



**TO:** Thomas Kruidenier, Executive Director  
Substance Prioritization, Assessment and Coordination Division  
Environment and Climate Change Canada  
Gatineau, Quebec K1A 0H3  
Email: [substances@ec.gc.ca](mailto:substances@ec.gc.ca)

May 7, 2025

**AND TO:** Andrew Beck, Director  
Risk Management Bureau  
Health Canada  
Ottawa, Ontario  
K1A 0K9  
Email: [andrew.beck@hc-sc.gc.ca](mailto:andrew.beck@hc-sc.gc.ca)

**Re: Classifying the risk status of per-and polyfluoroalkyl substances (PFAS), aka, forever chemicals pursuant to the proposal in [Canada Gazette, Part I, Volume 159, Number 10: Order Adding a Toxic Substance to Part 2 of Schedule 1 to the Canadian Environmental Protection Act, 1999](#)**

Dear Executive Director Kruidenier and Director Beck:

Please consider these comments on behalf of the non-profit public health organization, the Centre for Health Science and Law (CHSL).

- 1. Unjustly harmful, forever, everywhere chemicals should be listed in Table 1 of Schedule 1 to the *Canadian Environmental Protection Act* in keeping with the serious concerns they pose.**

Considering the demonstrated harm, wide dispersion through human populations and the natural environment, and long half-lives of many PFAS chemicals, they are more aptly called “harmful, forever, everywhere chemicals.”

The health and environmental risks are extensive and well documented:

*Toxicological and epidemiological information is available for less than 50 PFAS with most research focused on PFOA and PFOS...Exposure to PFAS can affect multiple organs and systems. The main targets include the liver, immune system, kidney, reproduction, development, endocrine disruption (thyroid), nervous system, and metabolism (lipids, glucose homeostasis, body weight). Effects on most of these endpoints have been observed in both animal and human studies. [p. 93]*

Health Canada and Environment and Climate Change Canada’s joint 2024 “[Updated Draft State of Per- and Polyfluoroalkyl Substances \(PFAS\) Report](#)”<sup>1</sup> (hereinafter, the *Updated [PFAS] Report*) states:

*“The broad use of PFAS, their ability to move locally and over long ranges, and their consequent ubiquitous presence in the environment have resulted in continuous environmental and human exposure to multiple PFAS, with well-studied PFAS demonstrating the potential to affect multiple systems and organs in both humans and wildlife...As a result of the extreme persistence of PFAS,<sup>2</sup> their potential for bioaccumulation in organisms and biomagnification through the food chain, and the impossibility of their removal from the broader environment, presence in the environment and uptake by biota and humans will continue and potentially increase in the absence of intervention.... Owing to the extreme persistence of PFAS and their potential to cause adverse effects, impacts on the environment are expected to increase if entry to the environment continues [at pages 8-9]*

The report also revealed that biomonitoring surveys indicated that PFAS chemicals, typically multiple PFAS chemicals, have been detected in an estimated 100% of the Canadian population, including vulnerable populations such as infants, human breastmilk, infant cord blood, and First Nations communities.<sup>3</sup> Furthermore, levels of PFAS chemicals (particularly, PFOS levels) in Indigenous communities routinely exceeded recommended safe levels set by the European Food Safety Agency (p. 74 and 76) and subpopulations of non-Indigenous populations (p. 76)

Notably, the manufacture, use, sale, offer for sale, and import of certain PFOS and some other PFAS chemicals and their precursors are already prohibited in Canada through regulations under the *Canadian Environmental Protection Act (CEPA)*, with a limited number of exemptions. It is not clear if the harmful high levels of PFOS chemicals revealed in biomonitoring studies are due to:

- unlawful continuing use,
- release into Canada from jurisdictions with laxer regulations or enforcement, or
- legacy effects of accumulated pollution over decades of chemical with very long half-lives.

However, the prompt Canadian and international restrictions are essential to reduce reasonably foreseeable risk.

