



TOBACCO PRODUCT WASTE: FREQUENTLY ASKED QUESTIONS

Many discarded commercial tobacco¹ products and their packaging are toxic to both human and environmental health, often due to overlapping and cumulative toxicity impacts.

For example, cigarette filters, or “butts,” are made of the plastic material cellulose acetate, which does not biodegrade, but merely breaks down into microplastics, moving deeper into the food chain and water supply. Used cigarette butts are known to leach toxic amounts of nicotine, pesticides, polycyclic aromatic hydrocarbons, arsenic, and heavy metals such as lead and cadmium, potentially for years after use. Even unsmoked cigarette butts are toxic to animals, plants and aquatic life.² Recent research also shows that smoked butts create localized air pollution long after use.

In addition to cigarettes, emerging tobacco products, such as e-cigarettes, create many public health and environmental problems. The United States Environmental Protection Agency (EPA) has listed nicotine chemical waste as an acute hazardous waste since 1980. The use



of liquid nicotine in e-cigarettes has resulted in significant health harms. Since 2007, when e-cigarettes were first introduced to the U.S.

market, the nation has seen a substantial increase in poisonings of young children from nicotine e-liquids. Between 2012 and 2015, the National Poison Data System recorded a 1,500 percent increase in nicotine poisonings of children under the age of six, and one documented nicotine-caused death in 2014. Furthermore, discarded devices may leach lead, cobalt, and other substances into the environment in toxic amounts. Toxic chemicals from commercial tobacco product waste can accumulate in animals, soil, and aquatic ecosystems, contaminating drinking water and foods, posing additional downstream risks to human health and the environment.

This publication addresses several frequently asked questions about tobacco product waste, discusses related regulatory issues, and describes various policy options that California jurisdictions might consider to address this growing problem.

Q. Is there a difference between “toxic” and “hazardous” waste?

A: When something is discarded, or stored for discarding, it is considered “solid waste.” Under state and federal law, hazardous waste is a subset of solid waste. A solid waste that qualifies as “hazardous waste” is subject to a strict regulatory regime for waste management, transportation, and disposal. Several different legal tests are used to determine if a solid waste is also hazardous waste.

Researchers found that some, but not all, e-cigarettes tested for metal toxicity met the California threshold for hazardous waste, due to lead toxicity.

Toxicity, on the other hand, is a general term often used to describe a factual attribute of a substance — it indicates that the substance contains a toxin or poison in dangerous amounts. But in the world of waste regulation, “toxicity” is also one of four characteristics that qualifies a waste as hazardous. In California, to be considered hazardous under the toxicity characteristic, waste must meet certain toxicity criteria set forth in California Code of Regulations, Title 22, Chapter 11, Article 3. Based on this official test for the toxicity characteristic, researchers found that some, but not all, e-cigarettes tested for metal toxicity met the California threshold for hazardous waste, due to lead toxicity.

California regulations also contain a list of specific chemicals that are presumed to be hazardous waste when found in solid waste unless the generator of the waste can show otherwise (as



discussed below, responsible generators include entities like businesses, schools, and even police departments and courts). This [Appendix X](#) lists many metals found in e-cigarettes. Moreover, California regulates wastes defined as “electronic devices,” designating them as universal waste, a hazardous waste widely generated by households and many types of businesses.³

E-cigarettes are thus likely to be hazardous waste for many overlapping reasons, including their characteristics of toxicity or reactivity (i.e., propensity to explode due to the lithium batteries in most e-cigarettes),⁴ presumptive hazardous waste constituents as listed in [Appendix X](#), and possible status as universal waste electronic devices. Also, due to its toxicity, nicotine chemical waste is considered an acute hazardous waste under federal regulations.⁵

Other tobacco product waste may be hazardous waste, but at this point, the legal status of many products has not been definitively proven using the applicable toxicity criteria.⁶ While many products might be “toxic” because they contain harmful substances, they may not necessarily be “toxic” in the sense that they are legally subject to hazardous waste management laws. As discussed below, local jurisdictions have authority to prevent public health threats posed by toxic substances even if the substances fail to meet a legal test for hazardous waste.

