Government of Canada Gouvernement du Canada

# Risk Management Approach

# for

# Per- and polyfluoroalkyl substances (PFAS), excluding fluoropolymers

Environment and Climate Change Canada

Health Canada

March 2025

Canada

# Summary of Proposed Risk Management

The class of per- and polyfluoroalkyl substances (PFAS), excluding fluoropolymers, is concluded to meet the criteria under paragraphs 64(a) and (c) of the *Canadian Environmental Protection Act, 1999* (CEPA), as these substances are entering or may enter the environment in a quantity or concentration or under conditions that have or may have immediate or long-term harmful effects on the environment or its biological diversity, and that constitute or may constitute a danger in Canada to human life or health.

For the purpose of subparagraph 77(6)(c)(i) of CEPA, the Government of Canada is proposing the following new risk management actions through a phased prohibition under CEPA:

Phase 1: prohibition of the use of PFAS, excluding fluoropolymers, not currently regulated in firefighting foams, due to high potential for environmental and human exposure.

Phase 2: prohibition of the uses of PFAS, excluding fluoropolymers, not needed for the protection of health, safety or the environment, which includes consumer applications. Prioritization of uses for prohibition is based on, and will take into account, costs and benefits, availability of suitable alternatives and other socio-economic considerations. Proposed uses to be regulated in Phase 2 include:

- cosmetics;
- natural health products and non-prescription drugs;
- food packaging materials, food additives, non-industrial food contact products such as paper plates, bowls and cups;
- paint and coating, adhesive and sealant and other building materials available to consumers;
- consumer mixtures such as cleaning products, waxes and polishes;
- textile uses (including in personal protective equipment such as firefighting turnout gear); and
- ski waxes

Phase 3: prohibition of the uses of PFAS, excluding fluoropolymers, requiring further evaluation of the role of PFAS for which currently there may not be feasible alternatives and taking into consideration socio-economic factors, including:

- fluorinated gas applications;
- prescription drugs (human and veterinary);
- medical devices;
- industrial food contact materials;
- industrial sectors such as mining and petroleum; and
- transport and military applications.

At each phase of risk management, exemptions will be considered when necessary, with attention to feasible alternatives and socio-economic factors.

To inform risk management decision-making, information on the following topics should be provided (on or before May 7, 2025), to the contact details identified in section 8 of this document:

1. availability of alternatives to PFAS, or lack thereof, in products and applications in which they are currently used;
2. estimated timeframe to transition to alternatives to PFAS, including any challenges;
3. socio-economic impacts of replacing PFAS, including costs and feasibility of elimination or replacement; and
4. quantities, and concentrations of PFAS (including Chemical Abstracts Service Registry Numbers, units of measurement, and applications) in products manufactured in, imported into, and sold in Canada (if not already provided through the section 71 notice).

The risk management actions outlined in this Risk Management Approach document may evolve through consideration of assessments and risk management options or actions published for other Chemicals Management Plan (CMP) substances as required to ensure effective, coordinated, and consistent risk management decision-making, or other sources.

**Note:** PFAS meeting the definition of fluoropolymers, as defined in the State of PFAS Report, are not addressed within that report or this Risk Management Approach and are planned for consideration in a separate assessment. Refer to section 2 of this document for more details.

**Note:** The above summary is an abridged list of actions proposed to manage these substances and to seek information on identified gaps. Refer to section 3 of this document for more complete details in this regard. It should be noted that the proposed risk management actions may evolve through consideration of additional information obtained from the public comment period, published literature, and other sources.

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# 1. Context

The *Canadian Environmental Protection Act, 1999* (CEPA) (Canada 1999) provides the authority for the Minister of the Environment and the Minister of Health (the Ministers) to conduct assessments to determine if substances are toxic to the environment and/or harmful to human health as set out in section 64 of CEPA[1,2], and if so, to manage the associated risks.

In April 2021, the Government of Canada published a Notice of Intent signaling an intent to move forward with activities to address the class of PFAS. This class of substances was considered a priority on the basis that scientific evidence to date indicates that groups of PFAS, including those used to replace regulated PFAS (that is, perfluorooctane sulfonate (PFOS) and its salts and precursors, perfluorooctanoic acid (PFOA) and its salts and precursors, and long-chain perfluorocarboxylic acids (LC-PFCAs), and their salts and precursors), may be associated with environmental or human health effects.

Addressing PFAS as a class will help to protect the environment and human health by, among other things, reducing the chance of regrettable substitution (replacing one PFAS with another less-well characterized and equally problematic PFAS), incentivizing improved research and monitoring programs, and reducing future environmental and human exposure to PFAS. The class of PFAS is defined in the State of PFAS Report as "fluorinated substances that contain at least one fully fluorinated methyl or methylene carbon atom (without any H/Cl/Br/I atom attached to it), that is, with a few noted exceptions, any chemical with at least a perfluorinated methyl group ($–CF_3$) or a perfluorinated methylene group ($–CF_2–$) is a PFAS". Substances included under this definition of PFAS meet the definition of a class under CEPA[3] as they contain the same portion of chemical structure.

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[1] Section 64 of CEPA**:** *For the purposes of* [Parts 5 and 6 of CEPA]*, except where the expression "inherently toxic" appears, a substance is toxic if it is entering or may enter the environment in a quantity or concentration or under conditions that*

- *a) have or may have an immediate or long-term harmful effect on the environment or its biological diversity;*
- *b) constitute or may constitute a danger to the environment on which life depends; or*
- *c) constitute or may constitute a danger in Canada to human life or health.*

[2] A determination of whether one or more of the criteria of section 64 are met is based upon an assessment of potential risks to the environment and/or to human health associated with exposures in the general environment. For humans, this includes, but is not limited to, exposures from ambient and indoor air, drinking water, foodstuffs, and products used by consumers. A conclusion under CEPA is not relevant to, nor does it preclude, an assessment against the hazard criteria specified in the *Hazardous Product Regulations*, which are a part of the regulatory framework for the Workplace Hazardous Materials Information System for products intended for workplace use. Similarly, a conclusion on the basis of the criteria contained in section 64 of CEPA does not preclude actions being taken under other sections of CEPA or other Acts.

[3] Subsection 3(3) of CEPA states that a class of substances is a substance for the purpose of the Act where, as stated in the definition of the term class of substances in subsection 3(1), as any two or more substances that: (a) contain the same portion of chemical structure; (b) have similar physical-chemical or toxicological properties; or (c) have similar types of use.