For one potentially important example, the ingredients of tattoo ink are not regulated in Canada. Narrative Research found in a survey of 1,230 Canadian adults in 2024, that approximately one-third of Canadians have at least one tattoo, i.e. permanent ink injected into human tissue.<sup>4</sup> According to the *Updated [PFAS] Report*, PFAS chemicals are used in both printing ink and cosmetics. Although the *Food and Drug Regulations* consider tattoo inks to be cosmetics, the only express references to ink in the *Food and Drug Regulations* govern inks used on packages of pharmaceuticals and cosmetics and on pharmaceutical themselves to, for instance, give a pill a particular flavor or colour.<sup>5</sup> The tattoo [Compliance Verification Project 2022-2023](#) revealed no toxicology analysis for PFAS chemicals (or other toxics often found in dyes).

## 2. Expressly applying the precautionary principle is warranted.

Section 2(1) of the *Canadian Environmental Protection Act* mandates the following:

*Duties of the Government of Canada*

*2 (1) In the administration of this Act, the Government of Canada shall, having regard to the Constitution and laws of Canada and subject to subsection (1.1), (a) exercise its powers in a manner that*

- (i) protects the environment and human health, including the health of vulnerable populations,*
- (ii) applies the precautionary principle, which provides that the lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation if there are threats of serious or irreversible damage, and*
- (iii) promotes and reinforces enforceable pollution prevention approaches;*  
[emphasis added]

Although the Privy Council Office has long embraced the precautionary principle,<sup>6</sup> the Government of Canada has never articulated triggering criteria for exercising precaution, leaving the impression that it can be applied on a purely discretionary basis when doing so justifies regulatory decisions that the government has already made (or ignored if such decisions seem inconsistent with permissive measures the government proposes.)

As the *Updated [PFAS] Report* states:

*Although the vast majority of toxicology and epidemiology studies have focused on the effects from exposure to a single PFAS, biota and humans typically experience exposure to many PFAS at a given time, as can be seen from environmental sampling and biomonitoring data. [at page 7]*

Th precautionary principle seems to demand inclusion in Part 1 of Schedule 1 which currently lists 19 substances, rather than being added to a list of ambiguous regulatory status (i.e. Part 2 of Schedule 1 to the *Canadian Environmental Protection Act*) in Part 2 which lists 137 substances including:

- # 65 carbon dioxide (CO<sub>2</sub>) that is obviously harmful, but also naturally occurring and widely available;
- # 66 methane (widely distributed as a fuel in much of Canada in the form of natural gas);
- # 67 nitrous oxide (laughing gas) that is [available for sale online and at retail in Canada](#);
- and
- # 116 plastic microbeads ≤ 5 millimetres.

At least for cosmetics, outright banning them would likely have minimal negative impact on the marketplace. According to the *Updated PFAS Report*,

*PFAS are intentionally added to some cosmetics, such as foundations, moisturizers, lotions, and creams, to improve the penetration of other ingredients into the skin, enhance brightness, and increase the durability of makeup...[But,] **PFAS-containing Cosmetic Notifications received each year represent less than 1% of the total Cosmetic Notifications** received by HC annually.” [emphasis added]*

Likewise, the *Updated [PFAS] Report* states:

*There are uncertainties associated with understanding the characteristics of substances across the range of PFAS structures from toxicological, epidemiological and monitoring datasets that are focused on a limited number of PFAS. However, there is a growing body of evidence suggesting that concerns identified for well-studied PFAS are more broadly applicable to other PFAS than previously believed.* [at page 8]

### **3. Failure to conduct a Gender Based Analysis Plus seems inconsistent with government regulatory policy.**

The proposal states, implausibly, at page 700 of the *Canada Gazette* posting:

*“Gender-based analysis plus  
No gender-based analysis plus (GBA+) impacts have been identified for this proposal.”*

The proposal itself notes that common uses of PFAS chemicals in consumer products include cosmetics and clothing, which so obviously differ along gender lines as to warrant a quantitative analysis. Likewise, firefighters are disproportionately male and, as such, disproportionately exposed to PFAS-containing flame-retarding foam and personal protective clothing. Also, spouses of firefighters may also be exposed to elevated health risks. Likewise, the *Updated [PFAS] Report* notes superadded risks of pregnant women, such as risks to the fetus.<sup>7</sup>

### **4. Reliance on United States Environmental Protection Agency analysis seems generally imprudent, especially at this time.**

