

Guidance on the Use, Storage and Disposal of Class B Firefighting Foam Containing Persistent Organic Pollutants (POPs)

Introduction

This guidance is aimed at anyone in Scotland who uses, stores, or disposes of Class B Firefighting Foams, and/or any other Firefighting Foams, containing Persistent Organic Pollutants (POPs).

The requirements of the law will change on 1 January 2023 to limit the use of any firefighting foam that contains perfluorooctanoic acid (PFOA).

Historically, Firefighting Foams have contained chemicals from the PFAS (Per- and polyfluoroalkylated substances) group of chemicals. PFAS chemicals are stable under intense heat and have surfactant properties and functions, for example, as water and grease repellents, making them ideal constituents for Firefighting Foams.

Two PFAS chemicals, **perfluorooctane sulfonic acid and its derivatives (PFOS)**, and **perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds**, were commonly used in the production of Class B Firefighting Foams (Class B FFs). Class B FFs are used to extinguish Class B fires, that is, fire involving flammable liquids, such as burning oil, gasoline, and jet fuel. Due to its chemical structure, a carbon backbone consisting of 8 carbons, PFOA is known as a “Long-chain” PFAS compound and is sometimes referred to as a ‘C8 PFAS compound’.

Both **perfluorooctane sulfonic acid and its derivatives (PFOS)**, and **perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds**, are listed in the Stockholm Convention¹ and are classified as Persistent Organic Pollutants (POPs) and therefore subject to conditions or restrictions in their use and in some cases, such as PFOS, are banned.

Appendix I to this guidance provides supplemental information detailing which PFOA compounds are in scope of the regulations, which PFOA compounds are not in scope and information in relation to what is considered unintended trace contamination levels for PFOA.

Persistent Organic Pollutants (POPs)

Persistent Organic Pollutants are organic chemical substances which pose a risk to human health and the environment due to their persistence in the environment, bioaccumulation through the food chain and long-range environmental transport across a wide geographical range. They are present in a variety of manufactured materials including car parts, electronic equipment, soft furnishings, and some firefighting foams.

Globally there is concern at the continuing release of POPs into the environment and for many years the international community has called for actions to reduce and eliminate their production, use and release. The Stockholm Convention was developed to address these concerns and protect human health and the environment.

¹ [Text of the Convention \(pops.int\)](https://pops.int/)

Restrictions on POPs are based on the European regulation on persistent organic pollutants², which is implemented in the UK by the Persistent Organic Pollutants Regulations 2007³. In Scotland, SEPA is the competent and enforcing authority for the UK POPs Regulations.

POPs - Requirement to notify SEPA of Stockpiles

One of the requirements of the POPs Regulations is the duty to notify SEPA annually of any stockpiles of POP containing material or products you may have at or above a threshold (50kg).

SEPA defines a stockpile to be any POPs containing materials or products being produced, imported, supplied, stored or used for a permitted reason, exceeding 50kg.

Please note that this 50kg is the total of all POPs containing material or products you are storing or using across all the sites you operate.

Any material that contains a POP count towards your 50kg limit – it does not matter how low the concentration of POP is.

If you take material out of storage to use it, it still counts towards your 50kg limit, if it remains within your business.

You do not need to notify SEPA if you are storing less than 50kg of POPs containing material or products.

Please see Appendix II to this guidance document, for further guidance on notifying SEPA of your intention to continue to store or use firefighting foam containing (or potentially containing) PFOA and/or of any stockpiles of firefighting foam containing (or potentially containing) PFOA.

When a new substance becomes regulated as a POP, you must notify your exempt stockpile to the SEPA within 12 months of the date the regulation comes into force.

You must renew your stockpile notification every 12 months, by 4th July. There is no charge to notify POPs stockpiles.

If the production, import, supply, storage or use of a stockpile is no longer permitted it is considered to be a POPs waste and must be disposed of in an appropriate manner. POPs wastes cannot be notified as a stockpile.

PFOS containing Firefighting Foams - Restrictions

PFOS and its related substances were restricted under the Stockholm Convention in May 2009, and therefore its use is already banned, and you should have ceased using and disposed of any stockpiles by June 2011.