The most commonly identified groups of polymeric PFAS include side-chain fluorinated polymers (SCFPs), perfluoropolyethers (PFPEs) and fluoropolymers. Fluoropolymers are defined in the State of PFAS Report as polymers made by polymerization or copolymerization of olefinic monomers (at least 1 of which contains fluorine bonded to 1 or both of the olefinic carbon atoms), to form a carbon-only polymer backbone with fluorine atoms directly bonded to it. Given information suggesting their differences from the other PFAS in the class, additional work on fluoropolymers is warranted. PFAS meeting the definition of fluoropolymers are not addressed within the State of PFAS Report or this Risk Management Approach but were added to the Proposed Plan of Priorities for further assessment.

# 2. Issue

On March 8, 2025, Health Canada and Environment and Climate Change Canada prepared the State of PFAS Report under section 68 of CEPA. A notice indicating the measure the Ministers propose to take and summarizing the scientific considerations of the report was published under subsection 77(6) of the Act in the *Canada Gazette*, Part I, on March 8, 2025 (ECCC, HC 2025). For further information, refer to the State of PFAS Report.

## 2.1 State of PFAS Report conclusion

The State of PFAS Report concluded that the class of PFAS, excluding fluoropolymers as defined in that report, is toxic under paragraphs 64(*a*) and 64(*c*) of CEPA as these substances are entering or may enter the environment in a quantity or concentration or under conditions that have or may have an immediate or long-term harmful effect on the environment or its biological diversity; and constitute or may constitute a danger in Canada to human life or health (ECCC, HC 2025). However, the class of PFAS, excluding fluoropolymers as defined in the State of PFAS Report, is concluded not to meet the criteria under paragraph 64(*b*) of CEPA as these substances are not entering the environment in a quantity or concentration or under conditions that constitute or may constitute a danger to the environment on which life depends.

Well-studied PFAS meet the persistence criteria as set out in the *Persistence and Bioaccumulation Regulations* of CEPA. Based on available information and structural similarities, it is expected that other substances within the class of PFAS are also highly persistent or transform to persistent PFAS. It is therefore determined that the class of PFAS meets the persistence criteria as set out in the *Persistence and Bioaccumulation Regulations* of CEPA. Given that fluoropolymers have been excluded from this assessment, they are also excluded from this determination with regard to the *Persistence and Bioaccumulation Regulations* of CEPA.

There is a high concern identified for the biomagnification and trophic magnification potential of well-studied PFAS in air-breathing organisms; however, the numeric criteria for bioaccumulation, outlined in the *Persistence and Bioaccumulation Regulations*, are based on bioaccumulation data for freshwater aquatic species which do not account for biomagnification potential. Therefore, application of the criteria would not reflect the concern for dietary-based biomagnification, the primary route of foodweb exposure identified for well-studied PFAS. Therefore, the bioaccumulation potential of PFAS cannot reasonably be determined according to the regulatory criteria set out in the *Persistence and Bioaccumulation Regulations* of CEPA.

## 2.2 Recommendation under CEPA

On the basis of the findings of the State of PFAS Report, the Ministers recommend, from the measures set out in subsection 77(2) of the Act, that the class of PFAS, excluding fluoropolymers as defined in the State of PFAS Report, be added to Part 2 of Schedule 1 to CEPA.[4] Addition of a substance to Schedule 1 to CEPA enables the Government of Canada to propose certain risk management measures under CEPA to manage potential ecological and human health risks associated with the substance[5].

CEPA sets out a 2-track approach for managing risks. Under subsection 77(3), the Ministers are required to propose recommending the addition of a substance that meets the criteria set out in paragraph (a), (b) or (c) to Part 1[6] of Schedule 1 to the Act[4] and, in developing a proposed regulation or instrument respecting preventive or control actions, to give priority to the total, partial or conditional prohibition of activities in relation to the substance or to the release of the substance into the environment. For other substances recommended for addition to Part 2 of

[4] After an assessment of a given substance under Part 5 of CEPA, other than section 83, the Ministers shall propose one of the following measures: take no further action with respect to the substance, add the substance to the List referred to in section 75.1 of the Act (unless the substance is already on that List), recommend the addition of the substance to Part 1 of the list of toxic substances in Schedule 1 to CEPA (for substances that pose the highest risk) or recommend the addition of the substance to Part 2 of the list of toxic substances in Schedule 1 to CEPA (for other CEPA-toxic substances).

[5] Certain well-studied sub-classes of PFAS are already listed on Schedule 1 and subject to regulatory controls in Canada. Please see sections 4.2.1 and section 7 for more information.

[6] Under subsection 77(3), a substance must be recommended for addition to Part 1 of Schedule 1 to the Act when the substance is determined to be toxic and the Ministers are satisfied that:

(a) the substance may have a long-term harmful effect on the environment and
    (i) is inherently toxic to human beings or non-human organisms, as determined by laboratory or other studies,
    (ii) is persistent and bioaccumulative in accordance with the regulations,
    (iii) is present in the environment primarily as a result of human activity, and
    (iv) is not a naturally occurring radionuclide or a naturally occurring inorganic substance.
(b) the substance may constitute a danger in Canada to human life or health and is, in accordance with the regulations, carcinogenic, mutagenic or toxic for reproduction; or
(c) the substance is, in accordance with the regulations, a substance that poses the highest risk.

Schedule 1 to the Act, the Ministers must give priority to pollution prevention, and this could include regulatory measures, such as prohibition if warranted, or non-regulatory measures.

The class of PFAS, excluding fluoropolymers as defined in the State of PFAS Report, is found not to meet the criteria per sub-section 77(3) for addition to Part 1 of Schedule 1 to the Act. Until regulations specifying criteria for the classification of substances that pose the highest risk or that are carcinogenic, mutagenic or toxic to reproduction are available (as per sub-section 77(3)), the class of PFAS, excluding fluoropolymers as defined in the State of PFAS Report, is recommended for addition to Part 2 of Schedule 1. Following the availability of the aforementioned criteria, the substances may be moved to Part 1 of Schedule 1, if applicable, at a later date, in alignment with the new regulations noted above.

The Ministers have taken into consideration comments made by stakeholders during the public comment period on the Draft State of PFAS Report and its associated Risk Management Scope document that were published in May 2023. The Ministers have also taken into consideration additional comments provided by stakeholders during the public comment period on the Updated Draft State of PFAS Report and its associated Revised Risk Management Scope that were published in July 2024. Some PFAS were previously assessed and are listed to Schedule 1 of CEPA, and are currently subject to risk management actions. Refer to section 7 of this document.

As the Ministers finalize the recommendation to add the class of PFAS, excluding fluoropolymers as defined in the State of PFAS Report, to Part 2 of Schedule 1, risk management instruments must be proposed – unless an exception to section 91 applies - within 24 months from the date on which the Ministers recommended that the class of PFAS, excluding fluoropolymers as defined in the State of PFAS Report, be added to Schedule 1 of CEPA, and finalized within 18 months from the date on which the risk management instrument is proposed, as outlined in sections 91 and 92 of CEPA (refer to section 8 of this document for publication timelines applicable to this group of substances). Adding a substance to Schedule 1 does not, in itself, establish any controls. Rather, it enables the Government of Canada to take risk management actions under CEPA.