Q. Is liquid nicotine hazardous waste under federal or California state law?

A: Yes, both federal and California laws list nicotine as hazardous waste under a commercial chemical waste listing. This listing is another way that something can be a hazardous waste, distinct from the characteristic waste tests mentioned above. Since 1980, the EPA has listed nicotine as an “acute hazardous waste” when it is being disposed. “Acute” here means that nicotine is fatal to humans in low doses, according to the EPA.

Q. How are California’s hazardous waste standards set and enforced?

A: California is an authorized state with oversight of hazardous waste management, meaning the EPA oversees the state’s program but the state has primary authority to issue permits, inspect regulated entities, and punish polluters. As a part of this delegation of federal authority, California and all other similarly situated states are required to implement the EPA national standards and handle hazardous waste at least as carefully as federal minimum criteria. As a part of its program, California often has more stringent requirements than the baseline federal standards. Because of the federal authorization and the way California implements its program, both state and local-level agencies have authority over hazardous waste management and disposal.

Q. Do California jurisdictions have the authority to enforce state hazardous waste laws against the illegal disposal of hazardous tobacco product waste?

A: At the state government level, the agency in charge of hazardous waste is the Department of Toxic Substances Control (DTSC). Nevertheless, many local agencies have significant authority over hazardous waste as well and share authority with DTSC.

California cities and counties that have qualified as Certified Unified Program Agencies (CUPAs) enforce hazardous waste laws against businesses and other entities, such as vape shops or schools, that generate, store, or dispose of hazardous waste. Some entities, such as schools, are not in the business of selling these products, but have nevertheless accumulated these wastes because they have confiscated e-cigarettes and other tobacco and cannabis products.

The Uniform Program Regulator Directory can direct you to the relevant CUPA within a jurisdiction and other local regulators associated with the Unified Program.

Q. Can local jurisdictions sue companies or responsible retailers for illegal disposal of hazardous waste?


A: Yes. If hazardous wastes are disposed of on public lands such as parks or school parking lots, local government owners/lessees/lessors can sue to recover the costs of compliance from hazardous waste producers or those responsible for the illegal dumping. Local CUPAs can also take enforcement actions against responsible parties for illegal disposal. In addition, as discussed below, some local jurisdictions may consider using their broad authority to adopt ordinances that provide a system for abating nuisances, such as dumping and trash accumulation, which cause unsafe conditions in their communities.

Any regulatory entity that collects e-liquid or e-cigarettes becomes a hazardous waste generator simply by collecting these products and making the decision to discard them.

Q. How are local governmental entities (e.g., public schools) responsible under federal and state law for the handling and disposal of liquid nicotine and e-cigarette devices?

A: The legal and compliance costs for these entities are significant because federal and state laws require that any “hazardous waste generator” be in full compliance with generator requirements.⁷ Any regulatory entity that collects e-liquid or e-cigarettes becomes a hazardous waste generator simply by collecting these products and making the decision to discard them. Because nicotine is an acute hazardous waste, hazardous waste generators are required to report the amount collected using established standards, such as a biennial report, even if the waste is generated in small amounts. As a result, local government entities, like high schools, face significant costs in order to comply with applicable standards for the safe disposal of e-cigarettes.

Regardless of the nicotine content, e-cigarettes may be hazardous if they contain any of the chemicals identified in Appendix X, unless it is determined otherwise via testing. Some listed chemicals, such as cobalt, are often found in lithium batteries in toxic amounts sufficient to qualify as hazardous waste. Disposing of small amounts of acute hazardous waste can be expensive and local governmental entities that accumulate hazardous e-cigarette waste will also incur costs for maintaining compliance with applicable generator requirements.