If you think your firefighting foam may contain PFOS, please email: nationalwaste@sepa.org.uk urgently, using “possible PFOS containing FFs” as the subject to your email. It is important that SEPA is notified of these before you undertake the steps to dispose of the foam as outlined below.

² [Consolidated TEXT: 32019R1021 — EN — 15.03.2021 \(europa.eu\)](#)

³ [The Persistent Organic Pollutants Regulations 2007 \(legislation.gov.uk\)](#)

Dispose of obsolete or used foam containing PFOS and wash waters

It is important that you manage POPs contaminated waste foam, and any other associated wastes, such as wash waters, appropriately, and in accordance with the requirements of the POPs Regulations.

You must make sure you send your waste to a suitably authorised disposal or recovery site that can destroy POPs or irreversibly transform them using an appropriate method.

The United Nations Environment Programme (UNEP) has produced several technical guidelines on the environmentally sound management of wastes consisting of, containing or contaminated with persistent organic pollutants.

These guidelines⁴ consider appropriate methods of 'destruction and irreversible transformation' for some of the POPs listed in the Stockholm Convention.

For PFOS UNEP suggests that the following methods of 'destruction and irreversible transformation' as being appropriate:

- Cement Kiln (co-incineration)
- Gas phase chemical reduction (GPCR)
- Hazardous waste incineration
- Supercritical water oxidation (SCWO) and subcritical water oxidation

You must ensure that:

- any contractor you employ to remove the waste is registered as a waste carrier, and
- the waste transfer or consignment note clearly indicates the presence of the PFOS chemical present.

Please note that if the treatment does not reliably destroy the POPs, any waste that results from the treatment, and contains these POPs, is also POPs waste. You must destroy the POPs in this treated waste even if the concentration is below the relevant threshold concentration limit. Dilution is not permitted.

PFOA containing Firefighting Foams - Restrictions

Certain restrictions (detailed below) on PFOA, its salts and its related compounds, were introduced into the Stockholm Convention in May 2019.

Time limited derogations are also in place for some uses. These are detailed below.

Please see Appendix I for information on unintentional trace contamination.

⁴ UNEP/CHW.14/7/Add.1/Rev.1: Technical Guidelines (basel.int)
(<https://www.basel.int/Portals/4/download.aspx?d=UNEP-CHW.14-7-Add.1-Rev.1.English.pdf>)

What you need to do

You need to have confidence that you are compliant with the law. Therefore, you should:

- a) check if your foam, including stockpiles, contains PFOA;
- b) comply with the restrictions on use of the foam containing PFOA;
- c) dispose of foam containing PFOA appropriately.

a) Check if your foam contains PFOA

To find out if the foam you hold contains PFOA, you can:

- check the safety data sheet for the foam;
- contact the supplier or manufacturer of the foam;
- have the foam analysed by a suitable laboratory.

If you are unsure, and unable to find out, you should adopt a precautionary approach and assume that any Class B FFs may contain these substances, and therefore comply with the restrictions and disposal requirements below. PFOA may also be present in other firefighting foams as a trace contaminant.

b) Comply with restrictions on use of the foam containing PFOA

The law does not allow the use of substances, mixtures and articles containing PFOA, its salts and PFOA related compounds, other than in accordance with the requirements of, and until the relevant dates in, Part A to Annex I of the Commission Delegated Regulation (EU) 2020/784⁵.

If you intend to use or have a stockpile of Class B FFs, such as C8, already installed in systems (mobile or fixed) that contains or may contain PFOA, you have a legal obligation to meet the following conditions⁶:

- holders of foam stockpiles greater than 50kg in Scotland must notify SEPA as soon as possible, and annually (by July) thereafter (see Appendix II on what to provide SEPA)⁷;
- the firefighting foam must not be used for training;
- the firefighting foam must not be used for testing unless all releases are contained (see [Effective Containment of Firefighting Foam and Disposal of Retained Liquids](#));
- from 1 January 2023, the use of the firefighting foam shall only be allowed in sites where all releases can be contained (see [Effective Containment of Firefighting Foam and Disposal of Retained Liquids](#)); and
- from 4 July 2025, all uses are prohibited.

