

# Norway



## Key Link

- [Perfluorinated substances: PFOS, PFOA and other PFASs](#)

## Recent Initiatives

- PFHxS, its salts and related compounds have been listed in Annex A to the Stockholm Convention at the Conference of the Parties in June 2022, on the initiative of Norway.
- Participation in the restriction proposal work under Reach, to restrict all PFAS in the EU.
- As part of the work with the PFAS restriction proposal a report on analytical methods for PFAS was developed under the Nordic Council of Ministers, coordinated by Norway: “Analytical Methods for PFAS in Products and the Environment”

## Overview of Risk Reduction Approaches

Norway nominated PFHxS its salts and PFHxS-related compounds to the Stockholm Convention in May 2017, and these were found to fulfil the screening criteria (persistence, bioaccumulation, long-range transport and toxicity) in October 2017. In 2018, a risk profile for PFHxS was developed, and accepted by the persistent organic pollutant (POP) review committee under the Stockholm convention. In 2019 the Committee accepted the risk management evaluation and a recommendation for these substances were listed in Annex A with no exemptions at the Conference of the Parties in June 2022.

Norway is one of five countries that are cooperating in the preparation of a REACH restriction proposal with the aim to restrict the manufacture, the placing on the market and the use of all per- and polyfluoroalkyl substances (PFAS) in the EU. The other countries are Germany, the Netherlands, Sweden and Denmark. The main rationale of this initiative is the very high persistence of these chemicals in the environment and the potential contamination of ground, surface and drinking water. The work on this proposal started in 2020 and the proposal was submitted in January 2023.

Norway submitted a restriction proposal for PFHxS and PFHxS-related compounds under the REACH regulation and ECHA's opinion on the proposal was finalised on 11 June 2020.

PFHxA, HFPO-DA and PFBS have been added to the national priority list in addition to PFOS, PFOA, C9-C14 PFCA) and PFHxS. These listings mean that the discharge of the substances shall be reduced as much as possible, and that industry must monitor and report the use and discharge of these substances. In addition, Norway submitted a SVHC (substance of very high concern) dossier for PFBS in 2019 and the substance was listed on the candidate list in January 2020, which means that it is a candidate for further regulation in the EU.

Fluorine-containing fire-fighting foam has been substituted with fluorine-free alternatives in civil airports and at fire-fighting training sites with the military forces in Norway. Remediation of contaminated sites are undertaken, or in process at several military and civil airports, and the Norwegian Environment Agency will be demanding more remediation actions in many years to come. Remediation of contaminated sites at the Norwegian civil airports have been prioritised according to a risk assessment and cost/efficiency analyses.

PFAS-contamination from paper production industry have been detected in one of Norway's biggest lakes. Remediation actions at the industry site are in progress.

Fluorine-containing fire-fighting foam is largely substituted with fluorine free-alternatives in the offshore sector, and the use and discharge of fluorine-containing foam has decreased by about 99 %.

Long-time focus on the use of perfluorinated substances in ski wax from authorities and in media has resulted in the ban of use of such substances in ski lubrication for competitive skiers up to the age of 16 by the Norwegian Ski Association in 2017. This resulted in a proposal to introduce such a ban internationally by The International Ski Federation (FIS) in all competitive ski disciplines. (The ban is as of winter 2022/2023 still not enforced by FIS as they haven't yet succeeded in the development of their desired fluorine tracker that may detect fluorine wax at the starting line. The impression is that fluorine wax is still much used in the community.)

*Focus of future activities in relation to risk reduction:* Norway will continue to focus on remediation of sites contaminated by historic PFAS use, and will complete, in cooperation with other EU countries, the proposal for the general restriction of PFASs at EU level. Norway will continue to focus on PFASs and assess the need for further risk-reducing measures.

## Key publications from public authorities

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### Nordic council of ministers:

- [The cost of inaction: A socioeconomic analysis of environmental and health impacts linked to exposure to PFAS \(2019\)](#)
- [Analytical Methods for PFAS in Products and the Environment \(2022\)](#)
- [Nordic enforcement project on PFOS and PFOA in chemical products and articles \(2022\)](#)
- [Per- and polyfluoroalkylether substances \(PFAEs\): identity, production and use \(2020\)](#)

### Norwegian Environment Agency:

- [Investigation of Sources to PFBS in the Environment](#)
- [Investigation of sources to PFHxS in the environment](#)
- [Socio-Economic Assessment of PFHxS and PFHxS-related Substances](#)

All publications on the Norwegian Environment Agency's website can be accessed [here](#).

**Table with Key Elements of Risk Reduction Approaches**

Action	Path taken	BEPs Implemented	Category of PFASs addressed	Articles covered?	Life cycle stage(s) addressed	Method of approach	Public- private partnership encouraged?	Level of constraint
<p>Monitoring and screening programs of PFASs in the environment:</p> <p><a href="#">EU Water Framework-Directive Priority Contaminants in Norwegian Freshwater Fish</a></p> <p><a href="#">Contaminants in coastal waters of Norway (2020)</a></p> <p><a href="#">Contaminants in coastal waters of Norway (2018)</a></p> <p><a href="#">Environmental Contaminants in an Urban Fjord (2019)</a></p> <p><a href="#">Environmental pollutants in the terrestrial and urban environment (2015)</a></p> <p><a href="#">Screening programme (2018)</a></p> <p><a href="#">Screening programme (2021)</a></p>	Continuous monitoring	Not relevant	Varies from year to year	Not relevant	Discharges from all life cycles are addressed	Analysis	No	None