 **Q. Can California jurisdictions enact local ordinances requiring businesses that deal in hazardous materials (hazmat) to meet specific requirements?**

A: Yes, many already have enacted such local laws. These “hazardous materials” (hazmat) ordinances require data transparency, disclosure, and emergency preparedness so emergencies can be averted and firefighters and other emergency personnel can be aware of hazards before entering a facility that contains hazmat. However, state law does not apply these standards to finished consumer products, and also only applies once certain chemicals are present in specific quantities. As a result, many relevant local laws exempt hazardous materials contained in consumer products (like e-cigarettes) and might not clearly apply to all vape shops that deal with smaller amounts of concentrated nicotine. Local jurisdictions could close these loopholes and apply existing safety/transparency laws more universally. Jurisdictions with a CUPA should talk with their CUPA about their regulatory authority.



Q. What legal precedent is there for treating e-cigarettes as hazmat and prohibiting their presence in certain places?

A: Many federal agencies have studied, described, and established the dangers of e-cigarettes as potential causes of explosions and fires. U.S. government data indicate that thousands of serious injuries result from such explosions, and news reports over the years show that such explosions also cause significant property damage.

Both the Federal Aviation Administration (FAA) and the Department of Transportation (DOT) regulate e-cigarettes and their batteries as hazmat. Due to the high propensity of e-cigarettes to explode and catch on fire, the FAA prohibits them in the carriage below airplanes. The DOT also restricts the methods of shipping damaged or large-capacity/large quantities of lithium-ion batteries of the type used in e-cigarettes.

Q. What federal and California state law requires my jurisdiction to capture tobacco product waste before it spreads to waterways?

A: California passed the first-in-the-nation “Trash Amendments” in 2015, which became federally-enforceable Clean Water Act standards when the EPA approved them in 2016. These standards require local jurisdictions to capture trash that flows to surface waters and the ocean, including using capture technology that nets anything equal to or larger than 5 millimeters. This includes all cigarette butts, e-cigarette components, product packaging, and other tobacco product waste that frequently end up in California’s waters. Jurisdictions that fail to prevent this type of pollution, and whose trash impairs the uses of a surface water, will face penalties and significant additional requirements if they do not implement control measures in time.⁸

Passing a tobacco product waste policy that eliminates this type of trash from the environment is likely to be a more cost-effective way of dealing with this type of water pollution than relying solely on trash direct-capture technology after litter is already bound for storm drains. Policies that remove the products from the market eliminate both the waste and the public health harms caused by the use of commercial tobacco products.

Q. How should local governments and communities dispose of different types of tobacco product waste?

A: For the time being, tobacco product waste for conventional products such as cigarettes, cigars, smokeless tobacco, and related product packaging can be treated as regular solid waste.



No tobacco products are readily recycled. Although a few tobacco companies have piloted limited recycling campaigns (while promoting and greenwashing the tobacco industry's involvement), recycling tobacco product waste is not a feasible solution for existing municipal recycling programs. Some tobacco product waste, especially components that mix plastic with other substances or packaging such as plastic-metal laminate materials, can probably not be recycled by any existing recycling programs. Currently, no tobacco company is producing packaging that is likely to be recycled. In fact, the industry's packaging usually incorporates would-be recyclable elements into combinations that are difficult to separate for profitable recycling. Even if recycling were a viable option for select products, consumer recycling could not prevent the overall scourge of plastic water pollution.

Entities like law enforcement and schools must handle hazardous waste according to state and federal hazardous waste law and comply with all applicable requirements for hazardous waste generators. Although these requirements are necessary to guard against known serious dangers of improper hazardous waste disposal, they are costly.

Households must handle their own hazardous waste as “household hazardous waste” and dispose of it consistent with local programs and state hazardous waste requirements, often bringing it to a county-operated authorized household hazardous waste collection facility. Generally speaking, the requirements for disposing of household hazardous waste are less burdensome than those for disposing of hazardous waste. Because schools are typically subject to the generator requirements applicable to non-household hazardous waste, school staff are usually not able to bring confiscated waste to the household hazardous waste system for disposal.

