**PFAS**

**What are per- and polyfluoroalkyl substances and where do they come from?**

Per- and polyfluoroalkyl substances (PFAS) are a group of thousands of man-made chemicals. PFAS have been used in a variety of industries and consumer products around the globe, including in the U.S., since the 1940s. PFAS have been used to make coatings and products that are used as oil and water repellents for carpets, clothing, paper packaging for food, and cookware. They are also contained in some foams (aqueous film-forming foam or AFFF) currently used for fighting petroleum fires at airfields and in industrial fire suppression processes. PFAS chemicals are persistent in the environment and some are persistent in the human body – meaning they do not break down and they can accumulate over time.

PFAS （ペルフルオロアルキル化合物およびポリフルオロアルキル化合物）

ペルフルオロアルキル化合物及びポリフルオロアルキル化合物（PFAS）とは？どこから来るのでしょうか？

**ペルフルオロアルキル化合物及びポリフルオロアルキル化合物（PFAS）は、多くの化学物質を含む人工化学物質の総称です。PFASは1940年代から、米国を含む世界中のさまざまな工業製品や消費者製品に使用されてきました。PFASはカーペット、衣類、食品包装用紙や調理道具などのコーティング、撥油、撥水剤として使用されてきました。また、現在PFASは飛行場での石油火災や工業火災の消火に使われるAFFF（水溶性フィルムフォーム）と呼ばれる泡消火剤にも含有されています。PFASの化学物質は環境中に残留し、一部は人体にも残留します。つまり、分解されず、時間とともに蓄積する可能性があります。**

**Is there a regulation for PFAS in drinking water?**

On April 10, 2024, the US EPA established MCLs for a subset of PFAS chemicals. EPA requires implementation of sampling in accordance with the new MCLs within three years of the publication date and implementation of any required treatment within five years.

水道水中のPFASの基準はありますか？

**2024年4月10日、米国環境保護庁（EPA）は、PFAS 化学物質の一部に対する最大許容濃度を制定しました。EPAが公表日から3年以内に新しい最大許容濃度に従ってサンプリングを実施し、5年以内に必要な処置を実施することを義務付けています。**

|  |  |  |
| --- | --- | --- |
| **Chemical** | **Maximum Contaminant** **Level Goal (MCLG)** | **Maximum Contaminant Level (MCL)** |
|
| PFOA | 0 | 4.0 ppt |
| PFOS | 0 | 4.0 ppt |
| PFNA | 10 ppt | 10 ppt |
| PFHxS | 10 ppt | 10 ppt |
| HFPO-DA (GenX chemicals) | 10 ppt | 10 ppt |
| Mixture of two or more: PFNA, PFHxS, HFPO-DA, and PFBS | Hazard Index of 1 | Hazard Index of 1 |
| **Maximum Contaminant Level Goal (MCLG)**: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety and are non-enforceable public health goals.**Maximum Contaminant Level (MCL)**: The highest level of a contaminant that is allowed in drinking water. MCLs set as close to MCLGs as feasible using the best available treatment technology and taking cost into consideration. MCLs are enforceable standards.**ppt**: parts per trillion**Hazard Index (HI)**: The hazard Index is a long-established approach that EPA regularly uses understand health risk from a chemical mixture (i.e., exposure to multiple chemicals). The HI is made up of fractions. Each fraction compares the level of each PFAS measured in the water to the health-based water concentration. |

These limits did not apply for the 2023 calendar year because they had not been published. However, the DoD proactively promulgated policies to monitor drinking water for PFAS at all service owned and operated water systems at a minimum of every two years. The DoD policy states that if water sampling results confirm that drinking water contains PFOA and PFOS at individual or combined concentrations greater than the 2016 EPA health advisory (HA) level of 70 ppt, water systems must take immediate action to reduce exposure to PFOS or PFAS. For levels less than 70 ppt but above the 4 ppt level (draft at the time of policy publication), DoD committed to planning for implementation of the levels once EPA’s published MCLs take effect.

