PFAS Policy in Japan

Masayoshi Soejima

Ministry of the Environment
Government of Japan

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Overview of GOJ policy for PFOS/PFOA

ＰＦＯＳ及びＰＦＯＡに関する日本政府の政策概要

PFOS/PFOA management in Japan

日本におけるＰＦＯＳ及びＰＦＯＡの取扱い

Chemical substance management for PFOS/PFOA

ＰＦＯＳ／ＰＦＯＡに係る化学物質管理

PFOS/PFOA in Water Environment and Drinking Water

水環境及び水道水におけるＰＦＯＳ及びＰＦＯＡ

Disposal of PFOS/PFOA containing AFFF

ＰＦＯＳ／ＰＦＯＡ含有泡消火剤の廃棄

Bilateral Cooperation - PFAS partnership -

二国間協力　－ＰＦＡＳパートナーシップ－

Overview of GOJ policy for PFOS / PFOA

日本におけるＰＦＯＳ及びＰＦＯＡの取扱い

PFOS/PFOA management in Japan

	PFOS (Perfluorooctane sulfonic acid)	PFOA (Perfluorooctanoic acid)
Substance Overview	**【Use】** Firefighting foam, semiconductor chemicals, metal plating chemicals, etc.	**【Use】** Firefighting foam, fluoropolymer processing aids, surfactants, etc.
	【Source of discharge】 ① Facilities possessing and using firefighting foams … Airports, oil complexes, Self-Defense Force, fire fighting facilities, etc. ② Facilities manufacturing and using PFAS … Manufacturing plants for semiconductor substrates, fluoropolymers, water-repellent products, etc. ③ Waste disposal facilities … Final disposal sites with experience of treating PFAS ④ Sewage treatment facilities … Facilities that treat wastewater from facilities that handle PFAS	
	【Substance characteristics】 Persistent, bioaccumulative and toxic, soluble in water and oil	
Restriction	**【Manufacture, Import】** ➢ In May 2009, at COP4 of the Stockholm Convention, the decision was taken to list it in Annex B (Restrictions) of the Convention. ➢ Designated as a Class I Specified Chemical Substance in April 2010. (The manufacture and import of these substances is prohibited in principle, except for certain applications.) ➢ In February 2018, the manufacture, importation, etc. of all uses were banned.	**【Manufacture, Import】** ➢ In May 2019, at COP9 of the Stockholm Convention, it will be decided to include it in Annex A (Abolition) of the Convention. ➢ Designated as a Class I Specified Chemical Substance in April 2021. (In principle, the manufacture and import of these substances are prohibited.) ➢ Entered into force on 22 October 2021.
	【Water Quality】 ➢ In May 2020, the combined value of PFOS and PFOA was set at 50 ng/L as a provisional target value in consideration of the effects of long-term drinking.	
	【Waste Disposal】 ➢ "Technical Notes on the Treatment of Wastes Containing PFOS and PFOA"	

日本におけるＰＦＯＳ及びＰＦＯＡの取扱い
PFOS/PFOA management in Japan

	PFOS （ペルフルオロオクタンスルホン酸）	PFOA （ペルフルオロオクタン酸）
物質概要	**【主な用途】** 泡消火薬剤、半導体用薬剤、金属メッキ用薬剤等	**【主な用途】** 泡消火薬剤、フッ素ポリマー加工助剤、界面活性剤等
	【主な排出源】 ①　**泡消火薬剤**の保有・使用等施設　　…空港、石油コンビナート、自衛隊、消防施設等 ②　有機フッ素化合物の製造・使用等施設　…半導体基板、フッ素系樹脂、撥水加工品等の製造工場等 ③　廃棄物処理施設　　…有機フッ素化合物を処理した実績のある最終処分場等 ④　下水道処理施設　　…有機フッ素化合物を取り扱っている施設からの排水を処理している施設等	
	【物質特性】 難分解性、生物蓄積性及び毒性をもつ、水にも油にも溶ける	
規制状況	**【製造・輸入等】** ○2009年５月、ストックホルム条約COP4において、条約の附属書B（制限）に掲載することが決定。 ○2010年4月、第一種特定化学物質に指定。 （一部の用途を除き、製造・輸入等が原則禁止） ○2018年2月、**全ての用途の製造・輸入等が禁止**。	**【製造・輸入等】** ○2019年５月、ストックホルム条約COP9において、条約の附属書A（廃絶）に掲載することが決定。 ○2021年4月、第一種特定化学物質に指定。 （**製造・輸入等が原則禁止**） ○同10月22日施行。
	【水　質】 ○2020年5月、環境基本法に基づく環境基準に準じる「要監視項目」に位置づけるとともに、長期間の飲用の影響等を考慮した**暫定的な指針値**として、**PFOS及びPFOAの合計値50ng/L**を設定。	
	【廃棄物】 ○**「PFOS及びPFOA含有廃棄物の処理に関する技術的留意事項」**	

日本におけるＰＦＯＳ及びＰＦＯＡの取扱い

PFOS/PFOA management in Japan

- **PFOS is listed in Annex B of the POPs (Persistent Organic Pollutants) Convention, as a chemical which production and use is restricted, and identified as a persistent organic pollutant that has toxic, persistent, bioaccumulative, and long-distance transportable nature.**
  - ＰＦＯＳは、ＰｏＰｓ条約において、その製造及び使用が制限される化学物質として附属書Ｂに掲載され、毒性、難分解性、生物蓄積性及び長距離移動性を有する残留性有機汚染物質とされている。

- **PFOA is listed in Annex A of the POPs (Persistent Organic Pollutants) Convention, as a chemical which production and use is eliminated, and identified as a persistent organic pollutant that has toxic, persistent, bioaccumulative, and long-distance transportable nature.**
  - ＰＦＯＡは、ＰｏＰｓ条約において、その製造及び使用が廃絶される化学物質として附属書Ａに掲載され、毒性、難分解性、生物蓄積性及び長距離移動性を有する残留性有機汚染物質とされている。

- **Japan, a party to the POPs Convention, has designated PFOS and PFOA as Class I Specified Chemical Substances under the Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. Manufacture or import require permission (in principle prohibited), restrictions on use.**
  - ＰｏＰｓ条約の締約国である日本においては、化学物質の審査及び製造等の規制に関する法律（化審法）の第一種特定化学物質にＰＦＯＳ及びＰＦＯＡを指定している。製造又は輸入の許可（原則禁止）、使用の制限がある。

日本におけるＰＦＯＳ及びＰＦＯＡの取扱い

PFOS/PFOA management in Japan

- **In the management and disposal of PFOS which has persistency, highly cumulative nature and long-term human toxicity or ecotoxicity, careful consideration must be given to the intentional release of PFOS/PFOA into natural environment, where it may become a source of PFOS accumulation.**
  - ＰＦＯＳ／ＰＦＯＡは難分解性、高蓄積性及び人または生態への長期毒性をもち、その管理及び処分において、ＰＦＯＳ／ＰＦＯＡの蓄積源となるおそれのある自然界への意図的な放出には慎重な配慮が必要とされている。

- **Scientific research is underway around the world, and we are likely to see much stricter regulations.**
  - 世界各国においては、引き続き、ＰＦＯＳの人体及び自然界への影響について、科学的な研究が進められており、より厳しい規制が進められる方向にある。

- **In Japan, with regard to water quality, provisional target values are specified for those applicable to the monitoring of public water and groundwater, and those applicable to tap water.**
  - 日本において、水質については、公共用水域及び地下水のモニタリングに適用されるもの、水道水に適用されるものについて、暫定値が規定されている。

日本におけるＰＦＯＳ及びＰＦＯＡの取扱い

PFOS/PFOA management in Japan

- **Firefighting foam containing PFOS/PFOA and its effluent are strictly managed in accordance with “Instruction Enacting the Technical Criteria Concerning Fire Extinguisher, Firefighting Foam Agent for Fire Extinguisher and Foam Firefighting Agent Stipulated in the Table PFOS and Its Salt of Article 3, Enforcement Order of Law Concerning the Examination and Regulation of Manufacture, etc., of Chemical Substances Enforcement Order Supplementary Provision” which Ministry of Internal Affairs and Communications; Ministry of Health, Labor and Welfare; Ministry of Economy, Trade and Industry; Ministry of Land, Infrastructure, Transport and Tourism; Ministry of the Environment; and Ministry of Defense.**
  - ＰＦＯＳ／ＰＦＯＡを含む泡消火剤及びその廃液については、総務省、厚生労働省、経済産業省、国土交通省、環境省及び防衛省が発出した「化学物質の審査及び製造等の規制に関する法律施行令附則第三項の表ＰＦＯＳ又はその塩の項又はＰＦＯＡ又はその塩の項に規定する消火器、消火器用消火薬剤及び泡消火薬剤に関する技術上の基準を定める省令」に基づき、厳格に管理されます。

- **They are treated in accordance with the Waste Management and Public Cleansing Act as industrial waste in Japan. “Technical Notes on the Treatment of Waste Containing PFOS and PFOA” issued Ministry of the Environment, which provides the guidance on appropriate treatment.**
  - 産業廃棄物として、廃棄物処理法に基づき処理されます。環境省は適正処理のための留意事項を示した「ＰＦＯＳ及びＰＦＯＡ含有廃棄物の処理に関する技術的留意事項」を定めています。

化学物質の審査及び製造等の規制に関する法律（化審法）の目的及び対象

Purpose and Scope of Chemical Substances Control Law (CSCL)

Purpose

- To prevent environmental pollution caused by chemical substances that pose a risk of impairing human health and interfere with the inhabitation and growth of flora and fauna.

Scope

- Chemical substances

  Chemical compounds substance created through chemical reactions.
- Industrial chemicals

  Chemicals that are subject to other laws such as medicines and pesticides are outside the scope of CSCL

Outline

- New Chemicals

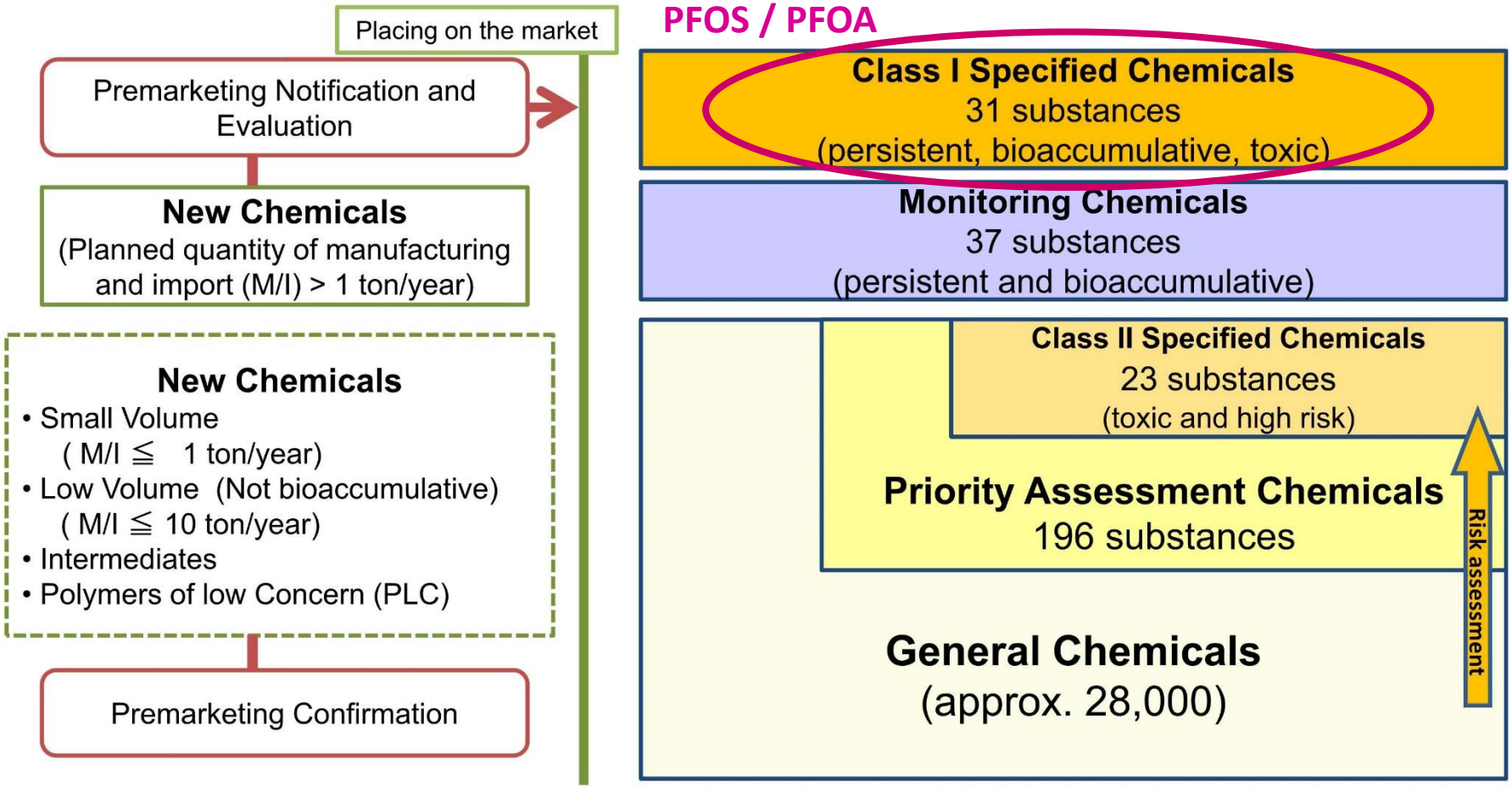
  Notification to and evaluation by the government are required before manufacture/import.
- Existing Chemicals

  Annual report of manufacture/import volume and usage is mandatory. The government conducts risk assessment based on this annual notification and may request additional toxicity information to the manufactures/importers if necessary.