Q. What different policy strategies have been studied and offered for reducing tobacco product waste in the environment and communities?

A: The Public Health Law Center and other public health and environmental organizations have explored many policy options for reducing tobacco product waste in the environment. Options discussed include:

- ⌋ Prohibiting the sale of tobacco products that produce the most waste (e.g., filtered cigarettes or e-liquid cartridges);
- ⌋ Extended Producer Responsibility (Product Stewardship);
- ⌋ Mitigation fees (a fee added to product price to offset cost of dealing with improper disposal);
- ⌋ Deposit/refund programs (fee added to product price that is recouped when item is returned);
- ⌋ Biodegradable cigarette filters;
- ⌋ Filter recycling;
- ⌋ Smoke-free laws;
- ⌋ Litter education programs; and
- ⌋ Raising the price of tobacco products that contribute to litter waste.

Not all these policies are equally effective, however. Mitigation fees directed at tobacco products are likely to be considered a prohibited local tobacco tax under applicable California law, and if the fees instead apply more broadly to other littered products, there is still a high likelihood that the local jurisdiction would have to overcome the requirements of Proposition 26 in order to impose a new fee. Furthermore, prohibiting the sale of products that create pollution is a more efficient and less costly method of addressing the problem because

it focuses on preventing the creation of waste at the outset. Biodegradable or recyclable filters, on the other hand, may not effectively incentivize a reduction in waste (and may even promote additional littering by making it seem harmless). Additionally, even if they did replace plastic filters, biodegradable filters likely would put nearly as many toxic pollutants into the environment. For past analysis of these options, please consult our publication, [Policy Tools for Minimizing Public Health and Environmental Effects of Cigarette Waste](#). This FAQ suggests focusing on sales prohibitions first as the most effective option.

One of the most straightforward, powerful, and effective policy options that local jurisdictions can adopt is prohibiting the sale of some or all tobacco products.

Q. What is likely the most effective regulatory option regarding tobacco product waste?

A: One of the most straightforward, powerful, and effective policy options that local jurisdictions can adopt is [prohibiting the sale of some or all tobacco products](#). Logically, if no tobacco products were sold in a jurisdiction, the amount of tobacco product waste that ended up in that jurisdiction's streets and waterways would decrease significantly. This policy also has the benefit of curtailing overall demand for commercial tobacco products, which would reduce the upstream [agricultural and manufacturing impacts](#) of this industry and produce public health benefits associated with decreased use. Therefore, to effectively reduce tobacco product pollution's large role in the overall plastic litter problem, [experts argue](#) sales prohibitions of single-use plastics must include filtered cigarettes.

Q. Can sales prohibitions be applied to tobacco products other than cigarettes with filters?

A: Yes, in fact, some [elected officials](#) acknowledge the importance of including e-cigarette waste in addition to plastic filters in sales restrictions aimed at curbing tobacco product waste. Further, sales prohibitions have been successfully used to end the sale of many kinds of tobacco products, such as [flavored tobacco products](#).

A sales prohibition can apply to other tobacco products as well. For example, the city of Beverly Hills has [prohibited the sale of all tobacco products in nearly every type](#) of tobacco retail

location. Though not explicitly intended to address waste, this far-reaching sales prohibition will have a large impact on the tobacco waste generated from in-store sales in the city. Other California jurisdictions, such as Manhattan Beach, have prohibited, or are considering prohibiting the sale of all tobacco products. In addition, other jurisdictions in California have prohibited the sale of all e-cigarettes that the U.S. Food and Drug Administration has not authorized for retail sale (currently no e-cigarettes have been authorized).

There is historic precedent for such bold actions. In the past, individual states passed firesafe cigarette laws that prohibited the sale of cigarettes that were not independently certified as less likely to cause fires if left unattended.

