

Future legislation of fire-fighting foams

LEIA Laboratories would like to take this opportunity to keep our customers updated on proposed changes in EU legislation that will impact on your fire-fighting foam choices in the near future.

You are very likely to be aware that C8 fluorosurfactants have been subject to restrictive EU legislation dating back to 2009. These restrictions have been specifically related to both Perfluorooctane sulfonate (PFOS) and Perfluorooctanoic acid (PFOA) which are very persistent compounds found in fire-fighting foams.

However, the newly proposed legislation on Undecafluorohexanoic acid PFHxA will have a significant impact on your future choices of foam concentrates and premix solutions in the next few years. All film-forming foams using C6 fluorosurfactants will contain PFHxA many times greater than the proposed limits. These foams will include AFFF, AFFF-AR, FFFP, FFFP-AR, FP and a number of other synthetic foams. To assist you with your future plans, we have detailed on the following pages an edited version of the challenges you will face in the years ahead.

In the past 12 months our laboratory has seen a small but gradual increase in the number of Fluoro Free Foams (F3's) samples being sent to our laboratories for analysis. This is a clear sign that a number of end users are beginning to make the transition from Fluorine foams to Fluorine Free foams in advance of legislation coming into force in the very near future.

If you are in any doubt or have questions regarding the current foam you are using please do not hesitate to contact us and we can advise you accordingly with regard to compliance with this proposed legislation. You can contact us in the following ways: -

Tel: +44 (0)1536 662982 – email: expert@leialabs.com – website: www.leialabs.com

Yours sincerely,

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**Committee for Risk Assessment (RAC)
Committee for Socio-economic Analysis (SEAC)**

Background Document

to the Opinion on the Annex XV dossier proposing restrictions on
Undecafluorohexanoic acid (PFHxA), its salts and related substances

ECHA/RAC/RES-O-0000006976-57-01/F
ECHA/SEAC/Opinion N°(opinion number will be added after adoption)

Summary (in part)

In regard to the extreme persistence of PFHxA and its presence in the environment for decades to centuries, the results of standardised (eco)toxicity tests may be of limited value as they do not consider intergenerational effects. This complicates an adequate prediction of toxicity and risks.

Once PFHxA has been released, it will stay in the environment, be distributed on a wide scale and removal is difficult (e.g. for contamination of ground water aquifers, surface water and oceans on a wide scale). As a consequence, future generations will be faced with these contaminations and are already exposed via breast milk and transplacental transfer.

If emissions of PFHxA into the environment continue, concentrations in the environment and environmental media relevant for human nutrition (e.g. vegetables and drinking water) will increase. In consequence, PFHxA may affect the health of the general population in the future. This has many outcomes for society and the ecosystem, e.g. in the water cycle. All these concerns also apply to PFHxA-related substances, which can degrade to PFHxA in the environment. Therefore, the hazard profile of PFHxA applies to these substances as well. An EU wide restriction will prevent and reduce the emissions of PFHxA, its salts and related substances within the EU in a harmonized manner. Moreover, a restriction within the EU may be the first step for global action. In order to minimize the exposure of the environment with PFHxA, PFHxA-related substances and its salts need to be substituted where technically and economically feasible.

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C8

In this ECHA proposed document If the foam contains >25 ppb PFOA or >1,000 ppb PFOA-related compounds (C8) it is classed as a 'C8' foam. Laboratory analysis using the Total Oxidizable Precursors (TOP) Assay is required to determine whether a foam comprises a C8 compound.

2020 No testing or training with 'C8'-PFAS foams

2021 By July 4th if you hold >50 kg foam within your business, across all sites you operate, the nature and volume of 'C8'-PFAS foams need to be reported to the Environment Agency as a notifiable stockpile of POPs. Penalties for non-compliance

2022 'C8'-PFAS foams of those that may contain C8 can only be used where 100% contained

2024 'C8'-PFAS foams cannot be used

C6

If the foam contains >25 ppb PFHxA or >1,000 ppb PFHxA-related compounds (C6) it is classed as a 'C6' foam. Laboratory analysis using the TOP Assay can determine if the foam is a 'C6'-PFAS foam

Restrictions are proposed to transition away from 'C6'-PFAS foams over a 5-year period. A 12-year transition period is proposed for large fuel storage tanks with a surface area >500 m².

Compiled from Foam manufacturers data: -

Additional and appropriate information on PFHxA that can be found in an example of a Class I (EN1568) AFFF 3% foam concentrate formulated with fluorosurfactants commonly used in AFFF formulations. Following a TOP Assay, a Class IC AFFF 3% it is known to contain 340000 ppb PFHxA-related substances (340 x the proposed legislation).

Foam tanks and foam equipment: -

Transition to Fluoro Free Foam (F3) will require a recognized cleaning process for foam storage tanks, foam equipment and delivery pipework and hoses. This is to ensure that contamination from 'C8' and / or 'C6'

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