Shoptalk

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Contents

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

Most receipt paper is toxic—here's how to reduce exposure and dispose of the waste

ETHAN BEAN

How many times have you been handed a receipt? It's a regular occurrence for most of us—but did you know that some of those receipts might have toxic chemicals called bisphenols on them?

We're working with select businesses to replace toxic receipt paper in Washington state. Specifically, we'll reimburse up to $1,000[1] to qualifying small quantity generators (SQGs) that replace their bisphenol receipts with non-bisphenol alternatives. A regulatory ban[2] on the manufacture, sale, or distribution of bisphenol receipts comes into effect for all businesses on January 1, 2026. In the meantime, here's what you need to know.

What's the problem?

Bisphenols (like BPA and BPS) are used to develop ink in thermal paper receipts. Exposure to bisphenols may lead to health issues like reproductive, hormonal, cardiovascular, and developmental abnormalities,[3] as well as insulin resistance.[4] People like cashiers and customers are most at-risk because of contact with bisphenol-containing receipts.

What can your business do?

There are several actions you can take to reduce exposure risk to your customers and staff. First, figure out if your receipts have bisphenols by contacting your receipt supplier or checking the packaging materials. Thermal paper that doesn't contain bisphenols should be labeled "bisphenol-free" (**not just** "BPA free").

RECEIPT

If you're unsure, or if your receipts do contain bisphenols, follow these guidelines to reduce exposure risk:

1. Go paperless or switch to bisphenol-free paper

Eliminate paper receipts and offer digital e-receipts. If you can't use e-receipts, switch to bisphenol-free paper.

2. Reduce the number of receipts printed

Ask before printing receipts—this can reduce thermal paper use by 30 percent.

3. Handle receipts as little as possible

Inform your staff about the risks of handling receipts, and offer them protective, food-grade silicone fingertips or gloves to wear when handling receipts.

4. Protect high-risk populations

Reduce exposure to bisphenols in high-risk populations, such as children and pregnant or nursing people.

5. Never recycle or compost receipts

If recycled, the chemicals in thermal paper can end up in wastewater or contaminate other paper in the recycling stream. To safely manage thermal paper waste, determine the bisphenol concentration. If it's greater than 100 ppm or 0.001%, follow state regulations for disposal. Your Pollution Prevention Assistance (PPA) representative or compliance inspector can help you figure this out.

Want more information?

If you have questions on how to safely dispose of this waste, please contact either your local PPA specialist[5] or your dangerous waste compliance inspector.

For information on the bisphenol thermal receipt replacement program, contact:

Sean Smith
Product Replacement Program Coordinator
Sean.smith@ecy.wa.gov
425-324-0328

Recycling your dangerous waste? Make sure it's legitimate.

KATY HARVEY

Not all dangerous waste is sent for disposal. Sometimes, a business can recycle materials to make another product or recover valuable ingredients.

If your site recycles a hazardous secondary material for the purpose of an exclusion or exemption, keep documentation that shows how you're meeting the requirements of the exemption. This includes records that show the dangerous waste recycling is legitimate.

How do I know recycling is legitimate?

To qualify as **legitimate** recycling, your dangerous waste must meet these four criteria:

1. Provide a useful contribution to either the recycling process or to a product or intermediate of the recycling process. For example, the material contributes valuable ingredients to a product or is the source of a valuable constituent recovered from the recycling process.
2. Be used to produce a valuable product or intermediate.
3. Be managed as a valuable commodity when under the control of the generator, recycler, or third party.
4. Produce a recycled product that's comparable to a legitimate product or intermediate.

If you send your waste off site to be recycled, you still need to know if it's being recycled legitimately. When selecting a recycler, ask them for details about their process and how they're meeting these criteria. As a generator, you are ultimately responsible for your waste, from cradle-to-grave. Do your research and be prepared to answer questions from our inspectors during your next site inspection.

Recycling credits

You may qualify for recycling credits[6] on your Dangerous Waste Annual Report depending on how much waste you generate and the percentage that's recycled for beneficial reuse. This can help reduce your annual Hazardous Waste Planning Fee. Contact your Toxics Reduction Specialist[7] if you have questions about recycling credits.