The Government of Canada should be circumspect about relying on expertise and regulatory cooperation of the US federal government health and environmental protection agencies. For instance, the 2024 *Update [PFAS] Report* states:

*To continue to improve the understanding of the PFAS class, the Government of Canada is leading an initiative in collaboration with academic and government partners (for example, US EPA) under the Accelerating the Pace of Chemical Risk Assessment program.*

In recent months, the current US federal political leadership has become notorious for intemperate cuts to funding to science function in the it public service, even using metaphors of a chainsaw and woodchipper to characterize efforts to refund scientific agencies and funding for external research. The current administration also repeatedly and publicly substitutes baseless dogma for evidence and repeatedly reports wildly inaccurate mathematical errors.<sup>8</sup>

While the US federal government's historically large scientific research capacity has likely made it an alluring partner for Canadian government scientists and regulators in health protection standard-setting, it bears noting that the average [Canadian's healthy-life-expectancy at birth \(70 years\) was six years longer than the average American's \(64 years\)](#) in 2021 (the latest year reported by the World Health Organization), a metric that discounts years for periods living with disability and illness.

It is potentially harmful to the health of Canadians and the integrity of the Canadian and global natural environment to hitch our wagon to the US federal government.

To better protect Canadians, Canada should press the United States to tighten its standards for PFAS chemicals, especially considering the mobility and demonstrated dispersion of PFAS chemicals through the natural environment and human populations. That is, it is likely that a great deal of PFAS chemicals in Canada's environment and the human tissues of Canadians originate from the United States and travel across the border through air and water systems as well as internationally traded products destined for Canadian industry and consumer markets.

#### **5. There may be a common law duty to declare risks of harm from PFAS chemical that exceeds the regulatory standard set by the federal government**

There may be a common law duty to disclose risks of toxic chemicals that is more protective than regulatory safeguards under, for instance, the *Canadian Environmental Protection Act*. For example, the Supreme Court of Canada held that there is a general duty to disclose risks to consumers in *Hollis v. Dow Corning Corp*:

*A manufacturer of a product has a duty in tort to warn consumers of dangers it knows or ought to know are inherent in the product's use. This duty is a continuing one, requiring manufacturers to warn not only of dangers known at the time of sale, but also of dangers discovered after the product has been sold and delivered. All warnings must be reasonably communicated, and must clearly describe any specific dangers that arise from the ordinary use of the product. The duty to warn serves to correct the knowledge imbalance between manufacturers and consumers by alerting consumers to any dangers and allowing them to make informed decisions concerning the safe use of the product.*<sup>9</sup>

*Hollis* cited with approval in paragraph 20 the Supreme Court of Canada's own 1972 decision in *Lambert v. Lastoplex Chemicals*:

*Manufacturers owe a duty to consumers of their products to see that there are no defects in manufacture which are likely to give rise to injury in the ordinary course*

*of use. Their duty does not, however, end if the product, although suitable for the purpose for which it is manufactured and marketed, is at the same time dangerous to use; and if they are aware of its dangerous character they cannot, without more, pass the risk of injury to the consumer.*<sup>10</sup>

*Lambert* has been cited with approval by dozens of Canadian courts, including recently by the Alberta and Ontario Courts of Appeal.

Common law duties to warn about the risks of consumer products require private lawsuits to enforce compliance. It is better that government regulatory measure as at least as protective as common law standards to obviate the need for private citizens to use the courts, at great expense, to compel protective actions by companies on a case-by-case basis.

## **6. Quantifying risk to meeting the biodiversity convention commitments to reduce harm caused by toxic chemicals by 50% by 2030.**

The *Updated [PFAS] Report* describes itself as a qualitative analysis, though it includes some quantitative data.