## 2.3 Public comments received

The Draft State of PFAS Report (ECCC, HC, 2023a) and its associated Risk Management Scope document (ECCC, HC, 2023b) summarizing the proposed risk management options under consideration at that time, were published on May 20, 2023. Industry and other interested stakeholders were invited to submit comments on both documents during a 60-day public comment period and a summary of responses to public comments received was published. These comments were taken into consideration in the development of the Updated Draft State of PFAS Report and the Revised Risk Management Scope document, which were published on July 13, 2024, for a 60-day public comment period.

Comments received on the Updated Draft State of PFAS Report and the Revised Risk Management Scope document were also taken into consideration in the development of this document and the State of PFAS Report. A summary of responses to public comments received is available.

# 3. Proposed risk management

## 3.1 Proposed environmental and human health objectives

Proposed environmental and human health objectives are quantitative or qualitative goals to address environmental and human health concerns.

The proposed environmental and human health objectives for the class of PFAS, excluding fluoropolymers as defined in the State of PFAS Report, are, respectively, to:

- reduce releases of these substances to the Canadian environment so as to avoid adverse effects; and
- reduce exposure of the general population, including disproportionately impacted populations, to these substances, to protect human health.

## 3.2 Proposed risk management objective

Proposed risk management objectives set quantitative or qualitative targets to be achieved by the implementation of risk management regulations, instruments and/or tools for a given substance or substances.

In this case, the proposed risk management objective for the class of PFAS, excluding fluoropolymers as defined in the State of PFAS Report, is to, over time, achieve the lowest levels of environmental and human exposure that are technically feasible, taking into consideration socio-economic factors.

## 3.3 Proposed risk management actions

To achieve the proposed risk management objective and to work towards achieving the proposed environmental and human health objectives, risk management actions are being considered for the class of PFAS, excluding fluoropolymers. For the purpose of subparagraph 77(6)(c)(i) of CEPA, the Government is proposing new risk management actions for the class of PFAS, excluding fluoropolymers as defined in the State of PFAS Report, through a phased approach as outlined in Table 1.

**Table 1. Proposed phases of prohibition under CEPA[a] regulation(s) for the class of PFAS, excluding fluoropolymers, with example of uses/ products that would be managed.**

| Phase | Scope | Example of uses / products |
|---|---|---|
| **1** | Use of PFAS (excluding fluoropolymers), not currently regulated, in firefighting foams | • see section 4.2.1 |
| **2** | Uses of PFAS (excluding fluoropolymers)[b] not needed for the protection of health, safety or the environment, with a particular focus on consumer applications where alternatives are known to exist | • cosmetics<br>• natural health products and non-prescription drugs<br>• food packaging materials, food additives, non-industrial food contact products such as paper plates, cups and bowls<br>• paint and coating, adhesive and sealant and other building materials available to consumers<br>• consumer mixtures such as cleaning products, waxes and polishes<br>• textile uses (including personal protective equipment such as firefighting turnout gear)<br>• ski waxes |
| **3** | Uses of PFAS (excluding fluoropolymers)[b] for which currently there may not be feasible alternatives and requiring further evaluation of the role of PFAS | • fluorinated gas applications such as spray-foam insulation and refrigeration<br>• prescription drugs (human and veterinary)<br>• medical devices<br>• industrial food contact materials<br>• industrial sectors such as mining and petroleum<br>• transport and military applications |

[a] PFAS (excluding fluoropolymers) in pesticides will be managed separately under the *Pest Control Products Act*.

[b] Examples of uses of PFAS (excluding fluoropolymers) are not exclusive. Uses may be removed or added over time with deeper understanding of use and context.

At each phase of risk management, exemptions will be considered when necessary, with attention to feasible alternatives and socio-economic factors.

Note that these proposed risk management actions are preliminary and subject to change. Proposed risk management will take into consideration those groups of individuals within Canada, who, due to greater exposure, may be disproportionately impacted.

Following the publication of this document, additional information obtained from the public comment periods and from other sources will be considered in the instrument selection and development process[7]. The risk management actions may also evolve through consideration of assessments and risk management options or actions published for other CMP substances to ensure effective, coordinated, and consistent risk management decision-making.

Proposed risk management actions being considered are meant to be complementary to other control instruments in order to avoid duplication with existing Acts and regulations, such as the *Prohibition of Certain Toxic Substances Regulations, 2012* (see section 4.2.1) and the *Ozone-depleting Substances and Halocarbon Alternatives Regulations* (see proposed controls in section 4.2.3) as well as with voluntary actions outlined in section 3.4.

In addition, other ongoing actions on PFAS will continue, such as development of drinking water guidelines and environmental quality guidelines, management of contaminated sites, and the continued administration of existing risk management actions outlined in section 7.1.

## 3.4 Additional complementary risk management actions

In addition to the proposed prohibition of PFAS uses mentioned in section 3.3, complementary voluntary risk management actions are also being considered to achieve early results to reduce releases of PFAS. This work would be informed by stakeholder engagement and would reflect and align with the suite of broader risk management options under consideration, particularly those outlined in section 3.3. Voluntary initiatives under consideration include:

- exploring opportunities to increase disclosure of information (such as through labelling) regarding chemicals of concern that would enable consumers and importers to identify products containing PFAS (Strategy for Enhancing the Disclosure of Substances in Products, publication anticipated in 2025);
- engaging with interested sectors on highlighting industry-led voluntarily phase-out of PFAS;
- working with North American trading partners under the Commission for Environmental Cooperation on alternatives assessment and informed substitution, using PFAS as an early priority; and,

[7] The proposed risk management regulations, instruments or tools will be selected using a thorough, consistent and efficient approach and take into consideration available information in line with the Government of Canada's Cabinet Directive on Regulation (TBS 2018), the Red Tape Reduction Action Plan (TBS 2012), and in the case of a regulation the *Red Tape Reduction Act* (Canada 2015).

- engaging with industry to explore removing PFAS substances from the applicable list of permitted food additives.

In addition, the Government of Canada is actively seeking technologies to help reduce existing PFAS pollution in the environment. For example, a challenge was launched under Innovative Solutions Canada to seek innovative, cost-effective, safe, and scalable solutions that lead to the destruction of PFAS compounds in contaminated media (ISED 2024).