⁵ Commission Delegated Regulation (EU) 2020/784 of 8 April 2020 amending Annex I to Regulation (EU) 2019/1021 of the European Parliament and of the Council as regards the listing of perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds [EUR-Lex - 32020R0784 - EN - EUR-Lex \(europa.eu\)](#)

⁶ See paragraph 6 subparagraph (a), (b), (c) and (d) to column 4 in the table in Part A to Annex I under Commission Delegated Regulation (EU) 2020/784.

⁷ Article 5 requirements on registration. PFOA, its salts and PFOA-related compounds became an applicable substance from 4 July 2020 under Commission Delegated Regulation (EU) 2020/784, and therefore registration of stockpiles should have been undertaken in accordance with Article 5(2) by 4 July 2021.

When PFOA firefighting foams reach the end of their life, you should arrange for appropriate disposal as soon as reasonably practicable (see below)

c) Dispose of obsolete or used foam containing PFOA and wash waters

It is important that you manage waste foam appropriately, and in accordance with the requirements of the POPs Regulations.

You should ensure that your waste firefighting foam containing PFOA is disposed of or recovered in such a way as to ensure that the POP content is destroyed or irreversibly transformed so that the remaining waste and releases do not exhibit the characteristics of POPs.

You must ensure that:

- any contractor you employ to remove the waste is registered as a waste carrier, and
- the waste transfer or consignment note clearly indicates the presence of the PFOA chemical present.

You must not discharge unwanted firefighting foams containing PFOA to sewer, sea, on site drainage and/or treatment systems. You may commit an offence if you do so. These chemicals may pass through the sewage works and contaminate the environment and drinking water. They may also contaminate sewage sludge used on agricultural land to produce our food.

How to destroy the PFOA content of your waste

You must make sure you send your waste to a suitably authorised disposal or recovery site that can destroy POPs or irreversibly transform them using one of the following methods:

- physico-chemical treatment, such as chemical destruction
- incineration on land
- using the waste as a fuel or other means to generate energy some other way (not for material containing PCBs)
- recycling or reclamation of metals and metal compounds, under the conditions set out in Annex V Part 1 of the POPs regulations

The appropriate method to use will be based on:

- the properties of the POP
- the type of waste containing the POP
- other chemicals or material present in the waste

If POPs are present in a waste above certain concentrations limits (a POPs Waste) the POPs in that waste must be destroyed.

If you treat POPs waste and the treatment does not reliably destroy the POPs, any waste that results from the treatment, and contains these POPs, is also POPs waste. You must destroy the POPs in this treated waste even if the concentration is below the limits in this table. Dilution is not permitted.

For further information on your responsibilities see the [Duty of care: code of practice for managing controlled waste - gov.scot \(www.gov.scot\)](#).

Effective Containment of Firefighting Foam and Disposal of Retained Liquids

The containment must be impervious to the flammable substances and the firefighting foam and needs to be of sufficient capacity to retain the maximum quantity of flammable substance and firefighting foam. If you are uncertain about the appropriateness of your containment arrangements, please discuss with SEPA.

For the purposes of this guide “contained” means that, irrespective of what level of containment is used, the capacity and design needs to be such that there is no release to the environment.’

In addition, SEPA would expect operators to take measures to minimise as far practicable the containment area and volume of waste water containing POPs produced. So would prefer this being contained in bunds as opposed to relying on wider site drainage and retention ponds to minimise environmental damage, cost implications for disposal clean-up and further contamination.

Further help

Further information on the use, storage, and disposal of POPs, can be found online at www.gov.uk by searching “persistent organic pollutants”.

We work with businesses to help them comply with environmental regulations. If you have any questions, please do not hesitate to contact us at nationalwaste@sepa.org.uk.

If your site is located in England, please instead contact chemicalrestrictions@environment-agency.gov.uk.

If your site is located in Wales, please instead contact chemicals@naturalresourceswales.gov.uk.

If your site is located in Northern Ireland, please instead contact NIEAChemicals@daera-ni.gov.uk.

