Annex II[1]

Report on the review of information relevant for the decision on the request for the extension of specific exemptions

I. Requests for the extension of specific exemptions received from the Republic of Korea

1. Under Article 4, paragraph 4, of the Stockholm Convention on Persistent Organic Pollutants, all registrations of specific exemptions expire five years after the entry into force of the Convention for a specific chemical unless an earlier date is indicated by a Party or an extension is granted. Article 4, paragraph 7, provides that the Conference of the Parties may, upon request from the Party concerned, extend the expiry date of a specific exemption for up to five years, taking due account of the special circumstances of developing country Parties and Parties with economies in transition.

2. Pursuant to the review process set out in the annex to decision SC-3/3, as amended by decisions SC-4/3 and SC-7/1, a Party may submit a request for an extension of an exemption in the Register by submitting a report to the Secretariat justifying its continuing need for registration of the exemption. The extension request report shall be submitted at least 12 months before the last meeting of the Conference of the Parties that takes place before the expiry date of the exemption.

3. In line with these provisions, the Republic of Korea submitted requests for the extension of specific exemptions for perfluorooctanoic acid (PFOA), its salts, and PFOA-related compounds, as well as perfluorooctane sulfonic acid (PFOS), its salts, and perfluorooctane sulfonyl fluoride (PFOSF). The Secretariat distributed these requests on 8 May 2024, inviting Parties to provide relevant information by 28 October 2024. The Republic of Korea subsequently revised these requests, which were also circulated to Parties and made available on the Convention website on 10 December 2024.[2]

A. Perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds

4. The Republic of Korea has requested an extension of specific exemptions for the use of PFOA, its salts, and related compounds for fire-fighting foam for liquid fuel vapor suppression and liquid fuel fires (Class B fires) in installed systems, including both mobile and fixed systems, in accordance with paragraph 2 of Part X of Annex A to the Convention.[3] The specific exemption is set to expire for the Republic of Korea on 2 June 2026, pursuant to the current practice.

1. Justification for exemptions

5. The requests emphasize the need for additional time to transition to alternative substances and technologies, and to ensure environmentally sound management of stockpiles and wastes containing PFOA, its salts, and related compounds. This includes efforts to phase out the use of PFOA, its salts, and related compounds in critical applications such as fire-fighting foams, textiles, and semiconductor manufacturing.

2. Regulatory and control measures

6. The production, import, and use of PFOA, its salts, and related compounds are strictly regulated under the Persistent Pollutants Control Act in the Republic of Korea, with specific exemptions allowed only in accordance with the Stockholm Convention. Certain substances within this group are classified as "Substances Subject to Intensive Control" under national legislation, mandating the disclosure of their content in relevant products.

[1] Reissued on 11 February 2025, with corrections to paragraphs 4 and 10.

[2] https://chm.pops.int/tabid/3391/Default.aspx and https://chm.pops.int/tabid/9978/Default.aspx.

[3] See paragraph 7 below for the subsequent clarification provided by the Republic of Korea to the initial request for extension of the specific exemption.

3. Proposed uses under exemption

7. On 27 September 2024, the Republic of Korea clarified that it would proceed with the extension requests only for the following use: fire-fighting foam for liquid fuel vapor suppression and liquid fuel fires (Class B fires) in installed systems, including both mobile and fixed systems, in accordance with paragraph 2 of Part X of Annex A to the Convention.

4. Ongoing efforts and future plans

8. The Republic of Korea operates a monitoring program, including the national persistent organic pollutants monitoring network and the Korean National Environmental Health Survey (KoNEHS), to track PFOA levels in environmental and human samples. Measures to minimize risks include enforcing compliance with the prohibition of PFOA, its salts and PFOA-related compounds in manufacturing and importation and expanding monitoring of per- and polyfluoroalkyl substances (PFASs).

9. The Republic of Korea plans to enhance communication with stakeholders, develop alternatives, and complete environmentally sound disposal of stockpiles as part of its measures that could facilitate the withdrawal of exemptions.