## 3.5 Performance measurement evaluation

Performance measurement evaluates the ongoing effectiveness and relevance of the actions taken to manage risks from toxic substances[8]. Environment and Climate Change Canada and Health Canada have developed a Performance Measurement Evaluation Strategy that sets out the approach to evaluate the effectiveness of actions taken on substances found toxic under CEPA. The aim is to determine whether environmental and/or human health objectives have been met and whether there is a need to revisit the risk management approach for those substances, to ensure that risks are managed effectively over time. To achieve this, the Government of Canada plans to review, on a regular basis, the effectiveness of risk management actions, in this case for the class of PFAS. Selection of a substance or group of substances for performance measurement evaluation is conducted through readiness, prioritization and work planning as outlined in the Performance Measurement Evaluation Strategy. In evaluating progress and revisiting risk management, as warranted, these activities together will aim to manage risks effectively over time.

The Government of Canada may measure the effectiveness of the risk management actions for the class of PFAS by collecting and analyzing data such as the presence of PFAS in various environmental compartments, monitoring data obtained from the Monitoring and Surveillance Program under the CMP, and biomonitoring data such as that collected under the Canadian Health Measures Survey (CHMS) and from the United Nations Global Monitoring Plan. These data sources may also be used to estimate the presence of PFAS in surface water and wastewater treatment plants' effluents, and in wildlife and ambient air. They may also be used as measures of human exposure and environmental presence prior

[8] Performance measurement can be performed at two levels:

- Instrument-based performance measurement evaluates the effectiveness of an individual instrument in meeting the specific risk management objectives that were set out when the risk management tool was designed. The results of performance measurement will help determine if additional risk management or assessment is needed (*that is*, evaluate whether risk management objectives have been met); and
- Substance-based performance measurement considers performance of all final risk management instruments applied to a chemical substance and relevant data or indicators of exposure to the environment or human health (*that is*, evaluate whether human health and/or environmental objectives have been met).

to implementation of risk management actions in order to establish a baseline and in the future to evaluate the performance of risk management actions.

The results of performance measurement and evaluation would be used to inform whether further risk management action is warranted. These results will be made available to people in Canada along with recommendations for further action, if applicable.

## 3.6 Risk management information gaps

Many commenters have submitted a significant amount of information in response to the Draft State of PFAS Report and Risk Management Scope as well as the Updated Draft State of PFAS Report and Revised Risk Management Scope, which helped to address certain data gaps and provide a better understanding of challenges they are facing. Interested stakeholders continue to be invited to provide new information to inform risk management decision-making regarding the class of PFAS, including:

- availability of alternatives to PFAS, or lack thereof, in products and applications in which they are currently used;
- estimated timeframe to transition to alternatives to PFAS, including any challenges;
- socio-economic impacts of replacing PFAS, including costs and feasibility of elimination or replacement; and
- types, quantities, and concentrations of PFAS (including Chemical Abstracts Service Registry Numbers, units of measurement, and applications) in products manufactured in, imported into, and sold in Canada.

Stakeholders that have new information that was not already submitted should provide it to help address these gaps on or before May 7, 2025 to the address identified in section 8. Although some of the information requested above will be collected via a section 71 notice (noted below), any additional information that stakeholders have that could help address the gaps should be provided to the government to enable timely and appropriate risk management decision-making.

### 3.6.1 Information gathering

Data collection initiatives, as well as certain reporting requirements, have been initiated and are planned to collect additional information on the class of PFAS, including the following:

- Gathering information under a mandatory notice *Notice with respect to certain per- and polyfluoroalkyl substances (PFAS)*, which was published under section 71 of CEPA on July 27, 2024, and had a reporting deadline

of January 29, 2025. Persons subject to the notice had the option to request extensions.

- Future consultations on uses without alternatives and the potential need for regulatory exemptions.
- Considering the addition of reporting requirements to the National Pollutant Release Inventory (NPRI). A consultation document on the proposed addition of 131 individual PFAS to the NPRI was published in September 2024. A decision on the final requirements is expected to be published in the *Canada Gazette* in early 2025. Reporting is proposed to take place by June 2026, for releases of PFAS that occurred during the 2025 calendar year.
- Considering whether a requirement should be imposed to report on the use of fume suppressants in certain applications, some of which contain substances that are PFAS as defined in the State of PFAS Report, as part of the proposed amendments to the *Chromium Electroplating, Chromium Anodizing and Reverse Etching Regulations* (ECCC 2022b).
- Continuing to monitor PFAS in food through the Total Diet Study (TDS). Health Canada's Food and Nutrition Directorate has analyzed food samples for PFAS for a number of years. The available data for PFAS in food are still limited for this class due to the large number of substances. However, continuous improvements in analytical methodology should allow the data to evolve.
- Monitoring existing databases for the presence of PFAS in a range of products such as cosmetics, natural health products, and non-prescription drugs.
- Monitoring and reviewing pesticide active ingredients and the list of pesticide formulants to identify any PFAS in pesticide products.
- Managing federal contaminated sites includes an obligation to report suspected and active sites on the Federal Contaminated Sites Inventory (FCSI) by the federal organizations responsible. The FCSI displays a standard set of basic and annually-updated information for federal contaminated sites. Each contaminated site record includes information such as the location of the site, the severity of contamination, the contaminated medium, the nature of the contaminant, and progress made to date in identifying and addressing contamination. Prior to 2023-24, federal sites contaminated with PFAS were not easily identified on the FCSI. As part of an update to the FCSI during 2023-24, a contaminant category was added that allows users to search easily for federal sites contaminated with PFAS.

# 4. Background

## 4.1 General information on PFAS

PFAS are a class of thousands of human-made substances that encompasses a broad range of structures, including those with varying degrees of fluorination and chain length (Buck et al. 2011; Wang et al. 2017; ITRC 2020; OECD, 2018. 2021).

PFAS possess a set of practical traits that serve a functional purpose in a broad spectrum of applications such as:

- oil and water repellency that results in stain resistance, soil repellency and non-stick properties;
- high resistance to chemical, physical, and thermal degradation; and
- low surface tension resulting in their use as surfactants and lubricants.

## 4.2 Current uses and identified sectors

The widespread use of these substances as well as their extreme persistence in the environment, propensity for accumulation and mobility has led to PFAS being commonly detected in the environment and certain PFAS being commonly detected in humans. Due to their properties, PFAS are used in many commercial applications and industrial sectors and are found in a wide range of products, including certain firefighting foams (for example, aqueous film-forming foams [AFFF]), food packaging materials, surfactants, lubricants, drugs (including natural health products and non-prescription drugs), medical devices, cosmetics, pesticides, textiles (for example, carpets, furniture, and clothing), vehicles, repellents and electronics. A study published in 2020 (Glüge et al. 2020) identified more than 200 current uses within 64 use categories for more than 1400 PFAS and presents in detail their functions and the related sectors.

The understanding of current uses of certain PFAS in Canada is being informed by data gathered from notices for certain PFAS issued pursuant to section 71 of CEPA), New Substances Notifications received under the *New Substances Notification Regulations (Chemicals and Polymers)* of CEPA, Cosmetic Notifications received under the *Cosmetic Regulations* of the *Food and Drugs Act* and voluntary submissions received by Health Canada related to food packaging materials. The information collected may not fully represent all uses in Canada. Public comments submitted following the publication of the Draft State of PFAS Report and Risk Management Scope and of the Updated Draft State of PFAS Report and Revised Risk Management Scope also provided information about uses of PFAS in Canada.