化学物質の審査及び製造等の規制に関する法律（化審法）の概要

Outline of Chemical Substances Control Law (CSCL)

- The Japanese government conducts risk assessment in two phases, both before and after placing the substance on the market.
- Based on the result of risk assessment, the government may take measures to control risks associated with the chemical.



水道水におけるＰＦＯＳ及びＰＦＯＡの暫定目標値

PFOS/PFOA Provisional Target Value in Drinking Water

Water quality standards
水質基準
（水道法第４条）

- **Specific standards to be set by ministerial ordinance**
- **For heavy metals and chemical substances, those detected in treated water exceeding 10% of the evaluated value are selected.**
- **31 items related to health + 20 items related to problems in daily life**
- **Water companies are obliged to comply and inspect**
- 具体的基準を省令で規定
- 重金属、化学物質については、浄水から評価値の１０％値を超えて検出されるもの等を選定
- 健康関連３１項目＋生活上支障関連２０項目
- 水道事業者等に遵守義務・検査義務あり

Water Quality Management Target Setting Subnstances
水質管理目標設定項目
（平成１５年局長通知）

- **Request for inspections in accordance with water quality standards**
- **Items for which the assessment value is provisional, or the detection level is not high, but for which attention should be paid in terms of water quality management**
- **13 items related to health + 13 items related to problems in daily life**
- 水質基準に係る検査等に準じた検査を要請
- 評価値が暫定であったり、検出レベルは高くないものの水道水質管理上、注意喚起すべき項目
- 健康関連１３項目＋生活上支障関連１３項目

April 2020
Provisional Target Value
50 ng/L *PFOS+PFOA
指針値（暫定）50ng/L
※PFOS及びPFOAの合計値

Substances requiring consideration
要検討項目
（平成１５年審議会答申）

- **Toxicity assessment not determined, amount of purified water present unknown, etc.**
- **Collecting information and knowledge on all 47 items**
- 毒性評価が定まらない、浄水存在量が不明等
- 全４７項目について、情報・知見を収集

Reviewed annually according to latest findings
(Sequential revision method)
最新の知見により毎年見直し
（逐次改正方式）

水環境におけるＰＦＯＳ及びＰＦＯＡの指針値（暫定）

PFOS/PFOA provisional Target Value in Water Environment

Environmental Quality Standard
環境基準項目

Substances that have an impact on human health through pollution of the water environment, and hence should be controlled properly designated
水質汚染を通じて人の健康に影響を及ぼす恐れがあり、
対策を講じる必要がある物質

Each prefecture is obliged to monitor
各都道府県に常時監視の義務あり

Monitored substances
要監視項目

Based on the detection status in public water, etc. Items that are not immediately considered as an environmental standard
公共用水域等における検出状況等から直ちに環境基準とはしない項目

May 2020
PFOS/PFOA
Target Value (provisional)
50 ng/L *PFOS+PFOA
指針値（暫定）50ng/L
※PFOS及びPFOAの合計値

Government and the prefectures make efforts to carry out surveys in the aquatic environment and use them for the management of the aquatic environment.
国及び各都道府県が水環境中の調査の実施に努め、水環境の管理に活用

Investigated items
要調査項目

Substances for which knowledge of environmental risks needs to be accumulated
環境リスクに関する知見の集積が必要な物質

March 2021
PFHxS

Collection of knowledge and information by Ministry of the Environment, including the implementation of surveys in the aquatic environment
水環境中の調査の実施等、環境省による知見や情報の収集を実施

有機フッ素化合物全国調査

PFOS/PFOA Nationwide Survey

2020 Nationwide Survey on PFOS/PFOA (public release on 11 June 2020)

令和元年度有機フッ素化合物全国調査結果（2020年6月11日公表）

Public water areas (rivers, lakes and seas）, and Groundwater survey

【公共用水域及び地下水の調査】

- **Exceeded 50ng/L at 37 sites (13 prefectures) out of a total 171 sites.**
  全171地点のうち37地点（ 13都府県）において、50ng/Lを超過
- **For the exceedance points of river used for drinking water source, the drinking water treatment plant survey have confirmed that the treated water (tap water) is less than 50 ng/L.**
  河川の超過地点のうち、浄水場の原水として使用されている地点については、浄水場の調査において、浄水（水道水）中では50ng/L以下であることを確認
- **The Exceedance points of groundwater have been confirmed that they are not being used for drinking purposes.**
  地下水の超過地点については、飲用に供されていないことを確認

2021 Nationwide Survey on PFOS/PFOA (public release on 22 June 2021)

令和２年度有機フッ素化合物全国調査結果（2021年6月22日公表）

Public water areas (rivers, lakes and seas）, and Groundwater survey

【公共用水域及び地下水の調査】

- **Exceeded 50ng/L at 21 sites (12 prefectures) out of a total 143 sites.**
  全143地点のうち21地点（ 12都府県）において、50ng/Lを超過
- **For the exceedance points of river used for drinking water source, the drinking water treatment plant survey have confirmed that the treated water (tap water) is less than 50 ng/L.**
  河川の超過地点のうち、浄水場の原水として使用されている地点については、浄水場の調査において、浄水（水道水）中では50ng/L以下であることを確認
- **The Exceedance points of groundwater have been confirmed that they are not being used for drinking purposes.**

Ministry of the Environment and Ministry of Health, Labour and Welfare will continue to promote the use of the "Guidance on How to Respond to PFOS and PFOA Exposure" issued in June 2020 as a reference when local governments take measures, and in order to prevent exposure to humans, monitor the contamination situation as well as taking efforts to warn people when drinking water exceeds the target value.

環境省及び厚生労働省は、地方公共団体が対策を講じる際の参考として令和２年６月に策定した「PFOS及びPFOAに関する対応の手引き」の活用を促し、人へのばく露防止のため、目標値超過時の飲用に関する注意喚起や汚染状況の把握の取組を進めていく。

PFOS及びPFOAに関する対応の手引き

Guidance on How to Respond to PFOS and PFOA Exposure

Guidance on How to Respond to PFOS and PFOA Exposure (Excerpt)

June 2020

Ministry of the Environment / Ministry of Health, Labor and Welfare

1. About the Guidance

This guidance is aimed to provide prefectural or municipal governments (including designated cities under Water Pollution Control Act) useful information on how to take actions when the concentrations of PFOS and PFOA in public water areas or in groundwater exceeded the target values. The contents of the guidance should be adapted to suit the local circumstances of each area for practical application.

4. Responses around points with detections above target value

As the target values for PFOS and PFOA were established based on toxicity values for chronic ingestion, it is preferable that concentrations of water for continuous drinking are below the target values. Therefore, when the concentrations of PFOS and PFOA detected in the water environment were above the target values, it may be advisable to carry out measures shown below (1) ~ (3), in accordance with local circumstances:

Conducting preventive measures against exposure

When PFOS and PFOA concentrations exceeded the target values, it is preferable to conduct preventive measures against exposures.

Conducting continuous monitoring surveys

In the areas where PFOS and PFOA concentrations exceeded the target values, it may be advisable for local authorities to identify the temporal trends of concentrations to determine their courses of action.

Conducting additional monitoring surveys

When concentrations of PFOS and PFOA exceeded the target values, it may be an option to expand the scope of survey as necessary and consider additional surveys to ensure implementation of preventive measures against exposure, especially if there are sources of drinking water in the area. As for groundwater which can be provided for drinking directly from the sources, it may be considered to identify the extent of contamination, along with the status of the groundwater utilization in the area.

5. Others

Although PFOS and PFOA are substances that are associated with human health protection, they were not immediately listed as the Environmental Quality Standards' items, but listed as items to be monitored that will require to continue collecting information. Listing in this status is also aimed at gathering information on the presence of PFOS and PFOA in Japanese water environment. Therefore, it is crucial to take adequate measures, such as incorporating PFOS and PFOA in water quality measurement plans for public water areas and groundwater, and expanding surveillance, especially in areas where facilities that could be potential sources of releasing PFOS or PFOA are located.

PFOS及びPFOAに関する対応の手引き
Guidelines on How to Respond to PFOS and PFOA Exposure

PFOS及びPFOAに関する対応の手引き（抜粋）

２０２０年６月
環境省　厚生労働省

１．本手引きについて

本手引きは、公共用水域や地下水のPFOS及びPFOAが目標値等を超えて検出が確認された場合等に、各都道府県又は関係市（水質汚濁防止法政令市を含む。以下「都道府県等」という。）などにおいて、ばく露防止の取組や追加調査等を実施する際の参考となる情報を整理したものである。なお、本手引記載の内容については、地域の実情等に合わせて活用されることが適当である。

４．超過地点周辺における対応

PFOS及びPFOAは、慢性的に摂取した際の毒性評価値をもとに目標値等が設定されていることから、継続的に摂取する水は目標値等を下回ることが望ましい。そのため、水環境中から目標値等を超える値でPFOS及びPFOAが検出された際には、地域の実情等に合わせて、以下の（１）～（３）を実施することが考えられる。

（１）ばく露防止の取組の実施

目標値等を超えてPFOS及びPFOAが検出された際は、ばく露防止の取組を実施することが望ましい。

（２）継続的な監視調査の実施

PFOS及びPFOAが目標値等を超えて検出された地域においては、その後の対応を検討するため、濃度の経年的な推移を把握することが望ましい。

（３）追加調査の実施

PFOS及びPFOAが目標値等を超えて検出された場合において、ばく露防止の取組を確実に実施するためには、特に飲用に供する水源がある地域において、必要に応じて調査範囲を拡大し、追加的な調査の実施を検討することが考えられる。また、地下水については、そのまま飲用に供される可能性が考えられることから、当該地域における地下水の利用状況の把握に併せ、汚染範囲の把握をすることが考えられる。

５．その他

PFOS及びPFOAについては、人の健康の保護に関連する物質ではあるが、直ちに環境基準とされるのではなく、引き続き知見の集積に努めるべき項目として要監視項目へ位置づけが変更された。要監視項目への位置づけは、国内の水環境中の存在状況に関する知見の集積を図ることも目的としていることから、特に排出源となり得る施設が立地している地域においては、PFOS及びPFOAについて、公共用水域又は地下水の水質測定計画へ位置付け、調査の充実を図るなど、適切な対応を検討することが重要である。

PFOS及びPFOA含有泡消火薬剤の廃棄

Disposal of PFOS/PFOA containing AFFF

https://www.env.go.jp/chemi/kagaku/pfos.html

Handling and disposal of fire extinguishers, foam extinguishing agents, etc. containing PFOS

When handling fire extinguishers, etc., containing PFOS, it is necessary to comply with the Law on the Evaluation and Regulation of Chemical Substances (Chemical Substances Control Law), including indoor storage, inspection of containers, identification of stored quantities, and labelling when transferring or offering. Care must be taken during inspections and training as there are obligations to do so.