Learn more about recycling

Visit EPA's Legitimate Hazardous Waste Recycling Versus Sham Recycling[8] and Frequent Questions Related to Hazardous Waste Recycling[9] webpages for more information.

Recycling legitimacy in the regulations:

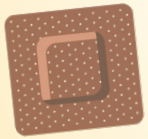
- WAC 173-303-019[10]
- 40 CFR 260.43[11]

Exclusion: Excludes a material from the definition of solid or dangerous waste when specific conditions are met. Examples include scrap metal, treated wood waste, and used cathode ray tubes.

Exemption: A material that is a solid and dangerous waste and may be partially or totally exempt from the dangerous waste regulatory requirements when specific conditions are met. Examples include precious metal recovery, used lead acid batteries, and spent antifreeze.

Intermediate: Unfinished goods that are used to create a final product.

Types of vape waste:



Replacement therapies

Vape pens

E-liquids

Cannabis vape liquds

Unused nicotine products

What to do with nicotine or cannabis vape waste

KATHERINE GAUTHIER

If your business handles wastes containing nicotine or cannabis, you must manage and dispose of these wastes properly.

Many products that have nicotine or cannabis in them designate as a dangerous waste when discarded. Businesses must handle these wastes as dangerous waste. This includes:

- **FDA-approved nicotine-replacement therapies:** Nicotine-containing patches, lozenges, and gums.
- **E-cigarettes and vape pens:** Electronic nicotine delivery systems that contain a battery, tank, or cartridge that delivers nicotine as a vapor.
- **E-liquids and vape liquids (or, what is referred to as "vape"):** Nicotine-containing liquids or prefilled cartridges added to e-cigarettes for consumption of the vapor.
- **Cannabis vape liquids:** Cannabis-containing liquids or cartridges added to vape devices.
- **Unused nicotine products:** These have the potential to be legitimately recycled into new nicotine products.

How do you know if a nicotine or cannabis waste is dangerous waste?

Businesses need to designate their waste[12] in order to determine this. Part of the designation process includes determining if the waste is one or more of the following:

- **Listed waste:** Unused nicotine products (including e-liquid) with **nicotine** or **nicotine salts** as the sole active ingredient designate as P-listed acute hazardous waste. These wastes carry the **waste code P075**.
- **Characteristic waste:** Some wastes may be characteristic waste (meaning ignitable, corrosive, reactive, or toxic).
- **Washington state-only dangerous waste:** FDA-approved nicotine-replacement products are not a P075 listed waste, but may still designate as a Washington state-only dangerous waste[13] for toxicity. Cannabis liquid wastes may also designate as dangerous waste depending on the cannabinoid concentration.

Nicotine waste may be pharmaceutical wastes

Some nicotine-containing wastes meet the definition of a pharmaceutical:[14]

- Any drug or dietary supplement sold for human or animal use.
- Any nicotine e-liquid packaged for retail sale for use in electronic nicotine delivery systems (like pre-filled cartridges or vials).

If you **sell or distribute pharmaceuticals**, including nicotine-containing products, you are considered a health care facility. Health care facilities must manage pharmaceutical waste under the special requirements for the management of dangerous waste pharmaceuticals.[15]

Nicotine wastes that aren't pharmaceutical wastes

Nicotine-containing wastes from the manufacturing, mixing, or packaging of nicotine e-liquid are not pharmaceutical waste. These must be managed as non-pharmaceutical dangerous waste under the Dangerous Waste Regulations.[16]

How do businesses dispose of vape waste properly?

Businesses must ship nicotine and nicotine-contaminated dangerous waste to a permitted treatment, storage, and disposal facility.[17]

- Do not put vape liquid wastes in the trash.
- Do not burn vape waste.
- Do not pour vape waste down the drain, sink, or toilet.

Small Quantity Generators[18] (SQGs) may be able to manage vape wastes at Moderate Risk Waste[19] (MRW) facilities. Some MRWs are not able to handle these wastes.

Used nicotine products have the potential to be legitimately recycled into new nicotine products.

If removed from the vape device, you can dispose of waste batteries[20] as universal waste separate from the nicotine waste. If the battery is not removable, then you must dispose of the entire delivery device as dangerous waste.