The following two subsections expand on the use of PFAS in firefighting foams and some of the uses proposed for the Phase 2 prohibition as these are the first regulatory actions in the proposed approach. The subsection after that, expands

on PFAS subgroups that have been identified by many commenters as having critical applications in their sectors.

### 4.2.1 PFAS-containing firefighting foams and PFAS fire-suppressing agents

PFAS-containing firefighting foams are used during emergencies to extinguish Class B fires, involving flammable and combustible liquids, including petroleum greases, tars, oils and gasoline, solvents, and alcohols. In the past, these foams were widely used for training purposes, but users have progressively started to employ training foams that do not contain fluorosurfactants for this purpose. PFAS surfactants help to cut off the oxygen from the fire by contributing to form a foam blanket and, more notably, a water film that glides over the surface of the burning liquid. AFFF is the most widely used and available of these foams and, for this reason, PFAS-containing firefighting foams are often simply referred to as AFFF, including in this document. There are, however, other types of PFAS-containing firefighting foams with different compositions used in specialized applications, such as alcohol-resistant AFFF (AR-AFFF) for polar solvents, and film-forming fluoroprotein foam (FFFP) for an added burn back resistance for deeper pool fires.

AFFF is one of the main sources of contamination from PFAS in drinking water and in the environment as this use is dispersive and significant quantities have been released during firefighting related activities. As a result, controls and bans of AFFF are increasing in jurisdictions globally (ECHA 2022a), and in particular in in the United States (US) where more than half of the states have already adopted or introduced measures (Safer States 2024; Arkansas 2021; Ohio 2022; Virginia 2019; West Virginia 2021). A few of these states are implementing take-back foam programs for disposal (FSJA 2024).

AFFF is mainly used in civil and military aviation and in the chemical and petroleum industries, but can also be used to respond to fires in other industrial settings. Municipal fire services may also use AFFF to extinguish fires, sometimes as part of mutual aid agreements, which allow emergency responders to lend assistance across their jurisdictional boundaries. For example, municipalities or townships neighbouring an airport may agree to provide personnel and other resources during emergency aircraft rescue and firefighting operations. AFFF are frequently divided into three general categories depending on the type of compounds and/or composition profile in PFAS-containing surfactant they contain (ITRC 2022, ECHA 2022b):

- Legacy PFOS AFFF;
- Legacy fluorotelomer AFFF, or “C8 AFFF”, which contain a very significant proportion of long-chain PFAS compounds of carbon chain length of 8 or longer (that is, PFOA and LC-PFCAs, their salts and precursors); and
- Modern fluorotelomer AFFF, or “C6 AFFF”, which mainly contain PFAS compounds of carbon chain length of 6 or shorter with no intentionally added or significant impurities of long-chain PFAS compounds.

In Canada, AFFF that contain certain regulated PFAS (that is, PFOS, PFOA and/or LC-PFCAs, their salts and precursors) are prohibited under the *Prohibition of Certain Toxic Substances Regulations, 2012*, with some exemptions (Canada 2016). These exemptions were provided to accommodate the transition to alternatives to PFOA and/or LC-PFCAs (and their salts and precursors) and the residual levels of PFOS (and its salts and precursors) that remain in firefighting equipment from historical use of the substance but were proposed to be phased out under the proposed *Prohibition of Certain Toxic Substances Regulations, 2022* (Canada 2022). These Regulations propose to phase out the use of AFFF-containing PFOA and/or LC-PFCAs (and their salts and precursors) (that is, C8 AFFF) in Canada with only a few time-limited exemptions for remaining critical uses that cannot be phased out right away. The Regulations also propose to include exemptions to accommodate residual levels of PFOS, PFOA and LC-PFCAs (and their salts and precursors).

Certain shorter length PFAS have been used as replacements for regulated PFAS in these fire-fighting foams (that is, C6 AFFF). The proposed development of a regulation for PFAS-containing firefighting foams described in section 3.3 would prohibit all remaining firefighting foams containing PFAS, with consideration being given to phase-out timelines for certain critical applications.

**Table 2. Milestones for the phase out of the use of PFAS in firefighting foams in Canada**

| General category | Phase out in Canada | Key driver |
|---|---|---|
| PFOS AFFF | Completed in 2013 | PFOS[a] found to be toxic and added to Schedule 1 of CEPA in 2006 |
| C8 AFFF | Proposed to be completed under the proposed *Prohibition of Certain Toxic Substances Regulations, 2022;* timelines of phase out to be confirmed in the final Regulations, which are targeted to be published in spring 2025 | PFOA[a] and LC-PFCAs[b] found to be toxic and added to Schedule 1 of CEPA in 2013 |
| C6 AFFF | Under consideration, timelines to be determined and to be informed by the publication of a consultation document (see next steps in section 8.2)[b] | Class of PFAS, excluding fluoropolymers (as defined in the State of PFAS report, 2025), concluded to be toxic and proposed to be added to Schedule 1 of CEPA |

[a] including their salts and precursors.
[b] additional opportunities for public and stakeholder engagement will be provided during the subsequent development of risk management activities.

Moreover, a few fluorinated gases that are PFAS, such as hydrofluoroethers (HFEs) or hydrofluorocarbons (HFCs), are or were also used as fire-suppressing agents for extinguishing fires in high-risk situations and are commonly referred to as “clean agents” (NFPA 2022). Such agents are different from firefighting foams, which are aqueous mixtures. Risk management actions for clean agents will be considered at the same time as other fluorinated gases in the third phase of prohibition.

### 4.2.2 PFAS uses proposed for Phase 2 prohibition

PFAS have been used as coatings in paper and paperboard food packaging and contact materials such as fast-food wrappers for hamburgers, pizza boxes, paper plates and microwave popcorn bags to prevent the paper from soaking up fats and water,. The PFAS used in this application are typically SCFPs or PFPEs, which are applied either directly to the pulp during paper manufacture or as a surface treatment to the finished paper. A number of physical and chemical alternatives to PFAS grease-proofers already exist for food packaging materials and the industry appears to be adopting these alternatives in a move away from PFAS.

In the US at the state level, a number of states currently have prohibitions in effect for PFAS in food packaging materials. In 2024, the US Food and Drug

Administration announced that substances containing PFAS used as grease-proofing agents on paper and paperboard for food contact uses are no longer being sold by manufacturers in the US market. There has also been voluntary action within the food industry as over a dozen major fast-food restaurant chains have committed to eliminating PFAS in food packaging materials.

