gearbox.

## Redhook's impressive results

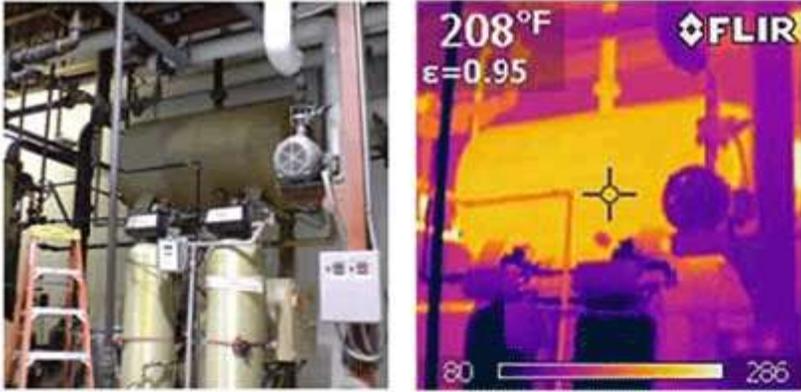
So far, Redhook:

- Reduced the costs of both sewer and electricity, boosting their bottom line.
- Eliminated the water-soap mixture used to move bottles in favor of a liquid-free bottling line. This is expected to bring an even larger drop in water usage and sewer fees.
- Shared knowledge with others:
  - Craft Brew Alliance hosted a Brewery Workshop at Redhook to share what they learned.
  - They helped other breweries connect with resources throughout the Northwest Region such as Ecology's [TREE Team](#), the [Pollution Prevention Resource Center](#), and the [Institute for Environmental Research and Education](#).

Craft Brew Alliance is applying the improved practices they learned from Ecology's TREE team to their other brewery facilities. And they're discovering more improvements and innovations on their own. They realize cutting waste, and conserving water and energy are big money savers and good for business. Beer drinkers can toast to that!

## Businesses Sought for Energy-efficiency Program

Fifty-four Washington businesses saved millions by reducing the amount of electricity and natural gas they use. These businesses increased their bottom lines by collaborating with Department of Ecology engineers in the [Technical Resources for Engineering Efficiency \(TREE\) program](#).



The infrared photo on the right, shows where this boiler room is losing the most heat (red and yellow). Insulating these areas saves money and protects workers from high heat.

## What's in it for you?

Ecology has offered energy-efficiency consulting since 2008. Now the agency seeks new projects for late 2014 through the first half of 2015.

Participating businesses have collectively:

- Saved \$2.78 million in annual energy costs.
- Reduced electricity usage by 25 million kilowatt-hours.
- Cut natural gas consumption by 141 billion BTU.
- Prevented 22,500 metric tons of carbon from entering the atmosphere every year.

Last week, Gov. Jay Inslee proposed a [toxics reduction plan](#). The plan will help the state eliminate hazardous chemicals from our air and water by reducing impacts from unregulated sources, such as [consumer products](#). Part of that proposal expands partnerships with industry to increase efficiency, save money, and reduce emissions and the use of toxic chemicals.

## Governor's proposal builds on Ecology services

Gov. Inslee's proposal builds on Ecology's technical assistance services like the energy-efficiency program. Ecology also teams with businesses to [prevent pollution](#), reduce toxic waste and emissions, and offer [Lean and Green consulting](#). These programs work with a range of industries, such as metal finishing, production painting and coating, chemical blending, food processing, and most manufacturing.

Redhook Brewery in Woodinville [recently partnered](#) with Ecology. "We strive to make our beers in a manner that minimizes our environmental impact," said Julia Pearson, sustainability manager. "We are continually searching for efficiency opportunities around our energy usage, and Ecology's assistance was key this last year. The team helped us uncover some simple, quick fixes that translated into big dollar savings."

Ecology also works with the [Washington State University Extension Energy Program, Impact Washington](#), and local utilities to ensure businesses receive the services they need.

If your business could benefit from a professional energy audit, contact [Tony Cooper](#) at 360-407-6338, or your local electric utility.

# Consumer Products Tested for Toxic Flame Retardants

## Some manufacturers replacing PBDEs with unregulated chemicals



Tests on 125 consumer and children’s products show some manufacturers have replaced flame retardants [banned](#) in many products sold in Washington, with unregulated – but also potentially toxic – chemicals.

### “Regrettable substitutions”

“The study confirmed that some manufacturers have made what are known as ‘regrettable substitutions,’ ” said Carol Kraege, who leads the Department of Ecology’s work to [reduce toxics threats](#). “That’s why we are trying to find ways to help manufacturers find [safer alternatives](#) for [polybrominated diphenyl ethers \(PBDEs\)](#), rather than relying solely on bans.”

Ecology also tracks the use of 66 [chemicals of high concern to children](#). This includes manufacturers reporting some flame retardants present in children’s products under the [Children’s Safe Product Act \(CSPA\)](#).