Q. What is Extended Producer Responsibility (EPR) and how does it apply to tobacco product waste?

A: EPR is a strategy in waste management that makes manufacturers responsible for disposal of the products they make, forcing them to incorporate the cost of disposal into products that are environmentally harmful. EPR is a conceptual construct that is useful in working through different policy options available to local policymakers. Although it is the underpinning of many California statutes, EPR is best regarded as a framework rather than a single policy.

Importantly, EPR does not appear to be a particularly feasible framework when applied to the tobacco industry. The tobacco industry, after all, makes deadly products and is known to produce misleading public initiatives (including using environmental groups as fronts that attempt to shift responsibility for tobacco product waste to consumers). EPR policies that focus only on products after they are manufactured can miss the bigger picture, as the tobacco industry's environmental impacts extend far beyond product waste, and the products themselves have no social benefit worthy of EPR's attempt to promote long-term product sustainability.

Applying to the tobacco industry lessons learned from EPR policies regulating socially-beneficial industries that manufacture pharmaceuticals, televisions, mattresses, and similar products is not only inappropriate, but potentially raises legal problems, as discussed below.

Q. Is EPR a good model for a local California tobacco product waste policy?

A: No. Pursuant to the CDPH California Tobacco Control Program Local Lead Agency and Competitive Grantee Administrative and Policy Manual, section 315, "No entity funded by CTCP may use CTCP funding or provide in-kind support to the development and maintenance

of an Extended Producer Responsibility policy that engages the Commercial Tobacco/Vape/Cannabis Industry.” EPR normally treats product manufacturers as a stakeholder and creates public-private partnerships to collect and manage waste. It also seeks to use policy and economics to force manufacturers to change their manufacturing practices to make their products more sustainably, and to make finished products less harmful to the environment. Commercial tobacco control practitioners should be leery of any system that empowers the tobacco industry to clean up its own mess, and local jurisdictions generally do not have legal authority to change how tobacco products are made.

There are many reasons local communities should avoid partnering with tobacco companies or requiring them to form their own cooperative organizations to deal with the inherent failings of their products. First, the tobacco industry is made up of multinational corporations with extensive resources and a history of illegal conspiracy with one another, and no local jurisdiction is likely to have adequate resources to provide sufficient oversight to manage a trade organization consisting of these companies. The tobacco industry’s past actions show its efforts to address tobacco product waste do little to nothing to protect the environment from the industry’s externalities. This history suggests that any government requirement that tobacco manufacturers form an EPR-focused trade association or nonprofit will likely be exploited by the industry to lobby against effective policies, and to misinform the public.

Second, the federal government, not state or local jurisdictions, has the ultimate authority to set tobacco product standards.⁹ While state and local jurisdictions can restrict the sale of tobacco products and adopt other tobacco regulations, federal law does not allow state and local governments to establish tobacco product and manufacturing standards different from federal standards. An EPR policy requiring specific product design or reformulation to make tobacco products less environmentally harmful might be preempted under federal law.



Q. How might federal and state laws impact a tobacco product waste policy?

A: While local governments in California have broad authority to regulate commercial tobacco product sales and use, other types of policies could be preempted under federal or state law. Federal law generally prohibits state or local tobacco product standards. Tobacco product standards are often understood as standards that mandate how a tobacco product is manufactured.

Similarly, under California law, no new local taxes can be imposed on tobacco products. This state law prohibition might make it impossible to impose a litter mitigation fee on tobacco products. Localities, however, have other policy options that they might use to limit tobacco product waste. Those policies include sales prohibitions, increased transparency of licensed sellers (e.g., reporting products sold so they can be traced back to the seller if found as waste), fire safety standards, deposit programs, public nuisance abatement and fines, and education of users and the public about the tobacco industry's responsibility for a large portion of California's toxic trash problem.