Two substances meeting the definition of PFAS are currently on one of Canada's lists of permitted food additives. Each is permitted for use as pressure dispensing and aerating agent in unstandardized food. There is one alternative substance on this list for the same purpose in the same foods and there may be one or more additional alternatives on the list depending on the purpose and the food.

A variety of PFAS have been intentionally added to cosmetics, as well as to natural health products and non-prescription drugs, for a range of purposes such as to serve as lubricants and emulsifiers to improve texture and allow the products to penetrate the skin more easily. Some cosmetics have also used PFAS for their hydrophobic and oleophobic properties to make them more durable and long-lasting. There are a number of alternative substances that can replace the role that PFAS plays within cosmetics. It has been noted, however, that many of these alternatives are not 'drop in' replacements and a full reformulation of the cosmetic would likely be necessary in most cases.

PFAS have been used in many different textile applications primarily to impart waterproofing and stain-resistance to carpet, upholstery and apparel. The use of PFAS in personal protective equipment, particularly in firefighter turnout gear, plays an important role in the outer shell to prevent the gear from absorbing water. Alternatives appear to be broadly available to impart waterproof properties to textiles, including in personal protective equipment. PFAS-containing architectural protective paints and coatings appear to make up a small proportion of the market. The PFAS acts to improve the weatherability and durability of the coating, and alternatives such as polyurethane are readily available. In products such as cleaners, caulks, adhesives and sealants, PFAS may be added for their strong surfactant properties. However, a number of alternative surfactants are available for these uses and it is unclear to what degree PFAS is used for these products. Fluorinated ski waxes are high-end waxes that were developed in the 1980's and marketed primarily to ski racers. The PFAS in these waxes repel dirt, water and oil, which helps the skis glide faster, but also increases the cost significantly. The International Ski Federation (FIS) imposed a total ban on fluorinated ski waxes effective from the 2023-24 winter season.

### 4.2.3 Applications of HFOs and HCFOs

Fluorinated gases that are PFAS, including several hydrofluoroolefins (HFOs) and hydrochlorofluoroolefins (HCFOs), are used as refrigerants, foam-blowing agents, aerosol propellants, and solvents.

HFOs and HCFOs are used by industry as alternatives to other organofluorine compounds that have been identified as being potent greenhouse gases contributing to climate change (hydrochlorofluorocarbons (HCFCs) and hydrofluorocarbons (HFCs)) and as ozone-depleting substances (ODS) that destroy the protective ozone layer (chlorofluorocarbons (CFCs) and HCFCs).

The import, export, manufacture, and use of CFCs, HCFCs and HFCs, as well as certain products that contain or are designed to contain these substances, are already controlled in Canada under the *Ozone-depleting Substances and Halocarbon Alternatives Regulations* (ODSHAR). These regulations implement Canada's international obligations under the *Montreal Protocol on Substances that Deplete the Ozone Layer*, including the phasedown on the production and consumption of HFCs established under the Kigali Amendment.

As outlined in section 3.3, due to the need to further evaluate the role of PFAS in fluorinated gas applications, such as spray-foam insulation and refrigeration, for which there may not be feasible alternatives, these uses will be considered in the third phase of proposed risk management actions. Meanwhile, because HFOs and HCFOs are halocarbon alternatives, their addition to the ODSHAR may be considered to implement controls, permit requirements and annual reporting, which could enable the monitoring of the transition to these alternatives and promote their environmentally sound management.

# 5. Exposure Sources

Releases of PFAS to the Canadian environment are expected to occur during the manufacture, processing, use, recycling, and disposal of PFAS or products containing PFAS. PFAS enter the environment from human activity and exposure of the general population to PFAS is often attributed to environmental media, including food, and/or the use of products. The following subsections address the exposure sources being considered for proposed risk management.

## 5.1 PFAS-containing firefighting foams

Notwithstanding the fact that PFAS are ubiquitous in the environment, contaminated sites where PFAS-containing AFFF have been or are being used (for example, firefighting training areas) represent "hot spot" areas where elevated levels of PFAS may be found in the environment. PFAS contamination may pose risks to human health and the environment not only at the contaminated site (that is, on-site), but also off-site due to the potential for migration via surface water and groundwater or by wind transport or overspray of the AFFF product during use.

PFAS have demonstrated the ability to travel long distances (several kilometers) in the sub-surface (groundwater) and surface water, which can lead to a large area of impact from a single point source (Bhavsar et al. 2016; Weber et al. 2017; CCME 2021a).

## 5.2 Sources from products end-of-life and disposal

PFAS are used in many industrial processes and are present in a wide variety of consumer, commercial and industrial products. Their manufacture, use in manufacturing and industrial processes and use in products, as" well as disposal of those products can result in the release of PFAS to the environment to which people and ecological receptors may be exposed.

As it is not possible to separate PFAS-containing waste from the general waste stream, it is expected that PFAS-containing waste will be sent for disposal at a municipal solid waste landfill, incinerated, or recycled. PFAS may leach out of these products and materials, accumulate in landfill leachate, and eventually be released to the environment, even if that leachate is sent to a wastewater treatment system. Other solid waste facilities, such as organic processing facilities, scrapyards, and recycling facilities, may also release PFAS to the environment. PFAS released into the wastewater stream are sent to wastewater treatment plants or septic systems, where they may be concentrated. Biosolids and effluents from wastewater treatment plants may contain PFAS.

Biosolids that contain PFAS may be used as commercial fertilizers for application on agricultural lands and result in releases to the environment. Consult section 7 for more information. The disposal of materials, such as PFAS-contaminated soils and biosolids, can also become an indirect pathway of release to the environment.

The Government of Canada considers, where available, information relevant to those groups of individuals within the Canadian population who, due to greater susceptibility or greater exposure, may be disproportionately impacted.

The Government requests that industry and interested stakeholders submit any information on the substances that may be used to inform risk assessment, risk management, and product stewardship.

# 6. Risk management considerations

## 6.1 Alternatives and alternate technologies

Due to the large number of substances included in the definition of PFAS as defined in the State of PFAS Report and the wide range of products with which PFAS are implicated, the availability of alternatives cannot be described in detail here for all possible applications. Potential alternatives described below have not been evaluated by the government to determine whether they are less harmful and functionally equivalent to the PFAS they would replace.

Fluorine-free alternatives are currently available for many uses. However, despite the alternatives, in some cases substitutions are not occurring (ECHA 2023).

Several alternatives to the use of firefighting foams containing PFAS have been developed and are now widely available. These include fluorine-free firefighting foams (F3) and non-foam fire suppression systems, such as ignitable liquid spill drainage floors (ECHA 2022a; US DoD 2022). There is a large variety of hydrocarbon-based and detergent-based F3 available on the market. However, there are concerns that the available F3 may not be as effective as the PFAS-containing AFFF. Research and development on F3 with improved performance continues (SERDP 2019). F3 used in aviation applications must be tested and meet the firefighting performance and other requirements as described in the following standards: CAN/ULC 563:2022 (ULC 2022) and MIL-PRF-32725 (US DoD 2023).