When disposing of fire extinguishers containing PFOS, it is necessary to comply with the Law on Waste Disposal and Cleaning (Waste Disposal Law) and Technical Notes on the Treatment of Waste Containing PFOS and PFOA (Technical Motes).

In order to prevent environmental pollution by PFOS, it is necessary to take the opportunity of inspections, etc. to ensure, as far as possible, that Please switch to alternative products such as fire extinguishers containing PFOS.

ＰＦＯＳを含有する消火器・泡消火薬剤等の取扱い及び処理について

ＰＦＯＳ含有消火器等の取扱いにあたっては、化学物質の審査及び規制に関する法律（化審法）に基づき、屋内保管、容器の点検、保管数量の把握、譲渡・提供の際の表示等の遵守義務があるので、点検や訓練の際には注意が必要です。

ＰＦＯＳ含有消火器等の廃棄にあたっては、廃棄物の処理及び清掃に関する法律（廃棄物処理法）、及びＰＦＯＳ含有廃棄物の処理に関する技術的留意事項（技術的留意事項）に基づき、適正に処理することが必要です。

ＰＦＯＳによる環境汚染を未然に防止するため、点検等の機会をとらえて、可能な限り、ＰＦＯＳ含有消火器等の代替製品への切替えをお願い致します。

化学物質の審査及び製造等の規制に関する法律施行令附則第三項の表ＰＦＯＳ又はその塩の項又はＰＦＯＡ又はその塩の項に規定する消火器、消火器用消火薬剤及び泡消火薬剤に関する技術上の基準を定める省令

Ministerial Ordinance to Provide for Technical Standards concerning Fire Extinguishers, Fire-Extinguishing Chemicals for Fire Extinguishers, and Fire Fighting Foam Pursuant to Item of the Paragraph on PFOS or Its Salts and PFOA or Its Salts

化学物質の審査及び製造等の規制に関する法律施行令附則第三項の表ＰＦＯＳ又はその塩の項又はＰＦＯＡ又はその塩の項に規定する消火器、消火器用消火薬剤及び泡消火薬剤に関する技術上の基準を定める省令

Ministerial Ordinance to Provide for Technical Standards concerning Fire Extinguishers, Fire-Extinguishing Chemicals for Fire Extinguishers, and Fire Fighting Foam Pursuant to Item of the Paragraph on PFOS or Its Salts and PFOA or Its Salts in Paragraph (3) of the Order for Enforcement of the Act on the Evaluation of Chemical Substances and Regulation of their Manufacture, etc.

（平成二十二年九月三日総務省・厚生労働省・経済産業省・国土交通省・環境省・防衛省令第一号）

(Ordinance No. 1 of the Ministry of Internal Affairs and Communications; Ministry of Health, Labour and Welfare; Ministry of Economy, Trade and Industry; Ministry of Land, Infrastructure, Transport and Tourism; Ministry of the Environment; and Ministry of Defense, September 3, 2010)

最終改正　令和三年九月二十一日

Latest revision: March 31, 2011

総務省・厚生労働省・経済産業省・国土交通省・環境省・防衛省令第一号

Ordinance No. 1 of the Ministry of Internal Affairs and Communications; Ministry of Health, Labour and Welfare; Ministry of Economy, Trade and Industry; Ministry of Land, Infrastructure, Transport and Tourism; Ministry of the Environment; and Ministry of Defense

（定義）

(Definitions)

第一条　この省令において、次の各号に掲げる用語の意義は、当該各号に定めるところによる。

Article 1 In this Ministerial Ordinance, the meanings of the terms listed in the following items shall be as prescribed respectively in each of said items:

一　消火器等消火器、消火器用消火薬剤又は泡消火薬剤をいう。

(i) fire extinguisher, etc. means a fire extinguisher, fire-extinguishing chemical for a fire extinguisher, or fire fighting foam;

二　泡消火薬剤等消火器用消火薬剤又は泡消火薬剤をいう。

(ii) fire fighting foam, etc. means a fire-extinguishing chemical for a fire extinguisher, or fire fighting foam;

三　取扱事業者業として消火器等を使用する者その他の業として消火器等を取り扱う者をいう。

(iii) handling business operator means a person who handles a fire extinguisher, etc. in the course of trade such as a person who uses a fire extinguisher, etc. in the course of trade; and

四　汚染物ＰＦＯＳ又はその塩若しくはＰＦＯＡ又はその塩（以下この号において「ＰＦＯＳ等」という。）を含む廃液又はＰＦＯＳ又はその塩が付着している布その他の不要物をいう。

(iv) pollutant means an undesired substance such as waste liquid that contains PFOS or its salts, or a cloth to which PFOS or its salts and PFOA or Its Salts are attached.

（泡消火薬剤等の保管）

(Storage of Fire-Fighting Foam, etc.)

第二条　取扱事業者は、泡消火薬剤等又は汚染物を入れた容器（消防の用に供する貯蔵槽及び消火器を除く。以下同じ。）を保管するときは、次の各号に定めるところにより保管しなければならない。

Article 2 When a handling business operator stores a container (excluding a storage tank or fire extinguisher provided for the purpose of fire fighting; the same shall apply hereinafter) containing fire fighting foam, etc. or a pollutant, the business operator must store it in accordance with the following items:

一　泡消火薬剤等又は汚染物が漏れ、こぼれる等のおそれがない密閉式の構造の堅固な容器であって、浸透しにくい材料を用いて製作されたものに収めること。

(i) use a sealed container of solid design from which fire fighting foam, etc. or a pollutant is not likely to leak or spill, etc. and is made using materials that are not likely to allow seepage; and

二　雨水等による泡消火薬剤等の流出を防止するため、泡消火薬剤等又は汚染物を入れた容器は屋内に保管し、床面をコンクリートとする措置又は合成樹脂等により被覆する措置を講ずること。

(ii) in order to prevent the runoff of fire fighting foam, etc. by rainwater or the like, store indoors containers containing fire fighting foam, etc. or a pollutant, and take measures to ensure the floor surface is made of concrete or coated with synthetic resin, etc.

化学物質の審査及び製造等の規制に関する法律施行令附則第三項の表ＰＦＯＳ又はその塩の項又はＰＦＯＡ又はその塩の項に規定する消火器、消火器用消火薬剤及び泡消火薬剤に関する技術上の基準を定める省令

Ministerial Ordinance to Provide for Technical Standards concerning Fire Extinguishers, Fire-Extinguishing Chemicals for Fire Extinguishers, and Fire Fighting Foam Pursuant to Item of the Paragraph on PFOS or Its Salts and PFOA or Its Salts

（容器等の表示）
(Indications for Containers, etc.)
第三条　取扱事業者は、泡消火薬剤等を入れた容器を保管するときは、泡消火薬剤等を入れた容器及び保管している場所の見やすい箇所に、それぞれ当該容器及び当該場所に泡消火薬剤等を保管している旨を表示しなければならない。
Article 3 (1) When a handling business operator stores a container containing fire fighting foam, etc., the business operator must place a sign or label where easily seen on the container and in locations where the container containing fire fighting foam, etc. is stored to indicate that fire fighting foam, etc. is being stored.
２　取扱事業者は、汚染物を入れた容器を保管するときは、汚染物を入れた容器の見やすい箇所に、当該容器に汚染物を保管している旨を表示しなければならない。
(2) When a handling business operator stores a container containing a pollutant, the business operator must place a label where easily seen on the container containing the pollutant to indicate that a pollutant is being stored in said container.

（泡消火薬剤等の移替え）
(Transfer, etc. of Fire Fighting Foam, etc.)
第四条　取扱事業者は、泡消火薬剤等の移替えを行うときは、次の各号に定めるところにより行わなければならない。
Article 4 When transferring fire fighting foam, etc., a handling business operator must act in accordance with the provisions in the following items:
一　泡消火薬剤等の移替えはポンプ等により行うこと。
(i) use a pump or the like to transfer the fire fighting foam, etc.;
二　泡消火薬剤等の飛散又は流出する量が最少の量となるよう、泡消火薬剤等の移替えに係る容器に受皿を設ける等必要な措置を講ずること。
(ii) take necessary measures such as providing a tray for the container pertaining to the transfer of fire fighting foam, etc., in order to minimize the amount of spattering or runoff of fire fighting foam, etc.;
三　泡消火薬剤等が飛散又は流出した場合に備えて、布等を準備すること。
(iii) prepare a cloth or the like in case of spattering or runoff of fire fighting foam, etc.;
四　泡消火薬剤等の地下浸透を防止するため、泡消火薬剤等の移替えは床面がコンクリートである場所又は合成樹脂等により被覆された場所等で行うよう努めること。
(iv) in order to prevent underground seepage of fire fighting foam, etc., endeavor to conduct the transfer of fire fighting foam, etc. in a location where the floor surface is made of concrete or coated with synthetic resin or the like;
五　泡消火薬剤等の移替えに使用したポンプ等又は保管に使用された空の容器は、洗浄し、又は布等でふき取ること。
(v) wash or wipe with a cloth any pump, etc., used for the transfer of fire fighting foam, etc., or any empty container used for storage of fire fighting foam, etc.; and
六　前号の洗浄に用いた水又はふき取った布等は、密閉できる容器に入れて保管すること。
(vi) store any water used for washing or any cloth or the like used for wiping pursuant to the preceding item in a sealable container.

（容器等の点検）
(Inspection of Containers, etc.)
第五条　取扱事業者は、泡消火薬剤等を入れた容器等について次の各号に掲げる事項を定期的に点検しなければならない。
Article 5 (1) A handling business operator must regularly inspect the matters listed in the following items, regarding a container, etc. containing fire fighting foam, etc.:
一　容器から泡消火薬剤等が漏出していないこと。
(i) that there is no leakage of fire fighting foam, etc. from the container;
二　容器に損傷又は腐食が生じていないこと。
(ii) that no damage or corrosion has occurred to the container; and
三　床面等にひび割れがないこと。
(iii) that there is no crack or fissure in the floor surface, etc.
２　取扱事業者は、前項に規定する点検の結果において泡消火薬剤等を入れた容器等に異常が認められた場合は、速やかに補修その他の必要な措置を講じなければならない。
(2) A handling business operator who as a result of an inspection prescribed in the preceding paragraph has detected any abnormality in a container, etc. containing fire fighting foam, etc. must promptly take measures such as repairs.
３　取扱事業者は、第一項の点検の結果の記録を作成し、これを作成の日から起算して五年間保存しなければならない。
(3) A handling business operator must prepare a record of the results of the inspection prescribed in paragraph (1) and retain it for five years from the date of preparing the record.

化学物質の審査及び製造等の規制に関する法律施行令附則第三項の表ＰＦＯＳ又はその塩の項又はＰＦＯＡ又はその塩の項に規定する消火器、消火器用消火薬剤及び泡消火薬剤に関する技術上の基準を定める省令

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（漏出処理措置）

(Measures to Deal with Spill)

第六条　取扱事業者は、消火器等を保管する場合又は泡消火薬剤等の移替えを行う場合において、泡消火薬剤等が漏出したときは、次の各号に掲げる措置を講じなければならない。

Article 6 When storing a fire extinguisher, etc. or transferring fire fighting foam, etc., a handling business operator must take measures listed in the following items in the case that fire fighting foam, etc. has leaked:

一　速やかに漏出の拡大の防止のために必要な応急措置を講ずること。

(i) promptly take necessary emergency measures in order to prevent the spread of leakage;

二　漏出した泡消火薬剤等について回収するよう努めること。

(ii) endeavor to recover leaked fire fighting foam, etc.;

三　回収した泡消火薬剤等又は泡消火薬剤等をふき取った布等を、密閉できる容器に入れて保管すること。

(iii) store any recovered fire fighting foam, etc. or a cloth or the like used to wipe up fire fighting foam, etc. in a sealable container; and

四　前三号に掲げるもののほか、漏出した泡消火薬剤等を取り扱うに当たって必要と認められる措置を講ずること。

(iv) in addition to matters listed in preceding three items, take measures considered necessary for the handling of leaked fire fighting foam, etc.