Q. Do California jurisdictions have the authority to abate tobacco product waste's health dangers with fines and other remedies under existing authorities?

A: Yes, there is existing authority under nuisance law. Under the California Constitution describing local jurisdictions' inherent police power, these jurisdictions can define and abate public nuisances to protect public health. The public authority could pursue such nuisances as crimes, civil offenses in court, or perform abatement, and could also seek monetary damages for past nuisances. While the statutory definitions of a public nuisance are broad, localities are not limited by statutory definitions and may define additional public nuisances by ordinance.

Using this power effectively requires an emphasis on health equity in policy design. Policies should not target those who ultimately have little control over the larger impact of tobacco product waste spread in a community, namely individual users who could be caught littering. To direct a local policy at those causing the most harm to the community, its application would need to be carefully defined to address the actions of tobacco businesses that distribute the products that create the nuisance. Crafting an effective public nuisance ordinance aimed at addressing tobacco product waste would also likely involve careful planning, tracking, and enforcement efforts at the local level.

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Endnotes

- 1 The Public Health Law Center recognizes that traditional and commercial tobacco are different in the ways they are planted, grown, harvested, and used. Traditional tobacco is and has been used in sacred ways by Indigenous communities and tribes for centuries. Comparatively, commercial tobacco is manufactured with chemical additives for recreational use and profit, resulting in disease and death. For more information, visit <http://www.KeepItSacred.itcml.org>. When the word “tobacco” is used throughout this document, a commercial context is implied and intended.
- 2 Cigarette butts are not currently regulated as hazardous waste in California. They are regulated as municipal solid waste, which is subject to regulation by California’s Department of Resources Recycling and Recovery (CalRecycle).
- 3 Universal waste may be managed under more streamlined hazardous waste requirements meant to ensure they are managed safely, are recycled, and not disposed of in the trash.
- 4 E-cigarettes might also meet either of the other two characteristic tests for corrosivity or ignitability, see <https://www.epa.gov/hw/defining-hazardous-waste-listed-characteristic-and-mixed-radiological-wastes#characteristic>, based on the makeup of their batteries.
- 5 The California counterpart is found under California Code of Regulations, Title 22, Section [66261.33](#).
- 6 In a letter addressing whether unsold cigarettes and cigars are hazardous waste, the EPA explains that “it is the generator’s responsibility to determine whether or not they exhibit any of the hazardous waste characteristics. ...” Letter from Barnes Johnson, EPA, to Ann Marie Beattie (July 17, 2017), <https://rcrapublic.epa.gov/files/14894.pdf>. This is also the legal standard in California law. See California Code of Regulations, Title 22, Section [66262.11](#). The applicable California test for aquatic toxicity is found in California Code of Regulations, Title 22, Section [66261.24](#).
- 7 The requirements for hazardous waste generators in California are found in California Code of Regulations, Title 22, Chapter 12.
- 8 For examples of EPA enforcement against Clean Water Act violators, including local municipalities, see <https://cfpub.epa.gov/enforcement/cases/index.cfm?templatePage=12&ID=3&sortBy=&stat=Clean%20Water%20Act>. Some examples of enforcement against municipal stormwater violations include <https://www.epa.gov/enforcement/city-west-haven-connecticut-clean-water-act-settlement> and <https://www.epa.gov/enforcement/city-rockford-illinois-clean-water-act-settlement>.
- 9 See, e.g., Public Health Law Center, Tobacco Product Standard for Cigarette Nicotine Levels (2018), <https://www.publichealthlawcenter.org/sites/default/files/resources/tclc-nicotine-talk-researchers-2018.pdf>; Michael Freiberg, (Don’t) See More Butts: Preemption and Local Regulation of Cigarette Litter, 37 Hamline L. Rev. 205 (2014), <https://www.publichealthlawcenter.org/sites/default/files/resources/article-freiberg-cigarette-litter-hamlinelawreview-2014.pdf>.