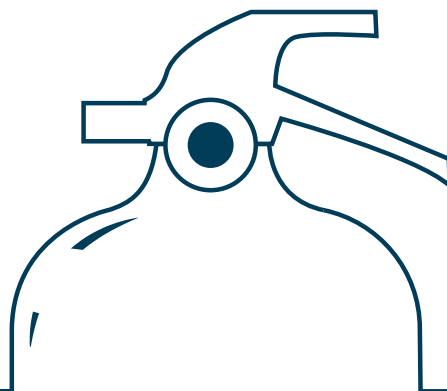


**Guidance  
Note**



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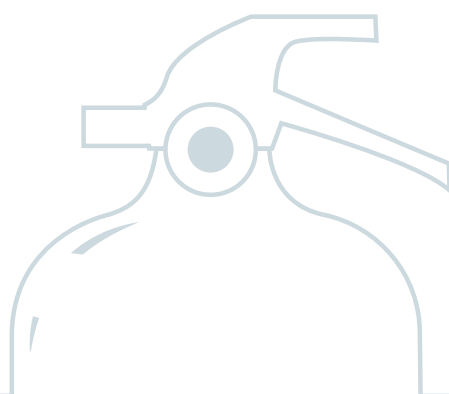
Leading Excellence in Fire Since 1916



**Pollutants in water-based Fire Extinguishers.  
End of life disposal and environmental regulation.  
Guidance for Manufacturers / Rechargers.**

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## 1. INTRODUCTION

This Fact File gives guidance to organisations and individuals who engage in the manufacture and/or the factory recharging of water-based fire extinguishers. It covers the applicable legislation, and advice on handling the contents of each type of extinguisher. Some of the chemicals have negative long-term effects on human health and the environment, known as Persistent Organic Pollutants (POPs).

For the purposes of this guidance, it is assumed the extinguisher content has yet to be introduced into the body of a fire extinguishers and a decision must be made on how to dispose of spillages and or excess in such a way that pollutants are prevented from entering the water system.

Rechargers may need to empty extinguishers before they are recharged.

## 2. IDENTIFICATION

These pollutants exist in all water-based extinguishing agents which contain fluorine, commonly referred to as PFAS (see section 6). Almost without exception they are water-based fire extinguishers which have a Class-B fire rating.

Mainly, there are two types:

**Foam types** – which should have a beige colour-code and often branded Foam, Multi-Foam or AFFF. There is a very small chance foam could be fluorine-free; check.

**Wet Chemical types** – which should have a yellow colour-code and branded Wet Chemical, F-Class or Fry Fighter. Not all Wet Chemical types have a Class-B fire rating.

If you are unsure what type you have, call your extinguisher service-provider.

## 3. OTHER WATER-BASED EXTINGUISHERS

Other water-based extinguishers do not have a B-Class rating, so are unlikely to contain POPs. Examples of these are Water and Water-Additive and they will have a red colour-code. The content of these types, when discharged to sewer as part of a manufacturer's/recharger's on-site activity, may well be defined as Trade Effluent. It is essential that organisations who engage in this activity seek a consent to discharge Trade Effluent to the water system from the Water Authority supplying waste-water services to the business location(s) concerned.

## 4. ENVIRONMENTAL REGULATION

### 4.1. Ground / Surface Water

The Groundwater Regulations prevent dangerous substances from causing direct or indirect pollution to groundwater. Firefighting foams cannot be discharged or emptied onto car parks, hard standings, grass, waste land, streams, rainwater/storm drains or any other outdoor site. Plan for spillage, large and small through, for example, use of spill kits, bunded tanks, absorbent granules.

### 4.2. Sewers

Sending firefighting foam to sewer is restricted. The Environment Agency's, Waste Industry Regulatory Services; Chemical Compliance Team (EA) seeks to prevent persistent organic pollutants (POPs) from entering sewerage systems and the water environment. Plan for spillage, large and small through, for example, use of spill kits, bunded tanks, absorbent granules. Plan also for collection of the content of extinguishers which cannot be discharged or emptied to sewer.

The types of extinguishers described in 2, above, should no longer be discharged or let into sewers or water courses during any part of the manufacturing/recharging process. The contents need to go to high temperature incineration for disposal, unless there is an alternative treatment that would prevent pollutants entering sewerage systems.

## 5. THE CHEMICALS

### 5.1. PFAS (*per- and polyfluoroalkyl substances*)

PFAS is a broad family of chemicals. Fire-fighting agents with a B-class rating almost certainly contain PFAS.

### 5.2. PFOS (*Perfluorooctane sulfonate – C8*)

- PFOS is a PFAS.
- Extinguishers containing PFOS foams should have been removed from circulation before 2011. There was no legal use for them after then so no need for any to be manufactured. Nevertheless, rechargers may be presented with a small number which will need to be disposed of.
- PFOS is listed as Persistent Organic Pollutant (POP) so must be sent to high temperature incineration. Disposers are likely to be committing an offence by discharging PFOS to sewer.

### 5.3. PFOA (*Perfluorooctanoic acid – C8*)

- PFOA is a PFAS.
- Extinguishers containing PFOA foams will need to be removed from circulation before the end of 2022. There will be no legal use for them after then. Nevertheless, a decreasing number will still need to be disposed of after that deadline. Especially with the discharge and refill routine carried out by service providers since the restriction was announced in 2010, the number of extinguishers containing PFOA is expected to be minimal. Nevertheless, rechargers may be presented with a small number which will need to be disposed of.
- PFOA is listed as POP so must be sent to high temperature incineration.
- Manufacturers/Rechargers are likely to be committing an offence by discharging PFOA to sewer.

### 5.4. PFHxA (*Perfluorohexanoic acid C6*)

- PFHxA is a PFAS.
- Extinguishers (water-based with a B-class rating, see above) in general circulation today contain PFHxA.
- PFHxA is likely to be restricted in the same way as PFOS and PFOA were previously. An announcement from the regulator is expected before the end of 2023.
- The Environment Agency strong recommendation is that any foam which contains PFAS should be disposed of by high temperature incineration, or an alternative treatment that would prevent PFAS entering sewerage systems.

**NOTE:** *This guidance document will be updated as soon as the legislation is published.*

## 6. SUMMARY

- ✓ It is important that you manage waste foam appropriately to protect human health and the environment.
- ✓ Never discharge onto ground or land.
- ✓ The discharge or emptying of PFAS to sewers is either banned or the subject of the strongest advice in advance of a formal restriction.
- ✓ Consult with your Water Authority to determine whether a Trade Effluent consent is required for other fire extinguishing agents.

**DISCLAIMER**

*The information set out in this document is believed to be correct in the light of information currently available but it is not guaranteed and neither the Fire Industry Association nor its officers can accept any responsibility in respect of the contents or any events arising from use of the information contained within this document.*



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