Atmospheric deposition of organic contaminants in Norway

Environmental contaminants in freshwater foodwebs: 2021 (samples from Lake Mjøsa and Femunden within the Milfersk programme) (2023)

Discharge permits for waste treatment plants (WTP)	WTP must apply for permission to discharge selected PFASs	Under development	Primarily PFHxS, PFOS, PFOA, C9-C14 PFCA	Not relevant	End of life-stage	Regulatory	No	WTP must screen and report levels of PFASs in their discharges, and must apply for permission for discharges
Monitoring and remediation of PFAS contaminated soil at airport fire drill Link to <a href="#">Perfluorinated alkylated substances, brominated flame retardants and chlorinated paraffins in the Norwegian Environment - Screening 2013</a>	Airports must monitor levels of PFAS at their fire drill sites and propose measures to reduce pollution. Risk assessments have been undertaken or	Under development	PFOS and other relevant PFASs from AFFF	No	End-use	Regulatory	No	Airports must screen and report levels of PFASs in their soil, and must propose measures to reduce pollution

[Enforcement project, airport fire drills, 2022 \(in Norwegian\)](#)

Link to [reports from Avinor](#) (company responsible for the airports)

are in process. Remediation is ongoing, according to a priority list of contaminated sites.

<p>Source tracing of PFAS in contaminated lake Initial mapping of PFAS sources in Tyrifjorden: Link to <a href="#">report</a> Link to <a href="#">PFAS in Tyrifjorden 2018</a></p>	<p>Mapping of all potential sources to the lake, and industry producing food-contact paper products identified as main contributor.</p>		<p>PFOS-precursor substances and broad scope of PFAS</p>		<p>All</p>	<p>Analysis</p>		
<p>Follow-up of the PFOS regulation under the Stockholm Convention, with an aim to minimise exemptions</p>	<p>Continuous assessment of the necessity of exemptions from the PFOS ban in the Stockholm Convention</p>	<p>Guidelines implemented for acceptable purposes under the Stockholm</p>	<p>PFOS and PFOS related substances</p>	<p>Yes</p>	<p>All</p>	<p>Regulatory</p>	<p>No</p>	<p>Fewer exemptions</p>

Convention

Regulatory work under Stockholm Convention: Follow-up the listing of PFHxS, its salts and PFHxS-related compounds in the Stockholm Convention by implementing amendment to the EU -POPs regulation (in progress) in national legislation.	Global ban		PFHxS, its salts and PFHxS related substances	Yes	All	Regulatory	No	Ban/Restriction
Regulatory work under Stockholm Convention: Follow-up the listing of PFOA, its salts and PFOA-related compounds in the Stockholm Convention by implementing amendment to the EU -POPs regulation (in progress) in national legislation.	Global ban		PFOA, its salts and PFOA related substances	Yes	All	Regulatory	No	Ban/Restriction
Regulatory work under Reach: - PFHxS and related substances – restriction proposal			All	Yes	All	Regulatory		Restriction

<ul style="list-style-type: none"> <li>- PFBS – listed on the candidate list</li> <li>- General PFAS restriction, in cooperation with DE, NL, DK and SE.</li> <li>- Reports generated under the PFAS restriction: <ul style="list-style-type: none"> <li>- <a href="#">PFAS in mining and petroleum industry</a></li> <li>- <a href="#">PFAS in the treatment of skis</a></li> <li>- <a href="#">Application of fluorinated gases (F-gases) in the EEA</a></li> </ul> </li> </ul>								
<p>Analysis of PFAS in products</p> <p><a href="#">Investigation of outdoor textiles and gear with respect to determine the content of ionic perfluorinated substances (PFASs)</a></p> <p><a href="#">Analysis of per- and polyfluorinated substances in articles</a></p> <p><a href="#">Screening survey of hazardous substances in articles and mixtures, 2018</a></p>	Compliance and monitoring	Minimisation of PFASs used	Compounds subject to national regulation and other PFAS	Yes	Use in products	Enforcement , monitoring	No	Enforcement

[Nordic enforcement project on PFOS and PFOA in chemical products and articles \(2022\)](#)

[Enforcement project: control of PFOA in products for boats and cars. \(2022\) \(In Norwegian\)](#)

Listing of PFHxA, HPFO-DA, PFBS, PFHxS, PFOS, PFOA and C <sub>9</sub> -C <sub>14</sub> perfluorinated carboxylic acids on the national priority list	Political target to reduce the use and emissions of compounds on the priority list	Minimisation of PFASs used	PFCAs and PFASs	Yes	All, including waste	Policy	No	Political
Analytical methods for PFAS Nordic Council report (2022): <a href="#">Analytical Methods for PFAS in Products and the Environment</a>	Mapping of analytical methods for PFAS that are available for mixtures, articles and environmental samples. To support the restriction proposal for PFAS.	Not relevant	PFAS as a group, including polymeric PFAS	Yes	All	Literature search and compilation of available information on analytical methods, including both research and standard methods	Not relevant	Support of restriction proposal for PFAS



1 Guidance on best available techniques and best environmental practices for the use of perfluorooctane sulfonic acid (PFOS) and related chemicals listed under the Stockholm Convention on Persistent Organic Pollutants. Revised March 2014.