（帳簿）

(Books)

第七条　取扱事業者は、事業所ごとに、泡消火薬剤等の保管数量を記載した帳簿を作成しなければならない。

Article 7 (1) A handling business operator must prepare books recording the stored amount of fire fighting foam, etc. for each place of business.

２　前項の帳簿は、事業所ごとに備え、これを最終の記入をした日から五年間保存しなければならない。

(2) The books set forth in the preceding paragraph must be kept for each place of business and be retained for five years from the date of the final entry.

（訓練等における措置）

(Measures for Training, etc.)

第八条　取扱事業者は、消火器等を訓練又は点検において使用する場合は、放出した泡消火薬剤等を回収しなければならない。

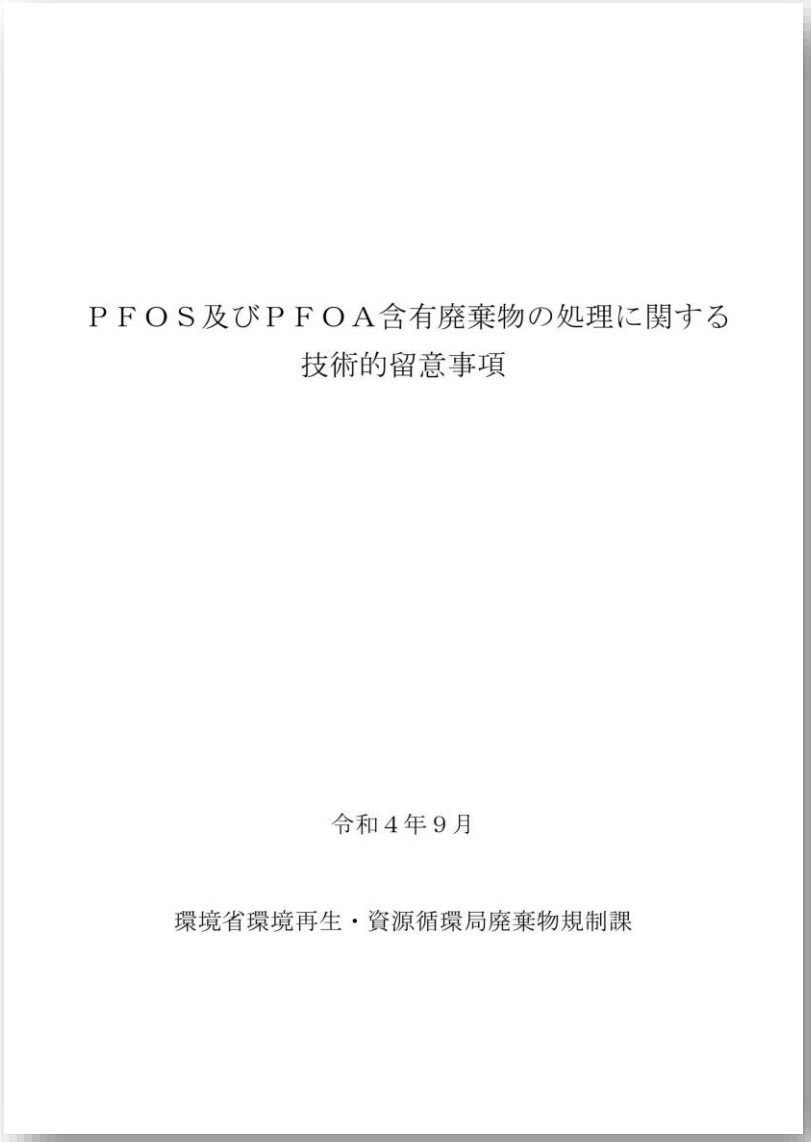
Article 8 (1) When using a fire extinguisher, etc. in training or inspection, a handling business operator must recover fire fighting foam, etc. that has been discharged.

２　取扱事業者は、前項により回収した泡消火薬剤等又は泡消火薬剤等をふき取った布等を、密閉できる容器に入れて保管しなければならない。

(2) A handling business operator must store the fire fighting foam, etc. recovered in the preceding paragraph or a cloth or the like used to wipe up the fire fighting foam in a sealable container.

ＰＦＯＳ及びＰＦＯＡ含有廃棄物の処理に関する技術的留意事項

Technical Notes on the Treatment of Waste Containing PFOS and PFOA



ＰＦＯＳ及びＰＦＯＡ含有廃棄物の処理に関する
技術的留意事項

令和４年９月

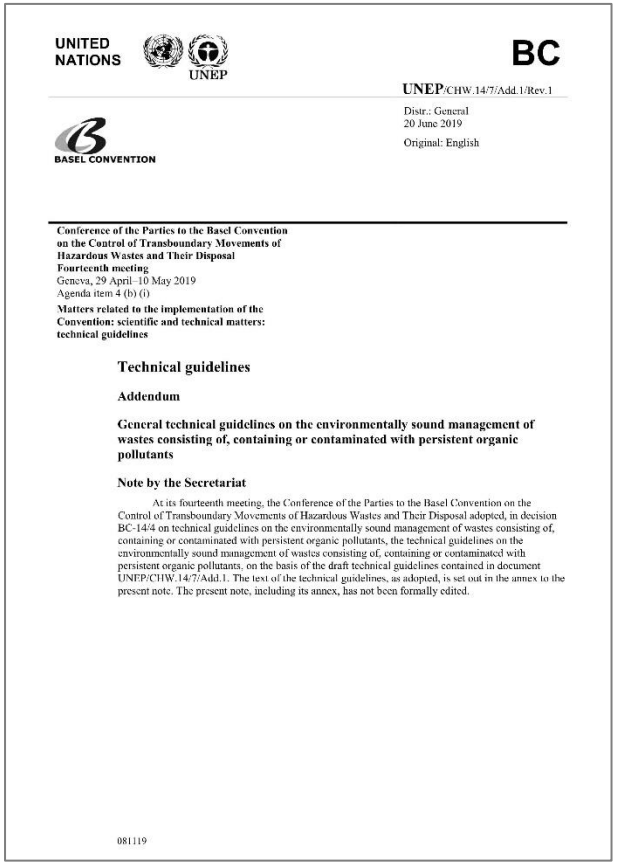
環境省環境再生・資源循環局廃棄物規制課

Destruction efficiency: 99.999% or higher

分解効率：99.999％以上

https://www.env.go.jp/press/press_00659.html

難分解性有機汚染物質を含む、または汚染された廃棄物の環境的に健全な管理に関する一般技術指針
General technical guidelines on the environmentally sound management of wastes consisting of, containing or contaminated with persistent organic pollutants



UNITED NATIONS

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BASEL CONVENTION

Conference of the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal
Fourteenth meeting
Geneva, 29 April–10 May 2019
Agenda item 4 (b) (i)
Matters related to the implementation of the Convention: scientific and technical matters: technical guidelines

Technical guidelines

Addendum

General technical guidelines on the environmentally sound management of wastes consisting of, containing or contaminated with persistent organic pollutants

Note by the Secretariat

At its fourteenth meeting, the Conference of the Parties to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal adopted, in decision BC-14/4 on technical guidelines on the environmentally sound management of wastes consisting of, containing or contaminated with persistent organic pollutants, the technical guidelines on the environmentally sound management of wastes consisting of, containing or contaminated with persistent organic pollutants, on the basis of the draft technical guidelines contained in document UNEP/CHW.14/7/Add.1. The text of the technical guidelines, as adopted, is set out in the annex to the present note. The present note, including its annex, has not been formally edited.

081119

Basel Convention

161. For assessing the performance of the operations in subsections (a) to (k) below, a minimum DE of 99.999 per cent, with 99.9999 per cent of DRE as a supplement requirement where applicable, provides practical benchmark parameters for assessing disposal technology performance. Higher demonstrated DEs may be preferred on a case-by-case basis. As neither DE nor DRE take into account the potential transformation of the original POP to an unintentionally produced POP, potential releases of unintentionally produced POPs should be considered when choosing a particular operation.

POP: persistent organic pollutant
DE: destruction efficiency
DRE: destruction removal efficiency

161. 以下の(a)から(k)項の操作の性能を評価するためには、最低でも99.999パーセントのDEと、必要に応じて99.9999パーセントのDREを補足的に要求することで、処分技術の性能を評価するための実用的なベンチマーク・パラメータが得られる。ケースバイケースではあるが、より高いDEが望まれる場合もある。DEもDREも、元のPOPが意図せずに生成されたPOPに変化する可能性を考慮していないため、特定の操作を選択する際には、意図せずに生成されたPOPの潜在的な放出を考慮する必要がある。

POP：残留性有機汚染物質
DE：破壊効率
DRE：破壊除去効率

Table 4: Overview of technologies for the destruction and irreversible transformation of POPs in wastes.

Technology	POPs										
	HBB	HBCD	HCB, HCBD and PeCB	PCB	PCDDs/ PCDFs	PCN	PCP	Pesticides POPs	PFOS	POP-BDEs	SCCPs
(a) Alkali metal reduction	ND*	ND	ND	Yes	ND	ND	ND	Yes for Chlordane, HCH	ND	ND	ND
(b) Advanced solid waste incineration (ASWI)	ND	Yes	ND	ND	ND	ND	Yes	ND	ND	Yes	Yes
(c) Base catalyzed decomposition (BCD)	ND	ND	ND	Yes	Yes	ND	Yes	Yes	ND	ND	ND
(d) Catalytic hydrodechlorination (CHD)	ND	ND	ND	Yes	Yes	ND	ND	ND	ND	ND	ND
(e) Cement kiln co-incineration	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(f) Gas phase chemical reduction (GPCR)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(g) Hazardous waste incineration	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(h) Plasma arc	ND	ND	ND	Yes	ND	ND	ND	Yes, for most pesticides, including chlordane, chlordecone, DDT, endosulfan, heptaclor	ND	ND	ND
(i) Plasma melting decomposition method (PMD)	ND	ND	ND	Yes	ND	ND	ND	ND	ND	ND	ND
(j) Supercritical water oxidation (SCWO) and subcritical water oxidation	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(k) Thermal and metallurgical production of metals	ND	ND	ND	ND	Yes	ND	ND	ND	ND	Yes	ND

* ND stands for "not determined" and indicates that information is not available in the literature referred to in this document to confirm the use of the technology for certain POPs.

水質汚濁防止法に基づく指定物質

Designated Substances of Water Pollution Prevention Act

PFOS and PFOA will be added to "Designated Substances" under the Water Pollution Prevention Act as substances of concern for adverse effects on human health if discharged in large quantities into the environment as a result of an accident.

事故により環境中に多量に排出された場合に、人の健康への悪影響が懸念される物質として、ＰＦＯＳ、ＰＦＯＡを水質汚濁防止法の指定の指定物質に追加予定

Designated Substances 指定物質とは

Substances specified by Cabinet Order as substances that are likely to cause damage to human health or the living environment if discharged in large quantities into public waters (Water Pollution Prevention Act, Article 2, paragraph 4).

公共用水域に多量に排出されることにより人の健康若しくは生活環境に係る被害を生ずるおそれがある物質として政令で定めるもの（水質汚濁防止法第2条第４項）

Duty of business entities 事業者の義務

Water containing designated substances leaks into public waters (rivers, lakes, harbours, coastal waters, etc.) from facilities storing designated substances (designated facilities) as a result of an accident (including disasters).

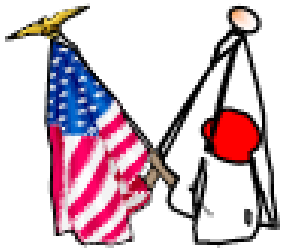
事故（災害含む）により指定物質を貯蔵等している施設（指定施設）から指定物質を含む水が公共用水域等（河川、湖沼、港湾、沿岸海域等）に漏出

The installer of a designated facility shall take emergency measures to prevent the spread of contamination and shall notify the prefectural governor of the details of the measures taken.

指定施設の設置者は、汚染が広がらないよう、応急の措置を講じ、講じた内容等を都道府県知事に届出

Bilateral Cooperation

- PFAS partnership -



環境保護庁と環境省の共同声明

Joint Statement between USEPA and MOE

JOINT STATEMENT BETWEEN THE U.S. ENVIRONMENTAL PROTECTION AGENCY
AND
THE MINISTRY OF THE ENVIRONMENT OF JAPAN
ON
CONTINUED BILATERAL ENVIRONMENTAL COOPERATION
September 2, 2022 Tokyo, Japan

Chemical Management

MOE and EPA regularly share information on chemical management policy and approaches.
MOE and EPA recognize the importance of PFAS management and will continue cooperation to deepen scientific knowledge in relation to regulations and countermeasures for PFAS.