The government of Canada agreed to honour the 2022 [\*Kunming-Montreal Global Biodiversity Framework\*](#) (GBF) to [reduce the overall risk from pesticides by at least half by 2030](#). However, by analysis, Health Canada's 2020-2021 report to Parliament indicated (at page 11) that [Canadian annual sales of all pesticides increased by 20% between 2014 and 2018](#), alone. The most recent (2022-2023) *Report to Parliament* reported different numbers, but [revealed a persisting 25% rise from 2014 and 2015 sales, rather than the expected downward trend](#) (at page 14). While it remains conceivable that many high-toxicity pesticides have been replaced by lower-toxic and rising sales quantities, the government does not publicly report the amounts of sales of all pesticides and does not appear to have a formula for calculating overall toxicity, setting annual targets for a reducing harm or usage or publicly reporting progress. To meet this target by 2030 the federal government should establish:

- enforceable,
- quantified,
- time-delimited,
- toxic chemical reduction targets,
- with annual quantitative published progress reports, and
- stated preference for seller-sponsored studies

including for PFAS chemicals.

## 7. Conclusion

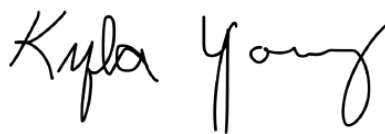
In sum, the Gazette proposal is an important recognition of government concern about the risk of forever chemicals, though its approach seems insufficiently cautious in the context of uncertain but considerable, foreboding science. PFAS chemicals warrant including Table 1, not Table 2 of Schedule 1 of the *Canadian Environmental Protection Act*.

As the 2024 *Updated PFAS Report* noted, a 2006 *Risk Management Strategy for PFOS* stated that the ultimate environmental objective was to reduce concentrations of PFOS in the Canadian environment to the lowest level possible. Taking a timid step toward further regulation 19 years later seems destined to accept the perils of PFAS chemicals for another generation.

Respectfully submitted,



Bill Jeffery, BA, LLB  
Executive Director and General Counsel



Kyla Young, MSc, JD  
Articling Clerk

### **ENDNOTES**

---

<sup>1</sup> <https://www.canada.ca/en/environment-climate-change/services/evaluating-existing-substances/updated-draft-state-per-polyfluoroalkyl-substances-report.html>

<sup>2</sup> For instance, PFOA chemicals are estimated to have half-lives in excess of 41 years and PFOS chemical have half-lives longer than 235 years. [*Updated [PFAS] Report* at page 39].

<sup>3</sup> *Updated [PFAS] Report* at page 69.

<sup>4</sup> Narrative Research. 2024. Available at: <https://narrativeresearch.ca/one-third-of-canadians-have-tattoos-and-most-have-no-regrets-about-getting-them/>

<sup>5</sup> *Food and Drug Regulations*, CRC 870, C.01.004.02, C.04.651, and C.04.656

<sup>6</sup> Privy Council Office. *A Framework for the Application of Precaution in Science-Based Decision Making About Risk*. Ottawa: PCO, 2003). Available at: <https://publications.gc.ca/collections/Collection/CP22-70-2003E.pdf>

<sup>7</sup> For instance, exposure to high levels of PFAS are associated with decreased female fertility. See: Ding N, Harlow SD, Randolph JF Jr, Loch-Carusio R, Park SK. Perfluoroalkyl and polyfluoroalkyl substances (PFAS) and their effects on the ovary. *Hum Reprod Update*. 2020 Sep 1;26(5):724-752. doi: 10.1093/humupd/dmaa018; and Wang W, Hong X, Zhao F, et al. The effects of perfluoroalkyl and polyfluoroalkyl substances on female fertility: A systematic review and meta-analysis. *Environ Res*. 2023 Jan 1;216(Pt 3):114718. doi: 10.1016/j.envres.2022.114718. Epub 2022 Nov 2.

<sup>8</sup> Trump Tracker. *Science*. Accessed May 7, 2025. Available at: [https://www.science.org/topic/tags/trump-tracker?utm\\_source=DailyNewsAlert&utm\\_medium=email&utm\\_campaign=TrumpTracker](https://www.science.org/topic/tags/trump-tracker?utm_source=DailyNewsAlert&utm_medium=email&utm_campaign=TrumpTracker)

<sup>9</sup> *Hollis v. Dow Corning Corp.*, [1995] 4 *Supreme Court Reports* 634, <<https://canlii.ca/t/1frdr>>

<sup>10</sup> *Lambert v. Lastoplex Chemicals*, 1971 [1972] *Supreme Court Reports* 569, <<https://canlii.ca/t/1twsz>>