**2023年には、これらの規制値は公表されていなかったため、適用されませんでした。しかし、国防総省(DoD)は、DoDが所有・運営するすべての給水システムで、最低2年ごとにPFASの飲料水を監視する方針を発表しました。DoDの方針では、飲料水のサンプリングの結果、PFOAとPFOSが2016年のEPA健康勧告（HA）レベルである70pptを超える個別濃度または複合濃度で含まれていることが確認された場合、給水システムはPFOSまたはPFASへの暴露を減らすための措置を直ちに講じなければならないとしています。70ppt未満で4pptを超えるレベル（政策発表時の草案）については、DoDは、EPAが最大許容濃度を公表した時点で、そのレベルの実施を計画することを約束しました。**

**Has CFAS tested its water for PFAS in 2023?**

Yes. In January and August 2023 samples were collected from Akasaki, Hario Housing, Harioshima, Iorizaki, Maebata, Main Base, and Yokose.

2023年に佐世保基地は水中のPFAS をテストしていますか？

**はい。2023年1月と8月に赤崎、針尾ハウジング、針尾島、庵崎、前畑、メインベース、横瀬から採水しました。**

**PFAS Detected but below the new PFAS MCLs**

 We are informing you that 1 of 29 PFAS compounds covered by the sampling method were detected above the method reporting limit (MRL) for ADONA. The results are provided in the table below. EPA does not have a HA or MCL for all of these compounds at this time. PFOA, ADONA, PFBA, PFPEeA, and PFBA were detected but below the new MCL if applicable. As the regulated chemicals were below the new MCLs, there is no immediate cause for concern, but we will continue to monitor the drinking water closely.

PFAS は検出されましたが、新しいPFASの最大許容濃度以下でした。

**29種類のPFAS化合物のうち1種類が最小報告濃度（MRL）を超えて検出されたことを報告します。結果は表VIIIに記載されています。現時点ではこれらすべての化合物について健康報告または最大許容濃度を設定していません。PFOA、PFOS、PFNA、PFHxS、PFBS、および Gen X は検出されたが、新しい 最大許容濃度を下回りました。規制化学物質は新最大許容濃度未満であったため、直ちに懸念する必要はありませんが、引き続き飲料水を注意深く監視します。**

For questions on drinking water in general please contact: CFAS Public Works Department-Environmental Division at 252-3369

飲料水優先区域調査に関してのお問い合わせは佐世保基地広報課へ。飲料水全般についてのお問い合わせは：佐世保基地施設部環境課，内線２５２－３２４８まで

**PFAS AND PFOA TESTING CONDUCTED AT CFAS**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Location** | **Contaminant**  | **Unit of Measurement** | **Detected Level** | **Above MRL?** | **HA**  | **Violation?** | **Possible Sources of Contamination** |
| **High** | **Low** | **Yes / No** |
|  | **CONTAMINANTS DETECTED** |
| Akasaki | 4,8-dioxa-3H-perfluorononanoic acid (ADONA) | ng/L | 1.8 | - | No | 70 | No | Plastics/Coatings  |
| Akasaki | 4,8-Dioxa-3H-perfluorononanoic Acid (ADONA) | ng/L | 6.5\* | - | Yes\* | 70 | No | Plastics/Coatings |
| Yokose | Perfluoro-n-octanoic acid (PFOA) | ng/L | 2.2 | - | No | 70 | No | Fire Fighting Foams, Surface Finishes, Sealants  |
| Yokose  | Perfluoropentanoic acid (PFPeA) | ng/L | 2.4 | - | No | 70 | No | Material and Fabric Coatings, Fire Fighting Foams |
| Maebata | Perfluorobutanoic acid (PFBA) | ng/L | 2.2 | - | No | 70 | No | Fabric Coatings, Food Packaging |
| Maebata | Perfluorooctanoic acid (PFOA) | ng/L | 2.2 | - | No | 70 | No | Material and Fabric Coatings, Food Packaging |
| Hario Housing | Perfluorobutanoic acid (PFBA) | ng/L | 2.0 | - | No | 70 | No | Fabric Coatings, Food Packaging |
| Hario Housing | Perfluorooctanoic acid (PFOA) | ng/L | 2.4 | - | No | 70 | No | Material and Fabric Coatings, Food Packaging |

**Notes:**

In cases where there is a contaminant listed in repetition, it was detected with a different EPA Analytical Method. CFAS is required to test for PFAS/PFOA using EPA Analytical Method 537.1 and Method 533

\* Tested above the MRL with EPA method 533. This results in enhanced testing frequency for this constituent, but it is well below the project Health Advisory level

**Abbreviations and Definitions:**

**HA:**  Health Advisory Level

**ng/L:** nanograms per Liter

**MRL:** minimum reporting limit

**- :** dash isone sample per water source based on sampling plan; no separate High and Low values.