Any questions?

For more information, refer to the Nicotine and Vape Waste webpage.[21]

SMALL CHANGES, **BIG** RESULTS: OPPORTUNITIES AND **SUCCESS STORIES**

Got a question about preventing pollution at the source?

MEGAN HILLYARD

We're partnering with the Pollution Prevention Resource Center (PPRC)[22] to answer your questions about pollution prevention (P2) at its source. So if you have questions about reducing or eliminating pollution prior to recycling, treatment, or disposal, we're here to help you find ways to prevent pollution.

Do you ever have questions like:

- What modifications can I make to my manufacturing process to reduce hazardous waste?
- Are there safer alternatives to the chemical product I'm currently using in this process?
- How can I improve my maintenance, training, inventory control, or housekeeping practices to better prevent pollution?

PPRC will conduct in-depth research to answer your question and post an educational response in their online library.[23] They may write a report, case study, fact sheet, or other form of guidance to share with the greater P2 community. That means people all over the country might benefit from your question, once PPRC shares the answer and research in their library.

What are the criteria?

Questions must meet the definition of pollution prevention:[24] Any practice that reduces, eliminates, or prevents pollution at its source prior to recycling, treatment, or disposal.

Priority will be given to inquiries that are:

- In EPA Region 10 – Alaska, Idaho, Oregon, and Washington.
- Within the following Environmental Protection Act (EPA) National Emphasis Areas:[25]
  - Food and Beverage Manufacturing Processing
  - Chemical Manufacturing, Processing and Formulation
  - Automotive Manufacturing and Maintenance
  - Aerospace Product and Parts Manufacturing and Maintenance
  - Metal Manufacturing and Fabrication
- Valuable to communities who are more vulnerable to environmental impacts.
- Applicable to a broad audience to result in a wide-scale impact.

Send your inquiries to PPRC!

Contact Michelle Gaither (mgaither@pprc.org) with questions.

To submit a rapid response inquiry, complete the very short form on PPRC's website.[26] ◆

Could your food processing business use technical assistance?

IFEANYI ISIGWE, PH.D., P.E.

Our toxics reduction team recently received a grant specifically for helping the food and beverage processing sector. Thanks to this grant, we can help businesses by:

- Assessing production processes.
- Finding improvement opportunities (like resource conservation and waste reduction).
- Providing free compliance help.
- Giving free consultation and training on pollution prevention measures.

What did we do in year one?

During the first year of the program, we conducted site visits at five food processing facilities where we found significant ways to conserve resources (like water, energy, and chemical use reduction).

One of the food processors we worked with was J.M. Smucker, a leading fruit processing facility. We worked with consultants to assess their current food processing equipment cleaning systems. The assessment led to improved cleaning system designs that will:

- Save $7,700 in annual costs due to improved operational efficiency.
- Reduce 20,000 pounds of toxic chemicals per year.
- Save 2,500 gallons of water per day.

Check out this video[27] that highlights our ongoing work with J.M. Smucker on food and beverage projects.

The Ecology team was able to secure a grant to get these specialized clamp-on water meters that we can use to measure water usage. So, they weren't just telling us how to do something—they were literally hand-in-hand giving us the equipment and the tools to help us with our water reduction process.

—Sarah Mothershead,
Quality Assurance Manager,
J.M. Smucker Company

How to sign up

Could your food and beverage business use our help on your next pollution prevention project? We are always looking to collaborate with more businesses like yours. If you're interested in our technical assistance program, please contact Ifeanyi Isigwe at Ifeanyi.Isigwe@ecy.wa.gov. ◆

Free competition between laboratories with cold storage

SASKIA VAN BERGEN

Does your lab use ultra-ultra low temperature freezers (-80 to -150 °C), ultra-low temperature freezers (-70 °C to -80 °C), lab freezers (-40 °C to -20 °C), or refrigerators? If so, consider participating in the Freezer Challenge run by the International Institute for Sustainable Laboratories (I2SL)[28] and My Green Lab.[29] The competition ends July 1.

