Guidance Note

Fire Industry Association

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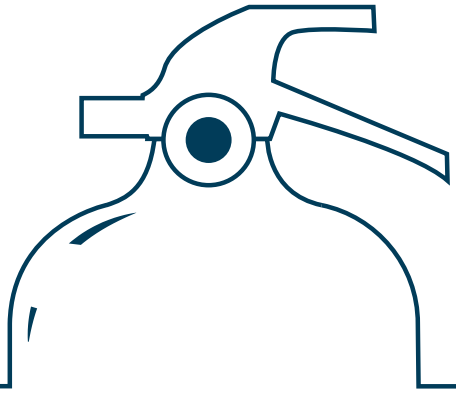

Pollutants in water-based Fire Extinguishers. Extinguisher maintenance and environmental regulation. Guidance for Service Providers.

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1. INTRODUCTION

This Fact File gives guidance to organisations and individuals who engage in the maintenance 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 is in service and a decision must be made on how to do so in such a way that pollutants are prevented from entering the water system. The actions are those called up in BS5306-3 and are: Commissioning, Basic Service, Extended Service, Recharge and Condemning.

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 or PFAS; check though. Examples of these are Water and Water-Additive and they will have a red colour-code.

4. SERVICE ACTIVITY (OF WATER-BASED EXTINGUISHERS WITH A CLASS-B FIRE RATING)

4.1. Commissioning and Basic Service – can be carried out safely. If an extinguisher needs to be discharged as a result, see "Extended Service" below.

4.2. Extended Service – this involves the discharge of the contents and rinsing-out. The Environment Agency's strong recommendation is that, unless an alternative method that would prevent PFAS entering sewerage systems by extinguisher discharge is available, any agent which contains PFAS should be disposed of by high temperature incineration.

4.3. Recharge – a serviceable extinguisher which is sufficiently empty to allow an internal inspection can be recharged. For a part-used extinguisher which needs to have the content emptied before it is recharged, the Environment Agency's strong recommendation is that, unless an alternative method that would prevent PFAS entering sewerage systems by an extinguisher being emptied is available, any agent which contains PFAS should be disposed of by high temperature incineration.

4.4. Condemning – a condemned extinguisher should not be emptied to sewer. Now classified as waste, the extinguisher should be transferred from the end-user site to a regulated point of disposal. The guidance for disposers is that PFAS-containing agents should be disposed of by high temperature incineration.

5. ENVIRONMENTAL REGULATION

5.1. Ground / Surface Water

The Groundwater Regulations prevent dangerous substances from causing direct or indirect pollution to groundwater. Firefighting foams cannot be discharged onto car parks, hard standings, grass, waste land, streams, rainwater/storm drains or any other outdoor site.

5.2. 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.

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

6. THE CHEMICALS

6.1. PFAS (per- and polyfluoroalkyl substances)

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

6.2. 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. Nevertheless, a small number may still 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.

6.3. 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.
- PFOA is listed as POP so must be sent to high temperature incineration.
- Disposers are likely to be committing an offence by discharging PFOA to sewer.

6.4. 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.*

7. 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 of PFAS to sewers is either banned or the subject of the strongest advice in advance of a formal restriction.

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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