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"Cigarette Filters made with plastic"

Considerations in the Usage of this Term in the UN Plastics Treaty

Partial Bans that Undermine Both Health and Environmental Policies

A plastic filter-only ban could legitimize harmful alternatives, delay meaningful regulation, and weaken Parties' ability to pursue a comprehensive ban on cigarette filters under the WHO Framework Convention in Tobacco Control (WHO FCTC) framework. Including "cigarette filters made with plastic" in the UN Plastics Treaty's Annex X (regulation or ban), creates a false environmental victory while perpetuating the world's largest source of toxic litter. This annexing allows the tobacco industry to greenwash its products with "biodegradable" alternatives that remain environmentally destructive, while claiming environmental compliance, which maximizes industry profit while minimizing actual environmental protection due to the toxic nature of cigarette butts, regardless of its composition. Furthermore, it endorses biofilters or similar design features that should be prohibited under tobacco regulations. Finally, it falsely implies a health benefit or sense of safety to non-plastic filters, which can mislead the public into continuing smoking or initiating use.

Cigarette filters are one of the most littered plastic items in the world, as a direct contribution from the trillions of filtered cigarette butts discarded each year.[1] These filters persist in marine and terrestrial environments for 10 to 15 years, continuously leaching toxic chemicals into soil and waterways.[2] Cigarette butts are a source of chemical toxicity. Peer-reviewed studies, as well as assessments[3] confirm that cigarette butts leach over 40 of 98 chemicals,[4] including heavy metals such as Lead, cadmium, arsenic, Phthalate plasticizers such as DEHP, DBP, DIBP and Polycyclic aromatic hydrocarbons (PAHs) Many of these substances are classified as mutagenic, cytotoxic, carcinogenic, and bio accumulative.[5] One-third[6] of detected compounds exhibit very high aquatic toxicity, with others designated as emerging contaminants.

Current Regulatory Landscape

The WHO FCTC, ratified by 183 countries, provides the primary international framework for tobacco control. As a Party to the WHO FCTC, the government must ensure that any multilateral agreements it enters into are compatible with its obligations under the FCTC, pursuant to Article 2.2.[7] Partial Guidelines of Articles 9 and 10 clarify that design features, such as filters, contribute to misleading perceptions of reduced harm and increase product attractiveness regardless of the material used and recommend regulation or prohibition of design features that increase palatability or attractiveness.[8]

Article 13 Guidelines prohibit product design and packaging that may convey misleading impressions, including the promotion of biodegradable or alternative filters as “cleaner” or “safer.”[9] The **COP10 decision on Article 18** urges Parties to adopt regulatory and fiscal measures to reduce tobacco product waste, **including cigarette filters**[10], but notably avoids endorsing any specific material-based substitutions (FCTC/COP10(18). It also calls for Parties to protect environmental policy relating to tobacco from tobacco industry interests, in accordance with **Article 5.3**.[11] Adopting this terminology in an intergovernmental treaty risks validating and institutionalizing industry-framed solutions, opening the door to greenwashing and further engagement by the tobacco industry in regulatory processes that should exclude them.[12]

Countries like the Netherlands[13] and Belgium[14] called for a ban on all cigarette filters. Meanwhile, Santa Cruz, California, has already banned filters.[15] At the international level, the WHO also recommended an immediate ban on cigarette filters in its recommendations for the plastics treaty negotiations.[16]

The Deception of "Safer" Filters

Scientific evidence conclusively demonstrates that cigarette filters do not reduce health risks; in fact, there is a link between an increase in a more aggressive form of cancer and the use of filters.[17] Plastic fibers also constantly fall out[18] and have been found in smokers’ lungs.[19] In spite of these risks, a majority of smokers mistakenly believe the filters are a safety feature.[20]

Environmental Impact

A. Industry's Environmental Marketing Strategy

The tobacco industry has already invested heavily in developing "eco-friendly" filter alternatives specifically to exploit partial plastic bans. For instance, Filtrona[21] is already advocating and marketing plastic-free filters.[22] Greenbutts, a major supplier of non-plastic filters that offers to partner with tobacco companies, already launched their “no plastic butts” campaigns.[23]