Potential alternatives for PFAS applications in other products are also available. For example, in surface protection, wax-coated, Kaolin clay-coated and uncoated papers as well as silicone-based and cellulose-based products were identified as potential alternatives in food packaging applications (State of Washington 2021; OECD 2020). Silicones/siloxanes, polyurethanes and derivatives of fatty acids are some of the potential alternatives identified in treatments for converted textiles (State of California 2022). In addition, non-PFAS alternatives are commercially available for coatings, paint additives and varnishes, as well as for cosmetics (OECD 2022, 2024).

However, for some important applications, alternatives appear to be either not yet available or not suitable, such as for certain fluorinated gases used as refrigerants or blowing agents, or fire-suppressant “clean agents” in critical aviation and military applications (ECHA 2023).

## 6.2 Socio-economic and technical considerations

Comments received from stakeholders indicate concerns about the costs to society due to the impact of PFAS on human health and the need for environmental remediation. The lack of labels and transparency of the supply chain make the presence of PFAS difficult to identify for consumers but also for importers and users of industrial products. Additionally, municipal authorities indicated that costs from the presence of PFAS in the effluents of wastewater treatment plants should be borne by the upstream users who are the actual producers. Comments also pointed out that although alternatives may be available in some sectors, such as most textiles and food packaging materials, in other sectors they could not currently be implemented due to safety or cost issues. Comments also indicate concerns about potential detriments on trade and Canadian industry competitiveness, and on other government initiatives such as the right-to-repair and climate and clean-energy objectives (such as electric vehicles), associated with future risk management measures. It has been noted that some industrial sectors in Canada and globally are in the process of voluntarily phasing out PFAS from their processes, supply chain and products (3M 2023). Where information is available, socio-economic factors have been considered in the selection process for an instrument respecting preventive or control actions, and in the development

of the risk management objective as per the guidance provided in the Treasury Board document Policy on Regulatory Development (TBS 2018).

In addition, socio-economic factors will be considered in the development of the regulations, instrument(s) or tool(s), to address risk management objective(s), as identified in the Cabinet Directive on Regulation (TBS 2018).

# 7. Overview of existing risk management

A variety of risk management actions for PFAS exist in Canada. A brief summary of the key actions in Canada, and those internationally is provided below. More detail is provided in section 8 of the State of PFAS Report.

## 7.1 Related Canadian risk management context

### 7.1.1 Federal

PFAS are already subject to a variety of risk management measures and actions at the federal level. These include:

- The *Prohibition of Certain Toxic Substances Regulations, 2012* which prohibit the manufacture, use, sale, and import of PFOS, PFOA, and LC-PFCAs, along with their salts and precursors, with some exemptions. On May 14, 2022, the Government of Canada published draft Regulations to remove or phase-out most of those exemptions.
- The *Ozone-depleting Substances and Halocarbon Alternatives Regulations* which set out rules on the import, export, and manufacture of certain ozone-depleting substances and halocarbon alternatives, many of which meet the PFAS definition.
- Subsection 81(1) of CEPA requires that any person that intends to import into or manufacture in Canada a substance that is not on the *Domestic Substances List* to notify the Minister with the information set out in the *New Substances Notification Regulations (Chemicals and Polymers)* so that they can be assessed for potential risks to human health and the environment and that, if appropriate, control measures can be put in place before they are imported into or manufactured in Canada. Substances are not grouped when they are assessed under the *New Substances Notification Regulations (Chemicals and Polymers)*; each new substance is notified at a different point in time and is individually evaluated for potential risks to the environment and human health originating from industrial and other relevant uses (for example, consumer uses, cosmetics, pharmaceuticals). Approximately 100 of the over 290 PFAS notified to the New Substances Program have been subject to actions under CEPA intended to mitigate the risks to human health and/or the environment. These include 8 Ministerial Conditions (Canada 1996) and, beginning in 2004, 4 Ministerial prohibitions (Canada 2004). A Ministerial Condition is a control measure imposed on a new substance to minimize a suspected risk to human health or the

environment, in response to a suspicion that the substance may meet the toxicity criteria set out in section 64 of CEPA. Substances subject to Ministerial Conditions are not eligible for addition on the Domestic Substances List and, thus, must be notified to the New Substances Program whenever a new notifier wishes to import or manufacture the substance.

- In August 2024, Health Canada published the Objective for Canadian drinking water quality: Per- and polyfluoroalkyl substances that recommends a single treatment-based value for a group of PFAS in Canadian drinking water (HC 2024a). The objective of 30 ng/L applies to the sum of 25 specific PFAS and serves to reduce potential exposure to PFAS through drinking water while the formal guidelines are being revised. The objective can be used to assess the impact of contaminated sites on potable water and can be used by the responsible authorities at all levels to manage drinking water in their regions.
- While the regulation of the treatment, land application, and disposal of biosolids (solids from municipal sewage treatment plants) is primarily the responsibility of the provinces and territories in Canada, the Canadian Food Inspection Agency (CFIA) regulates the sale and import of biosolid fertilizer products. In June 2024, the CFIA published an interim standard for municipal biosolids that requires that biosolids intended for use as commercial fertilizers contain less than 50 μg/kg of PFOS before they can be imported or sold in Canada. The CFIA has been working with the provinces, municipalities, and the biosolids industry in implementing the interim standard and has begun enforcing the standard as of October 2024.The interim standard will effectively prevent the small proportion of municipal biosolids products that are heavily impacted by industrial inputs (both domestic and imported) from being imported or sold as fertilizers in Canada and spread on crops or grazing land. This interim approach is intended to provide a risk control measure for biosolids that is protective of the environment and the safety of food and feed crops grown in Canada.
- Other domestic activities that target certain PFAS include developing water and soil guidelines for the protection of human health and the environment by the Government of Canada or through the Canadian Council of Ministers of the Environment (CCME), reducing risks from known federal contaminated sites through the Federal Contaminated Sites Action Plan, and reducing the anthropogenic release of chemicals of mutual concern into the Great Lakes under the Great Lakes Water Quality Agreement (CCME 2021b; ECCC 2018; HC 2022).

### 7.1.2 Provincial and territorial

Provincial and territorial risk management activities on certain PFAS have been initiated or are under development:

- Alberta has developed Tier 1 groundwater remediation guidelines for PFOS and PFOA and Tier 1 soil remediation guidelines for PFOS for different land

uses. Additionally, PFOS and PFOA are included in Alberta tier 2 soil and groundwater remediation guidelines.