B. Perfluorooctane sulfonic acid (PFOS), its salts and perfluorooctane sulfonyl fluoride (PFOSF)

10. The Republic of Korea has requested an extension of specific exemptions for the use of PFOS, its salts and PFOSF for fire-fighting foam for liquid fuel vapor suppression and liquid fuel fires (Class B fires) in installed systems, including both mobile and fixed systems, in accordance with paragraph 10 of Part III of Annex B to the Convention.[4] The specific exemption is set to expire for the Republic of Korea on 2 June 2026, pursuant to the current practice.

1. Justification for exemptions

11. The Republic of Korea has undertaken efforts to ensure the environmentally sound management of fire-fighting foam stockpiles and wastes that contain or may contain PFOS, its salts, and PFOSF. However, additional time is needed to fully implement these measures.

2. Regulatory and control measures

12. The production, import, export, and use of PFOS, its salts, and PFOSF are prohibited under the Persistent Pollutants Control Act, except for specific exemptions registered in accordance with the Stockholm Convention. Certain substances within this group are classified as "Substances Subject to Intensive Control" under national legislation, mandating the disclosure of their content in relevant products. Furthermore, their presence is prohibited in the manufacture of products such as fire-fighting foam, food apparatus, containers, and packages, as regulated by authorities including the National Fire Agency and the Ministry of Food and Drug Safety.

3. Proposed uses under exemption

13. On 27 September 2024, the Republic of Korea clarified that it would proceed with the extension requests only for the following use: fire-fighting foam for liquid fuel vapor suppression and liquid fuel fires (Class B fires) in installed systems, including both mobile and fixed systems, in accordance with paragraph 10 of Part III of Annex B to the Convention.

4. Ongoing efforts and future plans

14. The Republic of Korea’s national persistent organic pollutants monitoring network also tracks PFOS levels in environmental media, while health impacts are assessed through the KoNEHS. The government is expanding monitoring capabilities for PFASs and enhancing compliance checks for illegal production or use.

15. Plans include completing the environmentally sound management of stockpiles of PFOS, its salts and PFOSF and promoting alternatives to achieve a full phase-out as soon as possible.

[4] See paragraph 13 below for the subsequent clarification provided by the Republic of Korea to the initial request for extension of the specific exemption.

C. Additional information submitted by the Republic of Korea

16. In response to a request for further information received from a Party[5] on the initial report requesting extensions, the Republic of Korea submitted the following additional information on 27 December 2024.

17. The Republic of Korea explained that several fields in its reporting formats, submitted in relation to the request for an extension of specific exemptions for PFOS- and PFOA-containing fire-fighting foam, were marked as "unavailable" due to the confidential nature of business information provided by domestic industries and overseas raw material manufacturers. This confidentiality has posed challenges for the Republic of Korea in accessing and reporting certain relevant data.

18. According to the additional information shared, the Republic of Korea estimates existing stockpiles of PFOS- and PFOA-containing fire-fighting foam to be a maximum of 1,700 tons. The available alternatives in the Republic of Korea include fluorine-free natural surfactants and synthetic surfactants.

19. The Republic of Korea also provided further context for its request to extend specific exemptions for these substances. The manufacture, import, and placing on the market of PFOS- and PFOA-containing fire-fighting foam are already prohibited in the Republic of Korea. However, existing stockpiles remain. The requests for extension were made with the recognition that additional time may be required to treat these stockpiles in an environmentally sound manner. Furthermore, the Republic of Korea considered the potential need to use these stockpiles during the treatment period for emergencies, such as large-scale fires at petrochemical plants or airports, where the performance of available alternatives might not yet be sufficient.

20. The Republic of Korea stated that its Government is actively consulting with relevant agencies and industries to ensure the environmentally sound management of these stockpiles. They committed to accelerating treatment efforts and indicated that the aim is to withdraw the specific exemptions before 2 June 2031.

21. The Republic of Korea noted that similar challenges may be faced by other Parties and expressed an interest in learning about the status of existing stockpiles of PFOS- and PFOA-containing fire-fighting foam in other Parties.