化学物質管理
環境省と環境保護庁は、化学物質管理に関する政策及び対応について、定期的に情報共有を行っている。
環境省と環境保護庁は、有機フッ素化合物（PFAS）管理の重要性を認識し、PFASへの規制及び対策に関連する科学的知見を深めるために協力を継続していく。

国防省の施策

White House initiative

JUNE 15, 2022

FACT SHEET: Biden-Harris Administration Combatting PFAS Pollution to Safeguard Clean Drinking Water for All Americans

$1 Billion from Bipartisan Infrastructure Law Made Available to Communities, First Tranche of $5 Billion to Help Communities Tackle Water Contaminants

President Biden and Vice President Harris believe that every American deserves to drink clean water. But for too many communities across this country, children and families are drinking water that is contaminated with lead and dangerous chemicals. That is why the President and Vice President unveiled a plan to combat water pollution and, six months ago, launched the Biden-Harris Lead Pipe and Paint Action Plan outlining how the Administration is leveraging $55 billion from the Bipartisan Infrastructure Law to replace all of America's lead pipes. Together, these plans represent how the President and Vice President have activated an unprecedented effort to deliver clean water across America and mobilized federal, state, and local investments to confront contamination, protect public health, and advance environmental justice.

国防省の施策

White House initiative

- **EPA is launching a robust, new PFAS Roadmap** that will guide the agency's current and planned activities in 2021-2024 to research, restrict, and remediate harmful PFAS. The Roadmap includes regulatory and administrative actions and enforcement approaches that EPA intends to take, using existing authorities, to comprehensively address PFAS throughout the environment. Actions include a new national testing strategy to accelerate research and regulatory development, a proposal to designate certain PFAS as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and actions to broaden and accelerate the cleanup of PFAS. The roadmap is the product of the EPA PFAS Council ↗, which Administrator Regan established shortly after being confirmed. Administrator Regan unveiled the Roadmap today in North Carolina, where during his prior service as Secretary of the Department of Environmental Quality, he oversaw the state-driven cleanup of PFAS contamination into the Cape Fear River.

EPA's new Roadmap builds on actions that EPA has already taken this year to confront PFAS, including updating a PFBS toxicity assessment ↗ that had been marked by error and improper, non-scientific influence and issuing a new assessment backed by career scientists. Consistent with President Biden's commitment to enforce a limit for PFAS in drinking water, EPA has also begun to develop a national primary drinking water regulation ↗, improve understanding of 29 PFAS chemicals in the nation's water systems, and take actions to stop polluters from discharging PFAS into America's waterways and wastewater systems.

ＰＦＡＳ戦略ロードマップ：米環境保護庁の取組 ２０２１－２０２４

PFAS Strategic Road map: EPA's Commitments to Action 2021-2024

EPA United States Environmental Protection Agency

PFAS Strategic Roadmap: EPA's Commitments to Action 2021–2024

A Note from EPA Administrator Michael S. Regan

For far too long, communities across the United States have been suffering from exposure to PFAS pollution. As the science has continued to develop, we know more now than ever about how PFAS build up in our bodies over long periods of time, and how they can cause adverse health effects that can devastate families. As Secretary of the North Carolina Department of Environmental Quality, I saw this devastation firsthand. For years, the Cape Fear River had been contaminated by these persistent "forever" chemicals. As I spoke with families and concerned citizens, I could feel their suffering and frustration with inaction. I knew my job was going to be trying and complex. But we were able to begin to address this pervasive problem by following the science, following the law, and bringing all stakeholders to the table.

As one of my earliest actions as EPA Administrator, I established the EPA Council on PFAS and charged it with developing an ambitious plan of action to further the science and research, to restrict these dangerous chemicals from getting into the environment, and to immediately move to remediate the problem in communities across the country. EPA's PFAS strategic roadmap is our plan to deliver tangible public health benefits to all people who are impacted by these chemicals—regardless of their zip code or the color of their skin.

Since I've been EPA Administrator, I have become acutely aware of the invaluable and central role EPA has in protecting public health in America. For more than 50 years, EPA has implemented and enforced laws that protect people from dangerous pollution in the air they breathe, the water they drink, and the land that forms the foundation of their communities. At the same time, my experience in North Carolina reinforced that EPA cannot solve these challenges alone. We can only make progress if we work in close collaboration with Tribes, states, localities, and stakeholders to enact solutions that follow the science and stand the test of time. To affect meaningful change, engagement, transparency, and accountability will be critical as we move forward.

This roadmap will not solve our PFAS challenges overnight. But it will turn the tide by harnessing the collective resources and authority across federal, Tribal, state, and local governments to empower meaningful action now.

I want to thank the co-chairs of the EPA Council on PFAS—Radhika Fox, Assistant Administrator for Water, and Deb Szaro, Acting Regional Administrator in Region 1—for their leadership in guiding the development of this strategy.

Let's get to work.

Administrator Michael S. Regan

ＰＦＡＳ戦略ロードマップ：米環境保護庁の取組 ２０２１－２０２４

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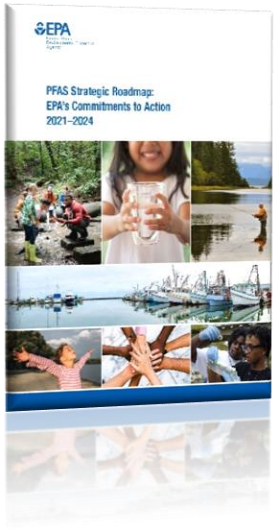

The Agency's Approach

EPA's approach is shaped by the unique challenges to addressing PFAS contamination. EPA cannot solve the problem of "forever chemicals" by tackling one route of exposure or one use at a time. Rather, EPA needs to take a lifecycle approach to PFAS in order to make meaningful progress. PFAS pollution is not a legacy issue—these chemicals remain in use in U.S. commerce. As such, EPA cannot focus solely on cleaning up the downstream impacts of PFAS pollution. The Agency needs to also look upstream to prevent new PFAS contamination from entering air, land, and water and exposing communities. As the Agency takes tangible actions both upstream and downstream, EPA will continue to pursue a rigorous scientific agenda to better characterize toxicities, understand exposure pathways, and identify new methods to avert and remediate PFAS pollution. As EPA learns more about the family of PFAS chemicals, the Agency can do more to protect public health and the environment. In all this work, EPA will seek to hold polluters accountable for the contamination they cause and ensure disadvantaged communities equitably benefit from solutions.

Consider the Lifecycle of PFAS

EPA will account for the full lifecycle of PFAS, their unique properties, the ubiquity of their uses, and the multiple pathways for exposure.

PFAS are a group of synthetic chemicals that continue to be released into the environment throughout the lifecycle of manufacturing, processing, distribution in commerce, use, and disposal. Each action in this cycle creates environmental contamination and human and ecological exposure. Exacerbating this challenge is that some PFAS persist in the environment. PFAS are synthesized for many different uses, ranging from firefighting foams, to coatings for clothes and furniture, to food contact substances. Many PFAS are also used in industrial processes and applications, such as in the manufacturing of other chemicals and products. PFAS can be released into the environment during manufacturing and processing as well as during industrial and commercial use. Products known to contain PFAS are regularly disposed of in landfills and by incineration, which can also lead to the release of PFAS. Many PFAS have unique properties that prevent their complete breakdown in the environment, which means that even removing PFAS from contaminated areas can create PFAS-contaminated waste. This is currently unregulated in most cases.

環境保護庁のアプローチ

EPAのアプローチは、PFAS汚染に対処するための独自の課題によって形成されている。EPAは、一度に一つの暴露経路や一つの用途に取り組むことで「永遠の化学物質」の問題を解決することはできない。むしろ、有意義な進展を図るためには、EPAはPFASに対してライフサイクル的なアプローチをとる必要がある。PFAS汚染はレガシーな問題ではなく、これらの化学物質は米国の商業活動において依然として使用されている。そのため、EPAはPFAS汚染の下流への影響を取り除くことだけに集中することはできない。EPAは、新たなPFAS汚染が大気、土地、水に流入して地域社会を危険にさらすことを防ぐために、川上にも目を向ける必要がある。EPAは、川上と川下の両方で具体的な行動をとる一方で、毒性の特徴をより明確にし、曝露経路を理解し、PFAS汚染を回避及び修復するための新たな方法を特定するための厳密な科学的課題を引き続き追求する。EPAは、PFAS化学物質群についての理解を深めることで、公衆衛生と環境を保護するためにより多くのことができるようになります。この全ての作業において、EPAは汚染者に彼らが引き起こした汚染に対する責任を負わせ、不利な立場にある地域社会が解決策から公平に利益を得られるようにすることを目指す。

PFASのライフサイクルを考慮

EPAは、PFASの全ライフサイクル、その固有の特性、使用の偏在性、及び暴露の複数の経路を考慮する。

PFASは、製造、加工、商業流通、使用、廃棄というライフサイクルを通じて環境中に放出され続ける合成化学物質のグループです。このサイクルの中で、それぞれの行為が環境汚染を引き起こし、人間や生態系に影響を与えます。この問題をさらに悪化させているのが、PFASの一部が環境中に残留していることです。PFASは、消防用の発泡体から、衣類や家具のコーティング剤、食品に接触する物質まで、さまざまな用途で合成されています。また、多くのPFASは、他の化学物質や製品の製造など、工業的なプロセスや用途でも使用されています。PFASは、製造・加工時や工業用・商業用の使用時に環境中に放出される可能性があります。PFASを含むことが知られている製品は、埋め立てや焼却によって定期的に廃棄されますが、これもPFASの放出につながります。多くのPFASは、環境中で完全に分解されない独自の特性を持っているため、汚染された場所からPFASを除去しても、PFASに汚染された廃棄物が発生する可能性がある。これは現在、ほとんどの場合で規制されていない。

ＰＦＡＳ戦略ロードマップ：米環境保護庁の取組 ２０２１－２０２４

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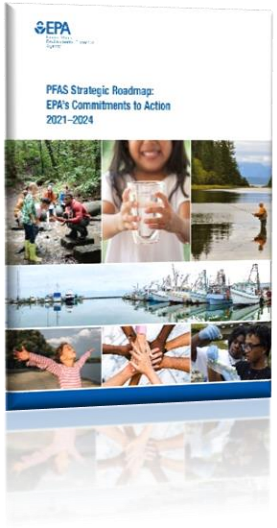

Get Upstream of the Problem

EPA will bring deeper focus to preventing PFAS from entering the environment in the first place—a foundational step to reducing the exposure and potential risks of future PFAS contamination.

Intervening at the beginning of the PFAS lifecycle— before they have entered the environment—is a foundational element of EPA's whole-of-agency approach. While hundreds of individual PFAS compounds are in production and use,i a relatively modest number of industrial facilities produce PFAS feedstock,ii and a relatively narrow set of industries directly discharge PFAS into water or soil or generate air emissions in large quantities.iii This context helps to pinpoint clear opportunities to restrict releases into the environment. EPA will use its authorities to impose appropriate limitations on the introduction of new unsafe PFAS into commerce and will, as appropriate, use all available regulatory and permitting authorities to limit emissions and discharges from industrial facilities. This approach does not eliminate the need for remediation where releases and exposures have already occurred, but it is a critical step to preventing ongoing concentrated contamination of soil and surface and groundwaters.

Hold Polluters Accountable

EPA will seek to hold polluters and other responsible parties accountable for their actions and for PFAS remediation efforts.

Many communities and ecosystems are continuously exposed to PFAS in soil, surface water, groundwater, and air. Areas can be exposed due to their proximity to industrial sites, airports, military bases, land where biosolids containing PFAS have been applied, and other sites where PFAS have been produced or used and disposed of for specific and repeated purposes. When EPA becomes aware of a situation that poses a serious threat to human health or the environment, the Agency will take appropriate action. For other sites where contamination may have occurred, the presence of certain PFAS in these environments necessitates coordinated action to understand what specific PFAS have been released, locations where they are found, where they may be transported through air, soil, and water in the future, and what remediation is necessary. EPA will seek to hold polluters and other responsible parties accountable for their actions, ensuring that they assume responsibility for remediation efforts and prevent any future releases.