- British Columbia has developed the following standards through the Contaminated Sites Regulations:
    - Soil standards for PFOS and perfluorobutane sulfonic acid (PFBS) for the protection of human health and the environment.
    - Water guidelines for the protection of ambient water quality for drinking water sources for PFOS, PFBS and PFOA, and the protection of aquatic life for PFOS.
- For the assessment and remediation of potentially contaminated sites in the four Atlantic Provinces, the governments of these provinces have adopted the Atlantic Risk-Based Corrective Action (RBCA) Environmental Quality Standards, which address several PFAS in groundwater and soil (APIRI 2022). Ontario has published Toxicity Reference Values for PFOS and PFOA in its May 2021 publication of Human Health Toxicity Reference Values (TRVs) Selected for Use at Contaminated sites in Ontario (Ontario Ministry of the Environment, Conservation and Parks 2022).
- In Québec, a Certificate of Authorization is needed to spread residuals on lands. Addenda no 8, published in 2022, bans the spreading on agricultural land of industrial biosolids and de-inking residuals containing PFAS as well as all other residuals containing PFOS and PFOA (MELCCFP 2022).

## 7.2 Pertinent international risk management context

### 7.2.1 United States

The US Environmental Protection Agency (US EPA) has developed a PFAS Strategic Roadmap for subgroups of PFAS with three primary goals: research, restriction, and remediation (US EPA 2021a). In April 2024, the US EPA established enforceable limits in drinking water for: PFOA, PFOS, perfluorononanoic acid (PFNA), perfluorohexanesulfonic acid (PFHxS), and hexafluoropropylene oxide dimer acid (HFPO-DA) individually, as well as for mixtures containing two or more of PFNA, PFBS, PFHxS, and HFPO-DA (US EPA 2024). In January 2025, the US Food and Drug Administration announced that 35 PFAS-related food contact notifications (FCNs) are no longer effective, after determining that companies have voluntarily phased out use of these substances as grease-proofing agents in paper and paperboard-based food packaging materials (US FDA 2025).

A growing number of US states have proposed and/or implemented control measures including bans of the class of PFAS for certain uses such as firefighting foams, textiles (including firefighter personal protective equipment, carpets and apparel), food packaging materials, cosmetics, ski wax and products intended for children (Safer States 2024; State of California 2021a, 2021b; State of Vermont 2021; State of Massachusetts 2024; State of Connecticut 2024). Some US states (State of Maine 2022) also banned land application of municipal biosolids and others either have restrictions in place (State of Michigan 2022) or are considering

various instruments to mitigate risks to food and feed arising from the use of PFAS-contaminated biosolids on agricultural land as fertilizers.

### 7.2.2 Other jurisdictions

The European Union (EU) published a draft regulation in November 2024 (European Commission 2024) to restrict firefighting foams containing PFAS following the recommendations provided in the European Chemicals Agency's restriction dossier and the opinions of its scientific committees.[9] If approved, the regulation would ban the placing on the market, use and export of PFAS in firefighting foams after use/sector-specific transitional periods (ECHA 2022a). In addition, the council of the EU has adopted a directive for PFAS in drinking water. This includes limits of 100 ng/L for the sum of 20 PFAS and 500 ng/L for the sum of all PFAS. Member states have until January 2026 to comply with the limits (EU, 2020). The EU has also published a broad PFAS restriction proposal that aims to reduce PFAS emissions into the environment (ECHA 2023). If approved, this regulation would prohibit the manufacture, use and placing on the market of PFAS substances on their own, in mixtures or in articles for the vast majority of uses. This proposal does include use-specific time-limited derogations (18-month transition period plus either a five- or 12-year derogation period). The proposal underwent a 6-month consultation period that ended on September 25, 2023. Due to the significant volume of comments received, the Risk Assessment Committee and the Committee for Socio-Economic Analysis have been undertaking meetings to consider the proposal on a sector-by-sector basis. In 2024, sectors analyzed included textiles, food packaging materials, petroleum and mining, and construction products, while fluoropolymers, fluorinated gases, energy and transport are planned for 2025.

## 7.3 Risk management alignment

Actions taken in jurisdictions including the EU and the US are being taken into consideration in the development of risk management for PFAS in Canada, with the possibility of aligning, where appropriate.

# 8. Next steps

## 8.1 Public comment period

Industry and other interested stakeholders are invited to submit comments on the content of this Risk Management Approach, provide other information that would help to inform decision-making (such as outlined in section 3.3), or offer ideas for other voluntary risk management actions that could be considered. Please submit additional information and comments prior to May 7, 2025.

[9] Registry of restriction intentions until outcome - Per- and polyfluoroalkyl substances (PFAS)

Comments and information submissions on the Risk Management Approach should be submitted to the address provided below:

Environment and Climate Change Canada
Gatineau, Quebec K1A 0H3
Telephone: 1-800-567-1999 (in Canada) or 819-938-3232
Fax: 819-938-5212
Email: substances@ec.gc.ca

Stakeholders who have a business interest in the class of PFAS are encouraged to identify themselves as stakeholders. The stakeholders will be informed of future decisions regarding the class of PFAS and may be contacted for further information.

Stakeholders and members of the public who are interested in being notified of CMP publications are invited to subscribe for the latest news on the CMP. Stakeholders and members of the public who would like to receive CMP Publication Plans and other CMP updates by email, can contact: substances@ec.gc.ca

Following the public comment period on the Risk Management Approach, the Government of Canada will initiate the development of the specific risk management instrument(s). Comments received on the Risk Management Approach will be taken into consideration in the selection or development of these instrument(s). Consultation will also take place as instrument(s) are developed.

When the first regulation respecting preventive or control actions is published in relation to the class of PFAS, excluding fluoropolymers, a statement outlining the estimated timeframe for the development of subsequent proposed regulations or instruments will be made available.

## 8.2 Timing of actions

Electronic consultation on the Risk Management Approach: March 8, 2025 to May 7, 2025 .

- Publication of responses to public comments on the Risk Management Approach: Concurrent to the publication of the first proposed instrument.

**Table 3. Estimated timelines for the next steps of the proposed risk management actions following the end of the consultation on the Risk Management Approach**

| Steps | Estimated dates for risk management actions |
|---|---|
| **Phase 1** | Consultation: Summer/Fall 2025<br>Proposed Regulation: Spring 2027 |
| **Phase 2** | Consultation to follow the publication of proposed Phase 1 Regulations: 2027 |
| **Phase 3** | Consultation to follow Phase 2 risk management: To be determined |

For each phase of risk management actions outlined in Table 3:

- Publication of a consultation document to inform a proposed instrument: Minimum 60-day public comment period as of publication date
- Consultation on a proposed instrument: Minimum 60-day public comment period as of publication date
- Publication of a final instrument: At the latest, 18 months from the publication of a proposed instrument.

These are planned timelines and are subject to change. Please consult the schedule of risk management activities and consultations for updated information on timelines.

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