II. Information submitted by Parties

22. The following Parties submitted information in response to the invitation circulated on 8 May 2024: the European Union, Guatemala, Myanmar, Nigeria and Peru. The submissions have been made available on the Convention website.[6]

A. European Union

The European Union (EU) provided comments on the Republic of Korea's request to extend specific exemptions for PFOA, its salts, PFOA-related compounds, and PFOS, its salts, and PFOSF under the Stockholm Convention.

1. PFOA, its salts, PFOA-related compounds

The EU is registered for specific exemptions in semiconductor manufacturing, photographic coatings, medical devices, fire-fighting foams, and pharmaceutical production. Substitution for these uses has been largely achieved, except for fire-fighting foams for Class B fires, where substitution is ongoing although challenges faced include underestimated volumes of perfluorohexanoic acid (PFHxA)-based foams and difficulties in measuring PFOA-related compounds. The EU is collecting more data to address these challenges in view of the discussions at the meeting of the Conference of the Parties in 2025.

A recently adopted Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) restriction bans PFHxA, its salts, and related compounds in firefighting foams for training, public fire services, and civil aviation starting between 2026 and 2029.

[5] See paragraph 27 of the present report.

[6] http://chm.pops.int/tabid/9978.

2. PFOS, its salts and PFOSF

The EU confirmed that these chemicals are no longer used within its jurisdiction.

3. Need for further information

The EU requested further information from the Republic of Korea, including justifications for the requested extension of the specific exemptions, reasons why alternatives are unavailable, and expected volumes of use and emissions. The EU stated that it considered such information would allow for a comprehensive assessment to meet the objectives of the Stockholm Convention. This request was brought to the attention of the Republic of Korea on 10 December 2024. In response, the Republic of Korea submitted additional information on 27 December 2024, which is presented in Section I.C above.

B. Guatemala

Guatemala reported that it currently lacks an inventory of hazardous chemicals such as PFOA, PFOS, and their related compounds. This absence prevents the Party from requesting specific exemptions under international regulations, as detailed and accurate data on the presence and use of these substances is a prerequisite for such requests. Guatemala acknowledged the importance of developing and maintaining inventories to comply with obligations under the Stockholm Convention, assess risks, and implement strategies to manage, reduce, or eliminate these substances. The Party expressed its intention to participate in projects aimed at updating its national implementation plan to address this gap.

Guatemala also referenced the Republic of Korea's application for specific exemptions for PFOA, PFOS, and their related compounds, highlighting the industrial dependency on these substances in sectors such as semiconductors, impermeable textiles, firefighting foams, and specialized chemical products. Guatemala noted that the absence of financially viable and technically efficient alternatives may have driven the Republic of Korea's request and recognized the significant investments required to transition to safer substitutes.

Recommendations provided by Guatemala include:

(a) Balancing industrial and technological needs with environmental and public health protection;

(b) Implementing stringent controls during the exemption period to minimize risks and exposure;

(c) Investing in research and development of sustainable alternatives to ensure exemptions are a transitional tool, not a permanent solution;

(d) Promoting international cooperation for knowledge and technology sharing in the elimination of hazardous substances;

(e) Ensuring transparent communication with the international community and the public about the rationale and measures implemented during the exemption period.

Guatemala noted that the Republic of Korea's request for exemptions reflects the complexities of balancing industrial interests with environmental protection. It emphasized that the period of exemptions should be used to transition to safer and more sustainable practices, while minimizing negative impacts during this period.

C. Myanmar

23. Myanmar informed the Secretariat that it has no requests concerning the expiry of exemptions.

D. Nigeria

24. Nigeria acknowledged receipt of correspondence regarding the Republic of Korea's request for extensions of specific exemptions. The Party conveyed its neutral stance on the Republic of Korea's request.