B. Chemical Contamination and Ecosystem Disruption

Cigarette butts pose a serious risk to ecosystems due to the toxic substances they release. Even in small amounts, they can harm aquatic organisms, soil-dwelling species, and plant life.[24] These discarded items leach a wide array of harmful chemicals into their surroundings, including substances like nicotine[25], heavy metals such as cadmium, mercury, and lead, including volatile organic compounds like benzene, toluene, ethylbenzene, and xylene (BETX), polycyclic aromatic hydrocarbons (PAHs), and pyridine.

Cigarettes contain around 7,000 chemicals, including at least 50 known carcinogens.[26] They are phytotoxic, cytogenic, neurotoxic, genotoxic, mutagenic, teratogenic, and carcinogenic.[27][28] Even "biodegradable" filters remain toxic waste[iv] that contaminates ecosystems during decomposition.[29] Their impact is especially severe in water bodies, where a single cigarette butt can contaminate up to 1,000 liters of water with toxic nicotine.[31] The environmental impact of cigarette butts extends beyond immediate toxicity. When fish are exposed to chemicals leached from cigarette waste, these substances can accumulate in their systems over time.[32]

This bioaccumulation demonstrates the potential for toxic compounds to enter the human food chain, posing additional risks to public health.

C. Economic Costs of Damage and Clean Up

Conservative estimates put marine ecosystem damage from cigarette plastics at around USD 26 billion per year[33] , which does not include damage attributable to the toxicity of cigarette filters. Such damage can include contamination that affects agricultural productivity and water treatment costs, regardless of the filter material. Studies in urban watersheds show that areas with high cigarette litter have elevated levels of heavy metals and organic pollutants in their groundwater systems.[34]

Governments and environmental organizations spend millions annually on cigarette litter cleanup; the most conservative estimate points to roughly 5 billion USD per year.[35] These costs will continue unabated under partial bans or a ban on "cigarette filters made with plastic."

Policy Implications

Cigarette filters, composed almost entirely of cellulose acetate, a form of plastic, will fall within the scope of the UN Plastics Treaty[36] by default. Their global ubiquity of cigarette butts ensures that environment ministries will be duty-bound to address them. According to the current treaty language, this could be through prohibition or through measures such as setting product design standards, plastic reduction targets, and extended producer responsibility. This will depend on how cigarette filters are referred to in the treaty. A general ban on "cigarette filters" suggests the elimination or phase out under Annex Y) of the product that contains toxic leachates, regardless of material. This ban could support both plastic reduction and broader pollution prevention.

By contrast, a ban on "cigarette filters made with plastic" explicitly creates space for non-plastic or "biodegradable" filters to be introduced and marketed as acceptable substitutes. This material-based framing opens a potential pathway for the tobacco industry to shift to alternative materials without addressing the filter's overall environmental toxicity. It may also create expectations that environmental authorities will evaluate or approve such alternatives, extending their regulatory role beyond waste management. A full explanation of why biodegradable filters must also be rejected is provided in the Annex.

Explicit references to cigarette filters with material qualifiers in the plastics treaty carry the risk of institutional overlap, especially if environmental authorities are seen as responsible for approving "sustainable" or "safer" substitutes. Such ambiguity may be leveraged by the tobacco industry to legitimize non-plastic filters without fully addressing their environmental or public health harms.

Health Implications

In the meantime, the technical expertise existing and available to support tobacco related regulation will remain unutilized. For instance, the global study group "WHO Study Group on Tobacco Product Regulation (WHO TobReg)"[37] , produces evidence-based reports on tobacco product regulation. The WHO's Tobacco Laboratory Network (TobLabNet)[38] offers validated methods and laboratory capacity for analyzing tobacco product contents and emissions. WHO experts recommended the immediate ban of filters, regardless of material, to eliminate misconceptions and environmental harms.[39]

Tobacco companies have a long history of using material substitutions to reframe harmful products as "safer" or more acceptable.[40] If environmental ministries exercise the authority to approve alternatives without coordination with health regulators, they could legitimize new generations of filtered cigarettes, which reinforce industry narratives and diminish the WHO FCTC implementation.