Products tested included seat cushions, mattresses, upholstered furniture for children, electronics, clothing, and baby carriers. Eight samples from

children’s products contained flame retardants above the reporting limit. While the presence of a chemical in a product doesn’t necessarily mean it’s unsafe, Ecology notified manufacturers of potential violations and we are working to ensure compliance. Ecology notified manufacturers of potential violations and we are working to ensure compliance. While the presence of a chemical in a product doesn’t necessarily mean it’s unsafe, we need to learn more.

## Flame-retardant whales

Toxic chemicals, especially [long-lasting ones that build up over time](#), are found everywhere. Flame retardants are no exception. A study found PBDEs in fish and whales in the Puget Sound. The Environmental Protection Agency’s National Estuary Program funded the study.

Research shows PBDEs can affect reproductive health, the immune system, and development in mammals. Evidence is also mounting that shows flame-retarding chemicals do not effectively slow fires and that fire fighters can have negative health effects from inhaling fumes while battling blazes.

## Report and database available

A [report containing test results](#), as well as a [database with manufacturers’ reports](#) on toxics used in children’s products are available on Ecology’s website. People can also join the [children’s safe products email list](#) for periodic updates.

Ecology’s work on flame retardants and safer alternatives will continue. The Washington State Legislature requested a report by December 2014 recommending whether other flame retardants should be banned in children’s products and furniture.

People interested in Ecology’s work on toxics can follow the ECOconnect blog series [Tackling Toxics](#). The series provides in-depth coverage of product testing and other actions the agency is taking to reduce toxic threats in Washington.

## More product testing reports available

- [Metals in Children's and Consumer Products and Packaging](#) (Publication 14-04-014)
- [Phthalates in Children's Products and Consumer and Children's Packaging](#) (Publication 14-04-017)

## Links to Resources Mentioned in this Issue

### Announcements

- **Imex, the Industrial Materials Exchange:** <http://www.lhwmp.org/HOME/IMEX/index.aspx>
- **Safer Chemistry Challenge:** <http://www.ecy.wa.gov/programs/hwtr/p2/GreenChem/scc.html>
- **Safer Chemistry Champion Award Nomination Form:**  
<http://www.ecy.wa.gov/programs/hwtr/p2/GreenChem/events.html>
- **Biz Fair 2014 – Saturday, September 27 – One Day, One Place:** <http://www.bizfair.org/>
- **Comments sought on PCB Chemical Action Plan:**  
**PCBs:** <http://www.ecy.wa.gov/programs/swfa/pbt/pcb.html>  
**Clean Water Initiative:** <http://www.governor.wa.gov/news/releases/article.aspx?id=293>  
**Water Quality Standards:** <http://www.ecy.wa.gov/water/standards/index.html>  
**Chemical Action Plan:** <https://fortress.wa.gov/ecy/publications/SummaryPages/1407024.html>  
**Reduce Toxic Threats:** <http://www.ecy.wa.gov/toxics/index.htm>  
**Public Comment:** <http://www.ecy.wa.gov/programs/swfa/pbt/pcbComment.html>  
**Polychlorinated Biphenyls (PCBs) in General Consumer Products Report:**  
<https://fortress.wa.gov/ecy/publications/SummaryPages/1404035.html>
- **Northwest Green Chemistry Roundtable October 28 in Tacoma:**  
**Northwest Green Chemistry:** <http://www.nwgreenchemistry.org/>  
**Register for the roundtable:** <https://www.eventbrite.com/e/northwest-green-chemistry-roundtable-2014-registration-12581450457?ref=wpevent>

### Ecology Close to Adopting Changes to Dangerous Waste Rule

- **Dangerous Waste Rules Chapter 173-303 WAC:** [www.ecy.wa.gov/programs/hwtr/reg\\_comp\\_guide/173-303.HTM](http://www.ecy.wa.gov/programs/hwtr/reg_comp_guide/173-303.HTM)
- **Submit comments:** [www.ecy.wa.gov/programs/hwtr/laws\\_rules/RulesCommentForm.docx](http://www.ecy.wa.gov/programs/hwtr/laws_rules/RulesCommentForm.docx)
- **Dangerous Waste Rule Development:** [www.ecy.wa.gov/programs/hwtr/laws\\_rules/DWRuleMaking.html](http://www.ecy.wa.gov/programs/hwtr/laws_rules/DWRuleMaking.html)
- **Chemical Test Methods:**  
[www.ecy.wa.gov/programs/hwtr/laws\\_rules/97.407ChemicalTestMethodswithDRAFTrevisions.pdf](http://www.ecy.wa.gov/programs/hwtr/laws_rules/97.407ChemicalTestMethodswithDRAFTrevisions.pdf)