E. Peru

Peru's current national implementation plan includes data on imports of PFOS, indicating that sulfluramid—a derivative of PFOS—was directly purchased between 2009 and 2014 (606.87 kg) and that textiles and electrical and electronic equipment (EEE) imported from developed countries may contain PFOS, though distinguishing products with persistent organic pollutant content remains challenging.

Peru reported that it is currently developing a national inventory of persistent organic pollutants under the framework of the Global Environment Facility (GEF) project (ID 10785), which focuses on the development, review, and update of its national implementation plan under the Stockholm Convention.

III. Other information

25. In addition to the submissions by Parties, the following information was available in relation to specific exemptions for PFOS, its salts and PFOSF:

(a) Reports of the Persistent Organic Pollutants Review Committee on the assessment of alternatives and consolidated guidance on alternatives:

(i) UNEP/POPS/POPRC.8/INF/17/Rev.1 - Technical paper on the identification and assessment of alternatives to the use of perfluorooctane sulfonic acid, its salts, perfluorooctane sulfonyl fluoride, and their related chemicals in open applications;

(ii) UNEP/POPS/POPRC.10/INF/7/Rev.1 - Report on the assessment of alternatives to perfluorooctane sulfonic acid, its salts, and perfluorooctane sulfonyl fluoride;

(iii) UNEP/POPS/POPRC.10/INF/8/Rev.1 - Factsheets on alternatives to perfluorooctane sulfonic acid, its salts, and perfluorooctane sulfonyl fluoride;

(iv) UNEP/POPS/POPRC.12/INF/15/Rev.1 - Consolidated guidance on alternatives to perfluorooctane sulfonic acid and its related chemicals (PFOS);

(v) UNEP/POPS/POPRC.14/INF/13 - Report on the assessment of alternatives to PFOS, its salts, and PFOSF;

(vi) UNEP/POPS/POPRC.18/INF/19/Rev.1 - Report on the assessment of alternatives to perfluorooctane sulfonic acid, its salts, and perfluorooctane sulfonyl fluoride;

(b) Reports on evaluation of PFOS, its salts and PFOSF:

(i) UNEP/POPS/COP.9/INF/12 - Report on the evaluation of PFOS, its salts, and PFOSF;

(ii) UNEP/POPS/COP.11/INF/15 - Report on the evaluation of information on perfluorooctane sulfonic acid, its salts, and perfluorooctane sulfonyl fluoride.

26. Although the targeted information focuses on PFOS, its salts, and PFOSF, rather than PFOA, its salts, and PFOA-related compounds, the documents also include information on applications in fire-fighting foams. Key points from these documents include the following:

(a) PFOS-based fire-fighting foams, specifically aqueous film-forming foams (AFFFs), are used for liquid fuel vapor suppression and extinguishing Class B fires involving flammable liquids. The reports emphasize the need for continued global collaboration to eliminate PFOS use in fire-fighting foams and transition to safer and environmentally sound alternatives.

(b) PFOS foams have been identified in various environmental and human health monitoring efforts due to their persistence and potential for long-range transport. Many countries are conducting inventories and assessments to quantify existing stockpiles and ensure compliance with international agreements.

(c) Significant reductions in global production have occurred following regulatory measures. Stockpiles exist in multiple countries, often requiring management or destruction to align with regulatory goals.

(d) The feasibility and availability of safer alternatives to PFOS-based foams are critical concerns. Many alternatives are commercially available, but their formulations may be proprietary.

Transition challenges include cost, technical suitability, and infrastructure upgrades. Alternatives include fluorine-free foams and short-chain PFASs, primarily 6:2 fluorotelomer compounds. Short-chain PFASs, while less persistent than PFOS, are not considered a suitable long-term solution due to potential environmental and health risks. Fluorine-free alternatives are being prioritized for their reduced environmental impact.

(e) Implementing alternatives in existing systems can require time and resources. Some countries may face geographic or economic barriers to adoption. The reports suggest additional research is needed to identify and develop safer alternatives. Training practices and processes should minimize PFOS releases. Monitoring activities for PFOS, PFASs, and their degradation products are advised in areas where these substances are used.