Health authorities may also find themselves in a reactive position, having to address, public health implications after non-plastic filters are already approved and marketed as "eco-friendly." This possibility undermines tobacco control efforts aimed at reducing product attractiveness and phasing out filters entirely. Moreover, the FCTC Conference of Parties (COP) cannot override environmental treaty agreements through a decision or guideline alone, and efforts to reassert jurisdiction may come too late to reverse entrenched policies and practices.

Recommendations

To promote policy coherence, filter regulation should remain within the scope of tobacco product control utilizing standards, evidence, and facilities set globally. It is crucial to explicitly **reference alignment with existing international health treaties and standards**, particularly the WHO FCTC, to prevent regulatory contradiction and promote intersectoral consistency.

Annex X or Y of the UN Plastics Treaty should avoid specifying only "filters made with plastic," as this permits substitution with misleading "eco-filters" that remain toxic. A **standalone category within Annex Y will be appropriate**. Thus, **Part III (Immediate Ban)** should read as follows: **"Cigarette filters (regardless of material) which as a result of normal use, contains lead, cadmium, phthalates and other toxic substances"**. If a comprehensive filter ban is not feasible in the UN Global Plastics Treaty, it should exclude filters altogether and then be addressed directly under the WHO FCTC.

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About STPA

STPA is a global coalition over 100 public health and environmental groups who recognize the crucial intersection of tobacco control and environmental health. Since 2022, STPA and its partners have been advocating for:

- *A comprehensive ban on cigarette filters as toxic, unnecessary, and avoidable plastic products*
- *Protection of the treaty process from tobacco industry interference*
- *Recognition of the unique conflict between tobacco industry interests and public health*
- *Alignment between environmental and health objectives in international law*

The ultimate goal is a plastics treaty that contributes positively to both environmental and public health by addressing one of the most pervasive and unnecessary forms of plastic pollution—cigarette filters—while respecting established international health agreements.

Annex

Biodegradable Filters: A False Solution

Cigarette filters made from so-called biodegradable materials fall outside some legal definitions of plastics, but they are not environmentally safe and should not be exempt from regulation. From a sustainability standpoint, the problem is the filter itself, not the material it is made of. Biodegradable filters are designed to function like plastic filters: single-use, mass-produced, and hard to collect. Their "biodegradability" often refers to ideal lab conditions, not real-world litter environments, such as sidewalks or beaches. In reality, they do not break down as fast as it is claimed to. In fact, a study looking at the ecological impact of butts shows that the degradability of "biodegradable filters" is similar to regular plastic filters.[41] Further, labelling filters "biodegradable" misleads the public into thinking they are safe to litter. This undermines existing anti-littering efforts and ~~the t~~reaty's objectives.

Given the clear environmental implications of biodegradable filters, it carries significant implications on environmental principles. Material-switching contradicts circular economy and zero-toxics goals. [42] Accepting biodegradable filters as substitutes violates the treaty's precautionary principle and creates loopholes that benefit polluting industries.

Furthermore, it does not meet standards on biodegradability. Under the EU law, a product may be labeled **biodegradable** only if it biodegrades into CO_2, water, mineral salts, and biomass, disintegrates within 12 weeks (with less than 10 percent of fragments greater than 2 mm), and shows no toxicity— a criteria set by **EN 13432:2000** and echoed in the **SUP Directive**, which further requires recovery through composting or anaerobic digestion in accordance with EU packaging standards.[43]

As such, cigarette filters, regardless of its material, remain toxic, non-circular, and incompatible with a sustainable future. They must be addressed as a design hazard, not a material issue.

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