### Chemical Hazard Assessment Training September 25

- **Register here:** <https://www.surveymonkey.com/s/QCAT092514>

### For One Yakima Company, Safer Chemistry Means a Better Drinking Bottle

- **Safer Chemistry Challenge:** [www.ecy.wa.gov/programs/hwtr/p2/GreenChem/scc.html](http://www.ecy.wa.gov/programs/hwtr/p2/GreenChem/scc.html)
- **National Pollution Prevention Roundtable:** [www.p2.org/](http://www.p2.org/)
- **Green Chemistry at Ecology:** [www.ecy.wa.gov/programs/hwtr/p2/GreenChem/greenchem\\_ecy.html](http://www.ecy.wa.gov/programs/hwtr/p2/GreenChem/greenchem_ecy.html)
- **Case Studies:** [www.ecy.wa.gov/programs/hwtr/p2/GreenChem/cases.html](http://www.ecy.wa.gov/programs/hwtr/p2/GreenChem/cases.html)
- **Nomination Form:**  
[www.ecy.wa.gov/programs/hwtr/p2/GreenChem/SaferChemistryChampionAwardsnominationform.docx](http://www.ecy.wa.gov/programs/hwtr/p2/GreenChem/SaferChemistryChampionAwardsnominationform.docx)
- **Contact: Andrew Wineke:** [anwi461@ecy.wa.gov](mailto:anwi461@ecy.wa.gov)

### Looking for Input on State Waste Plan (Beyond Waste)

- **Beyond Waste Plan:** [www.ecy.wa.gov/beyondwaste/](http://www.ecy.wa.gov/beyondwaste/)
- **Quick Overview Summary:** <https://fortress.wa.gov/ecy/publications/SummaryPages/1407013.html>
- **Detailed Version Summary:** <https://fortress.wa.gov/ecy/publications/SummaryPages/1407014.html>
- **Comment form:** [www.ecy.wa.gov/beyondwaste/FirstDraftPlanUpdateforPublic082014.docx](http://www.ecy.wa.gov/beyondwaste/FirstDraftPlanUpdateforPublic082014.docx)
- **Beyond Waste Email list:** <http://listserv.wa.gov/cgi-bin/wa?A0=WA-STATE-WASTE-PLAN>
- **Website:** [www.ecy.wa.gov/wasteplan/index.html](http://www.ecy.wa.gov/wasteplan/index.html)
- **Contacts: Janine Bogar or Chris Chapman:** [janine.bogar@ecy.wa.gov](mailto:janine.bogar@ecy.wa.gov) or [chris.chapman@ecy.wa.gov](mailto:chris.chapman@ecy.wa.gov)

### Craft Brew Alliance

- **Craft Brew Alliance:** <http://craftbrew.com/about/>
- **Redhook Brewery:** <http://redhook.com/>
- **Widmer Brothers Brewing:** <http://widmerbrothers.com/>

- **Kona Brewing Company:** <http://konabrewingco.com/>
- **Technical Resources for Engineering Efficiency (TREE):** [www.ecy.wa.gov/tree/](http://www.ecy.wa.gov/tree/)
- **Pollution Prevention Resource Center:** [www.pprc.org/](http://www.pprc.org/)
- **Institute for Environmental Research and Education:** <http://bullitt.org/grant-history/institute-for-environmental-research-and-education>

### Businesses Sought for Energy-efficiency Program

- **Technical Resources for Engineering Efficiency (TREE):** [www.ecy.wa.gov/tree/](http://www.ecy.wa.gov/tree/)
- **Toxics Reduction Plan:** <http://governor.wa.gov/news/releases/article.aspx?id=293>
- **Consumer Products:** <http://ecologywa.blogspot.com/search/label/Tackling%20Toxics>
- **Prevent Pollution:** [www.ecy.wa.gov/programs/hwtr/reducewaste.html](http://www.ecy.wa.gov/programs/hwtr/reducewaste.html)
- **Lean and Green:** [www.ecy.wa.gov/programs/hwtr/lean/](http://www.ecy.wa.gov/programs/hwtr/lean/)
- **ECOconnect - Ecology BlogSpot:** <http://ecologywa.blogspot.com/2014/07/ecology-experts-assist-craft-brew.html>
- **Ecology Partners:** [www.ecy.wa.gov/programs/hwtr/lean/learn.html](http://www.ecy.wa.gov/programs/hwtr/lean/learn.html)
- **Contact: Tony Cooper:** [tony.cooper@ecy.wa.gov](mailto:tony.cooper@ecy.wa.gov)

### Consumer Products Tested for Toxic Flame Retardants

- **Banned flame retardants:**
- **Reduce toxic threats:**
- **Safer Alternatives:**
- **PBDEs:**
- **Chemicals of High Concern to Children:**
- **Children's Safe Product Act**
- **PBTs**
- **Flame Retardants in General Consumer and Children's Products Report, 14-04-021:**
- **Product Testing Database:** [www.ecy.wa.gov/programs/swfa/cspa/search.html](http://www.ecy.wa.gov/programs/swfa/cspa/search.html)
- **Children's Safe Products email list:** <http://listserv.wa.gov/cgi-bin/wa?SUBED1=CHILDRENS-SAFE-PRODUCTS>
- **Tackling Toxics:** <http://ecologywa.blogspot.com/search/label/Tackling%20Toxics>
- **Metals in Children's and Consumer Products and Packaging, 14-04-014:**  
<https://fortress.wa.gov/ecy/publications/SummaryPages/1404014.html>
- **Phthalates in Children's Products and Consumer and Children's Packaging, 14-04-017:**  
<https://fortress.wa.gov/ecy/publications/SummaryPages/1404017.html>