This challenge encourages laboratories to recognize the benefits of good cold storage management, such as:

- Removal of unneeded, unwanted, or non-viable samples from refrigeration units.
- Reduced costs associated with maintaining refrigeration units.
- Improved researcher access to laboratory samples and reagents.
- Development of ongoing cold storage management practices that support energy efficiency and maximize space.

Learn more in this video[30] or the on the competition webpage.[31]

HELPFUL **GUIDANCE** FOR DANGEROUS WASTE GENERATORS

Forms

Fiscal Year 2023–2025 Pollution Prevention Assistance Partnership Application[32]
Fluorescent Light Ballast Replacement Application[33]
Automotive Degreaser Replacement Application[34]

Guides

Guide for Plant Fiber—Based Food Packaging Manufacturers[35]

Reports

Toxics Reduction Program 2022 Annual Report[36]

Fact Sheets

Focus On: Reducing Sources of 6PPD[37]
Protect Yourself From Toxics in Thermal Paper[38]
Focus on: Spent Antifreeze[39]

IMAGE CREDITS

1. Receipt vector created by FreePik www.freepik.com
2. Recycle container created by FreePik www.freepik.com
3. Bandaid vector created by Pch.Vector www.freepik.com
4. Vape vectors created by MacroVector www.freepik.com
5. Business vector created by Makyzz. www.freepik.com

ENDNOTES

1 https://ecology.wa.gov/Waste-Toxics/Reducing-toxic-chemicals/Product-Replacement-Program/Thermal-receipts

2 https://ecology.wa.gov/SaferProductsRule

3 https://pubmed.ncbi.nlm.nih.gov/23994667/

4 https://academic.oup.com/jes/article/2/10/1173/5094959

5 https://ecology.wa.gov/PPA

6 https://ecology.wa.gov/RecyclingCredits

7 https://ecology.wa.gov/ToxicsReductionTeam

8 https://www.epa.gov/hw/legitimate-hazardous-waste-recycling-versus-sham-recycling

9 https://www.epa.gov/hw/frequent-questions-related-hazardous-waste-recycling-definition-solid-waste-and-other-exemptions

10 https://app.leg.wa.gov/WAC/default.aspx?cite=173-303-019

11 https://www.ecfr.gov/current/title-40/chapter-I/subchapter-I/part-260/subpart-C/section-260.43

12 https://ecology.wa.gov/Designation

13 https://ecology.wa.gov/StateOnlyDW

14 https://apps.leg.wa.gov/WAC/default.aspx?cite=173-303-555#:~:text=in%20this%20section.-,%22Pharmaceutical%22,-means%20any%20drug

15 https://ecology.wa.gov/PharmaWaste

16 https://app.leg.wa.gov/WAC/default.aspx?cite=173-303

17 https://ecology.wa.gov/ServiceProviders

18 https://ecology.wa.gov/Regulations-Permits/Guidance-technical-assistance/Dangerous-waste-guidance/Dangerous-waste-basics/Generator-category/Small-quantity-generators

19 https://ecology.wa.gov/Waste-Toxics/Community-waste-toxics/Household-hazardous-waste-MRW/Find-a-household-hazardous-waste-site

20 https://ecology.wa.gov/Batteries
21 https://ecology.wa.gov/VapingWaste
22 https://www.pprc.org/
23 https://www.pprc.org/resources/categories/rapid-response
24 https://www.epa.gov/p2/grant-programs-pollution-prevention
25 https://www.epa.gov/p2/p2-national-emphasis-areas-neas
26 https://www.pprc.org/rapidresponse
27 https://www.youtube.com/watch?v=Ct2xj4NTEy0
28 https://www.i2sl.org/
29 https://www.mygreenlab.org/
30 https://vimeo.com/781249500
31 https://www.freezerchallenge.org/the-challenge.html
32 https://apps.ecology.wa.gov/publications/SummaryPages/ECY070592.html
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38 https://apps.ecology.wa.gov/publications/SummaryPages/2304011.html
39 https://apps.ecology.wa.gov/publications/SummaryPages/0304017.html

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Accommodation requests

To request an ADA accommodation, contact Ecology at 360-407-6700 or hwtrpubs@ecy.wa.gov, or visit ecology.wa.gov/accessibility. For Relay Service or TTY, call 711 or 877-833-6341.