問題の上流へ

EPAは、PFASが環境に流入するのを未然に防ぐことに重点を置く。これは、将来のPFAS汚染への曝露と潜在的なリスクを低減するための基本的なステップである。

PFASのライフサイクルの初期段階、つまり環境に入る前に介入することは、EPAの全機関的アプローチの基本的な要素である。何百もの個別のPFAS化合物が生産、使用ｉされている一方で、比較的少数の工業施設がPFASの原料を生産しておりii、比較的狭い範囲の産業がPFASを水や土壌に直接排出したり、大量の大気放出を行ったりしているiii。EPAは、新たな安全でないPFASの商業への導入に適切な制限を課すためにその権限を使用し、また、必要に応じて、産業施設からの排出物及び放出物を制限するために、利用可能な全ての規制及び許可権限を使用する。この方法は、放出及び曝露が既に発生している場所での浄化の必要性をなくすものではないが、土壌や地表水、地下水の継続的な集中汚染を防止するための重要な一歩である。

汚染者への責任追及

EPAは、汚染者及びその他の責任者に対し、自らの行動及びPFAS浄化活動に対する責任を追及する。

多くの地域社会や生態系が、土壌、地表水、地下水、大気中のPFASに継続的にさらされている。工業用地、空港、軍事基地、PFASを含むバイオソリッドが散布された土地、その他PFASが製造されたり、特定の目的で繰り返し使用されたり廃棄されたりした場所に近接しているため、その地域は曝される可能性がある。EPAは、人の健康や環境に深刻な脅威をもたらす状況を認識した場合、適切な措置を講じる。汚染が発生した可能性のある他の場所については、これらの環境における特定のPFASの存在により、どのような特定のPFASが放出されたのか、それらが発見された場所、将来的に空気、土壌、水を通じてどこに運ばれる可能性があるのか、どのような修復が必要なのかを理解するための協調的な行動が必要となる。EPAは、汚染者及びその他の責任者に自らの行動に対する責任を追及し、汚染者が浄化作業に対する責任を負い、将来の放出を防止することを保証する。

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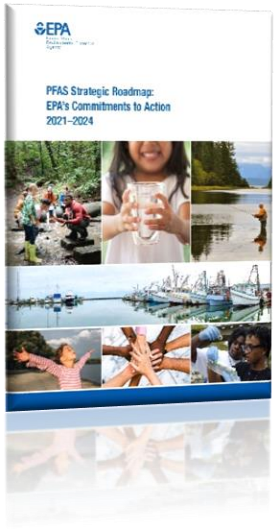

Ensure Science-Based Decision-Making

EPA will invest in scientific research to fill gaps in understanding of PFAS, to identify which additional PFAS may pose human health and ecological risks at which exposure levels, and to develop methods to test, measure, remove, and destroy them.

EPA's decisions regarding PFAS will be grounded in scientific evidence and analysis. The current body of scientific evidence clearly indicates that there are real, present, and significant hazards associated with specific PFAS, but significant gaps remain related to the impacts of other PFAS on human health and in the environment. Regulatory development, either at the state or federal level, would greatly benefit from a deeper scientific understanding of the exposure pathways, toxicities, and potential health impacts of less-studied PFAS. The federal government, states, industry, academia, and nonprofit organizations—with appropriate coordination and resources—have the capability to conduct this necessary research.

EPA is conducting new research to better understand the similar and different characteristics of specific PFAS and whether and how to address groups and categories of PFAS. The Agency is focused on improving its ability to address multiple chemicals at once, thereby accelerating the effectiveness of regulations, enforcement actions, and the tools and technologies needed to remove PFAS from air, land, and water.

To break the cycle of contamination and exposure from PFAS, additional research is needed to identify and/or develop techniques to permanently dispose of or destroy these durable compounds. Government agencies, industry, and private laboratories need tools and validated methods to measure PFAS in air, land, and water to identify pollution sources, demonstrate facility compliance, hold polluters accountable, and support communities during and after cleanups.

科学的根拠に基づく意思決定の確保

PAは、PFASに関する理解のギャップを埋め、どのような曝露レベルにおいて人間の健康及び生態系にリスクをもたらす可能性のある追加のPFASを特定し、それらを試験、測定、除去、及び破壊するための方法を開発するために、科学研究に投資する。

PFASに関するEPAの決定は、科学的証拠と分析に基づいて行われる。現在の一連の科学的証拠は、特定のPFASに関連した現実の、現在の、そして重大な危険性がある ことを明確に示しているが、他のPFASが人の健康や環境に及ぼす影響に関しては、重大なギャップが 残っている。州または連邦レベルでの規制策定は、あまり研究されていないPFASの暴露経路、毒性、及び潜在的な健康への影響についてのより深い科学的理解から大いに恩恵を受けるであろう。連邦政府、州、産業界、学界、及び非営利団体は、適切な調整と資源があれば、この必要な研究を実施する能力がある。

EPAは、特定のPFASの類似点及び相違点をよりよく理解し、PFASのグループやカテゴリーに対処するかどうか、またどのように対処すべきかを理解するために、新たな研究を行っている。EPAは、複数の化学物質に一度に対応する能力を向上させることで、規制、執行措置、及び大気、土地、水からPFASを除去するために必要なツールや技術の効果を加速させることに注力している。

PFASによる汚染と暴露のサイクルを断ち切るためには、これらの耐久性のある化合物を永久的に廃棄または破壊する技術を特定または開発するための追加研究が必要である。政府機関、産業界、民間の研究所は、汚染源を特定し、施設のコンプライアンスを実証し、汚染者に責任を負わせ、浄化中及び浄化後のコミュニティを支援するために、大気、土地、水に含まれるPFASを測定するツールと有効な方法を必要としている。

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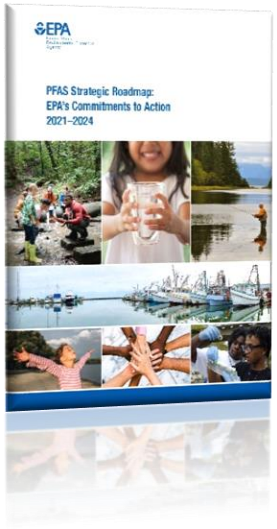

Prioritize Protection of Disadvantaged Communities

When taking action on PFAS, EPA will ensure that disadvantaged communities have equitable access to solutions.

Many known and potential sources of PFAS contamination (including military bases, airports, industrial facilities, and waste management and disposal sites) are near low-income communities and communities of color. EPA needs to ensure these affected populations have an opportunity to participate in and influence the Agency's decision-making. This may call for the Agency to seek out and facilitate the communities' engagement by providing culturally appropriate information and accommodations for people with Limited English Proficiency, facilitating community access to public meetings and comment periods, and offering technical assistance to build community-based capacity for participation. EPA's actions need to consider the unique on-the-ground conditions in these communities, such as outdated infrastructure, to help ensure they benefit equitably from policy solutions. EPA will also collect more data and develop new methodologies to understand PFAS exposure pathways in disadvantaged communities; to what extent PFAS pollution contributes to the cumulative burden of exposures from multiple sources in these communities; and how non-environmental stressors, such as systemic socioeconomic disparities, can exacerbate the impacts of pollution exposure and vice versa.

不利な立場にあるコミュニティ保護を優先

EPAは、汚染者及びその他の責任者に対し、自らの行動及びPFAS浄化活動に対する責任を追及するPFAS に対する対策を講じる際、EPA は、不利な立場にある地域社会が解決策を公平に利用できるようにする。

PFAS汚染の既知及び潜在的な発生源（軍事基地、空港、工業施設、及び廃棄物管理・処分場を含 む）の多くは、低所得者層や有色人種社会の近くにある。EPAは、これらの影響を受ける人々がEPAの意思決定に参加し、影響を与える機会を確保する必要がある。これは、文化的に適切な情報や限定的英語能力を有する人々のための便宜を図り、地域社会が公開会合や意見陳述期間を利用しやすくし、地域社会を基盤とした参加能力を構築するための技術支援を 提供することにより、EPA が地域社会の参加を求め、促進することを必要とする可能性がある。EPAの行動は、これら地域社会が政策的解決策から公平に恩恵を受けるようにするために、旧式のインフラなど、これら地域社会に特有の現場状況を考慮する必要がある。

EPAはまた、恵まれない地域社会におけるPFAS曝露経路、PFAS汚染がこれらの地域社会における複数の発生源からの曝露の累積負荷にどの程度寄与しているか、また、社会経済的格差などの環境以外のストレス要因がどのように汚染曝露の影響を悪化させるか、あるいはその逆はないかを理解するために、より多くのデータを収集し、新たな方法論を開発する。

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PFAS Strategic Road map: EPA's Commitments to Action 2021-2024

Goals and Objectives

EPA's comprehensive approach to addressing PFAS is guided by the following goals and objectives.

RESEARCH

Invest in research, development, and innovation to increase understanding of PFAS exposures and toxicities, human health and ecological effects, and effective interventions that incorporate the best available science.

Objectives

- Build the evidence base on individual PFAS and define categories of PFAS to establish toxicity values and methods.
- Increase scientific understanding on the universe of PFAS, sources of environmental contamination, exposure pathways, and human health and ecological effects.
- Expand research on current and emerging PFAS treatment, remediation, destruction, disposal, and control technologies.
- Conduct research to understand how PFAS contribute to the cumulative burden of pollution in communities with environmental justice concerns.

RESTRICT

Pursue a comprehensive approach to proactively prevent PFAS from entering air, land, and water at levels that can adversely impact human health and the environment.

Objectives

- Use and harmonize actions under all available statutory authorities to control and prevent PFAS contamination and minimize exposure to PFAS during consumer and industrial uses.
- Place responsibility for limiting exposures and addressing hazards of PFAS on manufacturers, processors, distributors, importers, industrial and other significant users, dischargers, and treatment and disposal facilities.
- Establish voluntary programs to reduce PFAS use and release.
- Prevent or minimize PFAS discharges and emissions in all communities, regardless of income, race, or language barriers.

REMEDIATE

Broaden and accelerate the cleanup of PFAS contamination to protect human health and ecological systems.

Objectives

- Harmonize actions under all available statutory authorities to address PFAS contamination to protect people, communities, and the environment.
- Maximize responsible party performance and funding for investigations and cleanup of PFAS contamination.
- Help ensure that communities impacted by PFAS receive resources and assistance to address contamination, regardless of income, race, or language barriers.
- Accelerate the deployment of treatment, remediation, destruction, disposal, and mitigation technologies for PFAS, and ensure that disposal and destruction activities do not create new pollution problems in communities with environmental justice concerns.