Appendix I

Supporting Information for PFOA in Class B Firefighting Foams

Definition of substances referred to as Perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds as set out by the UK POPs Regulations

“Perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds” means the following:

- (i) perfluorooctanoic acid, including any of its branched isomers;
- (ii) its salts;
- (iii) PFOA-related compounds which, for the purposes of the Convention, are any substances that degrade to PFOA, including any substances (including salts and polymers) having a linear or branched perfluoroheptyl group with the moiety (C₇F₁₅)C as one of the structural elements.

The following compounds are not included as PFOA-related compounds:

- (i) C₈F₁₇-X, where X = F, Cl, Br;
- (ii) fluoropolymers that are covered by CF₃[CF₂]_n-R', where R'=any group, n> 16;
- (iii) perfluoroalkyl carboxylic acids (including their salts, esters, halides and anhydrides) with ≥ 8 perfluorinated carbons;
- (iv) perfluoroalkane sulfonic acids and perfluoro phosphonic acids (including their salts, esters, halides and anhydrides) with ≥ 9 perfluorinated carbons;
- (v) perfluorooctane sulfonic acid and its derivatives (PFOS), as listed in this Annex.

Unintentional trace contamination limits as set out by the UK POPs Regulation

1. For the purposes of this entry, point (b) of Article 4(1) shall apply to concentrations of PFOA or any of its salts equal to or below 0,025 mg/kg (0,000025 % by weight) where they are present in substances, mixtures or articles.

2. For the purposes of this entry, point (b) of Article 4(1) shall apply to concentrations of any individual PFOA-related compound or a combination of PFOA-related compounds equal to or below 1 mg/kg (0,0001 % by weight) where they are present in substances, mixtures or articles.

Appendix II

Notifying Stocks of Firefighting Foam Containing PFOA to SEPA

1 - Continuing to store or use firefighting foam containing (or potentially containing) PFOA

To notify SEPA of your intention to continue to store or use firefighting foam containing (or potentially containing) PFOA, please email nationalwaste@sepa.org.uk (using “PFOA containing FFF stockpile” as the subject to your email) with the following information:

Continuing to store or use firefighting foam containing (or potentially containing) PFOA	
a) name and address of location where the firefighting foam containing PFOA is installed;	
b) quantity or quantities and brand(s) of the firefighting foams;	
c) any information available on the chemical composition of the foam (eg a Material Safety Data Sheet (MSDS) for the foam), or if such information is not available, details of any laboratory analysis carried out and results obtained to identify the chemical composition;	
d) contact details of person(s) making the notification.	

Please use additional sheets where necessary.

2 – Notification of Stockpiles of more than 50 kg of firefighting foam containing (or potentially containing) PFOA above the concentration thresholds

Where you have a stockpile of more than 50 kg at a given location of firefighting foam containing (or potentially containing) PFOA above the concentration thresholds (including materials contained in hand-held extinguishers and/or foam concentrate), you are required to report by 4 July annually to SEPA at nationalwaste@sepa.org.uk, (using “PFOA containing FFF stockpile” as the subject to your email) providing the following information:

Notification of Stockpiles of more than 50 kg of firefighting foam containing (or potentially containing) PFOA above the concentration thresholds	
a) stockpile nature and use (eg installed within fire suppression systems, including fire extinguishers, medical device production etc., noting there may be a combination of uses);	
b) concentration of PFOA and/or PFOA-related substance(s) within each stockpile component (the 50kg limit refers to an aggregate weight and so may be made up of “sub-stockpiles”);	
c) the location(s) of and quantity in the stockpile;	
d) how the stockpile is managed and stored; and	
e) disposal details (quantity and disposal site) for any such foam in the stockpile sent off-site for disposal;	
f) disposal details (quantity and disposal site) for any such spent foam (that is, used to extinguish a fire) sent off-site for disposal;	
g) disposal details (quantity and disposal site) for wash waters resulting from cleaning equipment previously used to store or contain any such foam sent off-site for disposal;	
h) contact details of person(s) making the notification.	

Please use additional sheets where necessary.