目標と目的

PFASに対処するためのEPAの包括的な取り組みは、
以下の目標と目的に基づいている。

研究

PFASへの曝露や毒性、人間の健康や生態系への影響についての理解を深め、利用可能な最善の科学を取り入れた効果的な介入を行うための研究、開発、革新に投資する。

目的

- 個々のPFASに関するエビデンスベースを構築し、毒性値と方法を確立するためにPFASのカテゴリーを定義する。
- PFASの存在、環境汚染源、曝露経路、人の健康と生態系への影響に関する科学的理解を深める。
- 現在及び将来のPFAS処理、修復、破壊、処分、制御技術に関する研究を拡大する。
- 環境正義が懸念される地域社会において、PFASがどのように汚染の累積負担に寄与しているかを理解するための調査を行う。

規制

人の健康や環境に悪影響を及ぼすレベルのPFASが大気、土地、水に流入するのを積極的に防ぐための包括的なアプローチを追求する。

目的

- PFAS汚染を制御・防止し、消費者や産業界でのPFASへの暴露を最小限にするために、利用可能な全ての法的権限の下での行動を利用し、調和させる。
- PFASの暴露を制限し、危険性に対処する責任を、製造業者、加工業者、流通業者、輸入業者、工業用及びその他の重要な使用者、排出者、処理・処分施設に負わせる。
- PFASの使用と放出を削減するための自主的なプログラムを確立する。
- 所得、人種、言語の障壁にかかわらず、全てのコミュニティにおけるPFASの排出と放出を防止または最小化する。

環境改善

人間の健康と生態系を守るために、PFAS汚染の浄化を拡大・加速させる。

目的

- 人々、地域社会、環境を保護するために、PFAS汚染に対処するために利用可能な全ての法的権限の下で行動を調和させる。
- PFAS汚染の調査と浄化のための責任者のパフォーマンスと資金を最大化する。
- PFASの影響を受けているコミュニティが、所得、人種、言語の障壁に関わらず、汚染に対処するためのリソースや支援を受けられるようにする。
- PFASの処理、修復、破壊、処分、緩和技術の展開を加速させ、処分や破壊活動が環境的正義が懸念される地域で新たな汚染問題を引き起こさないようにする。

ＰＦＡＳ戦略ロードマップ：米環境保護庁の取組 ２０２１－２０２４

PFAS Strategic Road map: EPA's Commitments to Action 2021-2024

Key Actions

Office of Chemical Safety and Pollution Prevention

Publish national PFAS testing strategy *Expected Fall 2021*
Ensure a robust review process for new PFAS Efforts *Ongoing*
Review previous decisions on PFAS Efforts *Ongoing*
Close the door on abandoned PFAS and uses *Expected Summer 2022*
Enhance PFAS reporting under the Toxics Release Inventory *Expected Spring 2022*
Finalize new PFAS reporting under TSCA Section 8 *Expected Winter 2022*

Office of Water

Undertake nationwide monitoring for PFAS in drinking water *Final Rule Expected Fall 2021*
Establish a national primary drinking water regulation for PFOA and PFOS *Proposed Rule Expected Fall 2022, Final Rule Expected Fall 2023*
Publish the final toxicity assessment for GenX and five additional PFAS *Expected Fall 2021 and Ongoing*
Publish health advisories for GenX and PFBS *Expected Spring 2022*
Restrict PFAS discharges from industrial sources through a multi-faceted Effluent Limitations Guidelines program *Expected 2022 and Ongoing*
Leverage NPDES permitting to reduce PFAS discharges to waterways *Expected Winter 2022*
Publish multi-laboratory validated analytical method for 40 PFAS *Expected Fall 2022*
Publish updates to PFAS analytical methods to monitor drinking water *Expected Fall 2024*
Publish final recommended ambient water quality criteria for PFAS *Expected Winter 2022 and Fall 2024*
Monitor fish tissue for PFAS from the nation's lakes and evaluate human biomarkers for PFAS *Expected Summer 2022*
Finalize list of PFAS for use in fish advisory programs *Expected Spring 2023*
Finalize risk assessment for PFOA and PFOS in biosolids *Expected Winter 2024*

Office of Land and Emergency Management

Propose to designate certain PFAS as CERCLA hazardous substances *Proposed rule expected Spring 2022; Final rule expected Summer 2023*
Issue advance notice of proposed rulemaking on various PFAS under CERCLA *Expected Spring 2022*
Issue updated guidance on destroying and disposing of certain PFAS and PFAS-containing materials *Expected by Fall 2023*

Office of Air and Radiation

Build the technical foundation to address PFAS air emissions *Expected Fall 2022 and Ongoing*

Office of Research and Development

Develop and validate methods to detect and measure PFAS in the environment *Ongoing Actions*
Advance the science to assess human health and environmental risks from PFAS *Ongoing Actions*
Evaluate and develop technologies for reducing PFAS in the environment *Ongoing Actions*

Cross-Program

Engage directly with affected communities in every EPA Region *Expected Fall 2021 and Ongoing*
Use enforcement tools to better identify and address PFAS releases at facilities *Ongoing Actions*
Accelerate public health protections by identifying PFAS categories *Expected Winter 2021 and Ongoing*
Establish a PFAS Voluntary Stewardship Program *Expected Spring 2022*
Educate the public about the risks of PFAS *Expected Fall 2021 and Ongoing*
Issue an annual public report on progress towards PFAS commitments *Winter 2022 and Ongoing*

ＰＦＡＳ戦略ロードマップ：米環境保護庁の取組 ２０２１－２０２４

PFAS Strategic Road map: EPA's Commitments to Action 2021-2024

主要取組

化学物質安全及び汚染防止担当事務局
全国的なPFAS試験戦略の発表　*2021年秋予定*
新しいPFASのための強固なレビュープロセスの確保　*取組進捗中*
ＰＦＡＳに関する過去の決定事項の見直し　*取組進捗中*
放置されたPFASと用途の扉を閉め　*2022年夏予定*
毒性物質放出目録におけるPFAS報告の強化　*2022年春予定*
TSCA Section 8における新しいPFAS報告書の最終決定　*2022年冬予定*

水担当事務局
飲料水に含まれるPFASの全国モニタリングの実施　*最終規則は2021年秋予定*
PFOA及びPFOSの国家一次飲料水規制の確立　*提案されたルールは2022年秋、最終ルールは2023年秋に予定*
GenX及び5種類のPFASの最終的な毒性評価を公表　*2021年秋予定、進捗中*
GenX及びPFBSの健康に関する勧告の発表　*2022年春予定*
多面的な排水規制ガイドラインプログラムを通じて、産業界からのPFAS排出を制限する　*2022年予定、進捗中*
水路へのPFAS排出量削減のためのNPDES許可の活用　*2022年冬予定*
４０種類のPFASを対象とした、複数の研究所で検証された分析法の公開　*2022年秋予定*
飲料水をモニターするためのPFAS分析法の最新情報を発表　*2024年秋予定*
PFASの最終推奨環境水質基準の発表　*2022年冬及び2024年秋予定*
国内の湖沼から採取したPFASの魚類組織をモニタリングし、PFASのヒトバイオマーカーを評価する　*2022年夏予定*
フィッシュアドバイザリープログラムで使用するPFASリストの最終決定　*2023年春予定*
バイオソリッドに含まれるPFOA及びPFOSのリスクアセスメントを最終化　*2024年冬予定*

土地及び緊急事態管理担当事務局
特定のPFASをCERCLA有害物質に指定することを提案　*提案されたルールは2022年春、最終ルールは2023年夏の予定*
CERCLAにおける各種PFASに関する規則案の事前通知を発行　*2022年春予定*
特定のPFAS及びPFAS含有物質の破壊及び廃棄に関する最新のガイダンスを発行　*2023年秋予定*

大気及び放射性物質担当事務局
PFASの大気排出に対応するための技術基盤の構築　*2022年秋予定、進捗中*

研究及び開発担当事務局
環境中のPFASを検出・測定する方法の開発と検証　*進捗中*
PFASによる人の健康と環境へのリスクを評価するための科学の推進　*進捗中*
環境中のPFASを削減するための技術を評価・開発　*進捗中*

横断的プログラム
全てのEPA地域において、影響を受ける地域社会と直接関わりを持つ　*2021年秋予定、進捗中*
施設でのPFAS放出をより正確に特定し、対処するための執行手段の使用　*進捗中*
PFASカテゴリーの特定による公衆衛生保護の促進　*2021年冬予定、進捗中*
PFAS自主管理プログラムの構築　*2022年春予定*
PFASのリスクについての一般市民への啓発　*2021年秋予定、進捗中*
PFASへの取り組みの進捗状況に関する年次公開報告書の発行　*2022年冬、進捗中*

ＥＰＡ健康勧告値
EPA's Health Advisory

2022
EPA's health advisories
PFOS 0.02 ppt
PFOA 0.004 ppt

2016
EPA's health advisories
PFOS 70 ppt
PFOA 70 ppt

PRE-PUBLICATION NOTICE. The Assistant Administrator for the Office of Water, Radhika Fox, signed the following document on June 14, 2022, and EPA is submitting it for publication in the *Federal Register* (FR). This document is not disseminated for purposes of EPA's Information Quality Guidelines and does not represent an Agency determination or policy. While we have taken steps to ensure the accuracy of this Internet version of the document, it is not the official version. Please refer to the official version in a forthcoming FR publication, which will appear on the Government Printing Office's govinfo website (https://www.govinfo.gov/app/collection/fr).

6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

[FRL 9855-01-OW]

Lifetime Drinking Water Health Advisories for Four Perfluoroalkyl Substances (PFAS)

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of availability.

SUMMARY: The Environmental Protection Agency (EPA) announces the release of health advisories for four perfluoroalkyl substances (PFAS), including interim updated lifetime drinking water health advisories for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS), and final health advisories for hexafluoropropylene oxide (HFPO) dimer acid and its ammonium salt (together referred to as "GenX chemicals") and perfluorobutane sulfonic acid and its related compound potassium perfluorobutane sulfonate (together referred to as "PFBS"). EPA's health advisories, which identify the concentration of chemicals in drinking water at or below which adverse health effects are not anticipated to occur, are: 0.004 parts per trillion (ppt) for PFOA, 0.02 ppt for PFOS, 10 ppt for GenX chemicals, and 2,000 ppt for PFBS. Health advisories are non-regulatory and reflect EPA's assessment of the best available peer-reviewed science. The interim updated health advisories for PFOA and PFOS supersede EPA's 2016 health advisories for PFOA and PFOS.

FOR FURTHER INFORMATION CONTACT: Susan Euling, Health and Ecological Criteria Division, Office of Water (Mail Code 4304T), Environmental Protection Agency, 1200 Pennsylvania Avenue NW, Washington, DC 20460; telephone: (202) 566-2717; or e-mail:

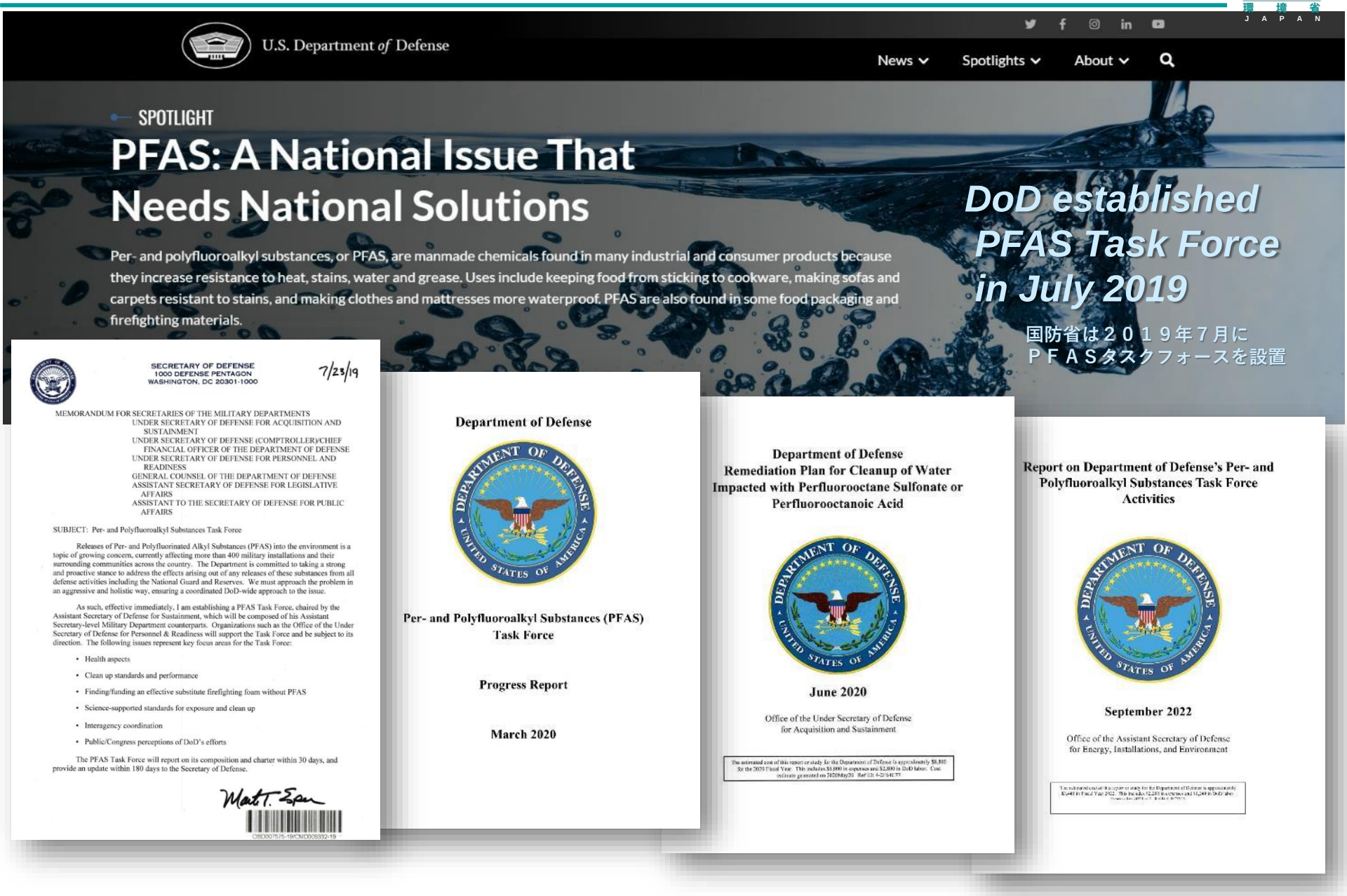
国防省の施策

White House initiative

- **The Department of Defense (DOD) is moving swiftly to address PFAS at DOD sites throughout the country.** The Department is currently conducting PFAS cleanup assessments at the nearly 700 DOD installations and National Guard locations where PFAS was used or may have been released, and expects to have completed all initial assessments by the end of 2023.

Last month, EPA and DOD research efforts also resulted in expanded testing capabilities ↗ to detect more types of PFAS in a variety of environmental media (soil, groundwater, etc.), which will dramatically expand DOD's and the nation's ability to detect and ultimately address PFAS. Earlier this year, DOD also initiated ↗ quarterly public outreach by senior officials with stakeholders to discuss the Department's PFAS-related work, in an effort to provide transparency and accountability. DOD manages the largest research and development program in the nation devoted to PFAS detection, treatment, and destruction—with over $150 million in investments and another $70 million devoted to a PFAS-free replacement firefighting foam. This program works closely with the best research academic institutions in the nation to develop the science to help address PFAS.

国防省の施策
DoD initiative



SECRETARY OF DEFENSE
1000 DEFENSE PENTAGON
WASHINGTON, DC 20301-1000

7/23/19

MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
UNDER SECRETARY OF DEFENSE FOR ACQUISITION AND SUSTAINMENT
UNDER SECRETARY OF DEFENSE (COMPTROLLER)/CHIEF FINANCIAL OFFICER OF THE DEPARTMENT OF DEFENSE
UNDER SECRETARY OF DEFENSE FOR PERSONNEL AND READINESS
GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE
ASSISTANT SECRETARY OF DEFENSE FOR LEGISLATIVE AFFAIRS
ASSISTANT TO THE SECRETARY OF DEFENSE FOR PUBLIC AFFAIRS

SUBJECT: Per- and Polyfluoroalkyl Substances Task Force

Releases of Per- and Polyfluorinated Alkyl Substances (PFAS) into the environment is a topic of growing concern, currently affecting more than 400 military installations and their surrounding communities across the country. The Department is committed to taking a strong and proactive stance to address the effects arising out of any releases of these substances from all defense activities including the National Guard and Reserves. We must approach the problem in an aggressive and holistic way, ensuring a coordinated DoD-wide approach to the issue.

As such, effective immediately, I am establishing a PFAS Task Force, chaired by the Assistant Secretary of Defense for Sustainment, which will be composed of his Assistant Secretary-level Military Department counterparts. Organizations such as the Office of the Under Secretary of Defense for Personnel & Readiness will support the Task Force and be subject to its direction. The following issues represent key focus areas for the Task Force:

- Health aspects
- Clean up standards and performance
- Finding/funding an effective substitute firefighting foam without PFAS
- Science-supported standards for exposure and clean up
- Interagency coordination
- Public/Congress perceptions of DoD's efforts

The PFAS Task Force will report on its composition and charter within 30 days, and provide an update within 180 days to the Secretary of Defense.

Mark T. Esper

OSD00075/5-19/CM/D005332-19

Department of Defense

Per- and Polyfluoroalkyl Substances (PFAS) Task Force

Progress Report

March 2020

Department of Defense
Remediation Plan for Cleanup of Water Impacted with Perfluorooctane Sulfonate or Perfluorooctanoic Acid

June 2020

Office of the Under Secretary of Defense for Acquisition and Sustainment

The estimated cost of this report or study for the Department of Defense is approximately $8,800 for the 2020 Fiscal Year. This includes $8,800 in expenses and $2,000 in DoD labor. Cost estimate generated on 2020May20 Ref ID: 4-2F54E77

Report on Department of Defense's Per- and Polyfluoroalkyl Substances Task Force Activities

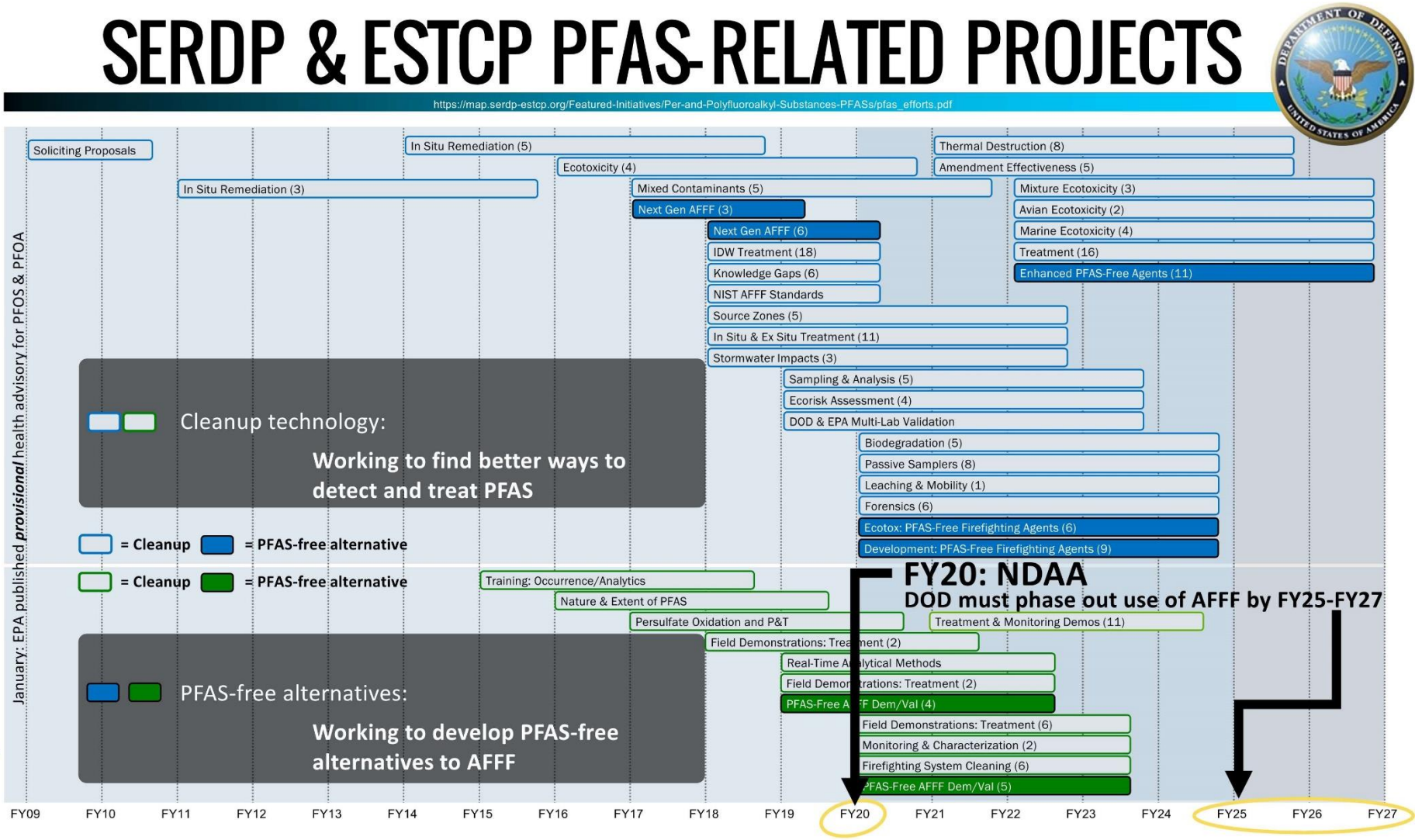
September 2022

Office of the Assistant Secretary of Defense for Energy, Installations, and Environment

国防省によるＰＦＡＳ対策への研究開発

DoD's Research and Development for PFAS countermeasures

https://media.defense.gov/2021/Oct/20/2002876868/-1/-1/0/DOD-PFAS-OCT-14-2021-PUBLIC-OUTREACH-PRESENTATION-AFFF-ALTERNATIVES.PDF



国防省によるＰＦＡＳ対策への研究開発

DoD's Research and Development for PFAS countermeasures

https://map.serdp-estcp.org/Featured-Initiatives/Per-and-Polyfluoroalkyl-Substances-PFASs/pfas_efforts.pdf

SERDP and ESTCP efforts on PFAS

2013 *Workshop Report: Long Term Mgmt of Contaminated Groundwater*

2017 *Workshop Report: PFAS R&D Needs*

2019 *Workshop on PFAS: Sampling, Analysis and Treatment*

2020 *Workshop on PFAS: Sampling, Analysis and Treatment*

2021 *Workshop on PFAS: R&D Needs*

SERDP Research Projects

DOD • EPA • DOE

2011-2016	2017	2018	2019	2020	2021	2022
2011 In Situ Groundwater Remediation		Creation of AFFF Reference Material		Ecotoxicity of PFAS-Free AFFF		Ecotoxicity of Mixtures
2014 In Situ Groundwater Remediation	Mixed Contamination in Groundwater	Source Zones		Alternative Formulations for PFAS-Free AFFF		Ecotoxicity in the Marine Environment
2016 Ecotoxicity	PFAS-Free Aqueous Film Forming Foam	Investigation Derived Waste		Biodegradation		Ecotoxicity & Risk in Avian Species
2015 FAQs Regarding PFAS at DoD Sites	Thermally-Enhanced Persulfate Oxidation Followed by P&T	In Situ & Ex Situ Groundwater Remediation	PFAS Multilab Method Validation	Passive Sampling Methodologies	Thermal Destruction Technologies for AFFF	Treatment Technologies
2016 Characterization of the Nature and Extent of PFAS at DoD Sites		Ecorisk/Assessing Remediation Effectiveness	Ecological Risk Characterization	Analytical Methods to Assess Leaching and Mobility	Amendments for In Situ PFAS Groundwater Remediation	
		PFAS-Free Aqueous Film Forming Foam	Analytical and Environmental Sampling Methods	Forensic Methods for Source Tracking and Allocation		
		Ion Exchange & Low Energy Electrical Discharge Plasma Process	Mobile Lab-Based Real Time PFAS Analytical Methods	Demonstration/ Validation of AFFF Cleaning from Firefighting Systems	Air Sparge Trench Technology Coupled with Foam Fractionation	
		Life Cycle Comparison of Ex Situ Treatment Technologies	Sub-Micron Powdered Activated Carbon & Ceramic Membrane Filter System	Demonstration/ Validation of PFAS-Free Fire Suppression Alternatives	Source Zone Leaching Decision Support Platform (PFAS-LEACH)	
			Source Zone Treatment Technology (D-FAS)	PFAS Monitoring and Characterization	Sonolysis-Based Treatment within an HRX Well	
			Demonstration/ Validation of PFAS-Free AFFF	In Situ Treatment Demonstration/ Validation	Nanofiltration & Electrical Discharge Plasma Treatment Train	
				Ex Situ Treatment Demonstration/ Validation	Monitored Natural Attenuation Framework	

ESTCP Demonstration Projects

Treatment | Ecotoxicity | Fate, Transport and Characterization | Analytical and Sampling Methods | PFAS-Free AFFF

国連SDG's
Sustainable Development Goals

PFAS would be shared as a global issue to be managed under partnership

ＰＦＡＳは、パートナーシップにより対処される地球規模の課題として共有される

Target
6.3

By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

Indicators

6.3.1
Proportion of wastewater safely treated

6.3.2
Proportion of bodies of water with good ambient water quality

Target
6.5

By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate

Indicators

6.5.1
Degree of integrated water resources management implementation (0-100)

6.5.2
Proportion of transboundary basin area with an operational arrangement for water cooperation