Regulation 61: How ALS can Support Testing Requirements for PFAS

Regulation 61 notices have recently been served to many airports across the UK over recent months under the Environmental Permitting Regulations 2016. These have been specifically focused on per-and-polyfluoroalkyl substances (PFAS) and a range of other potential pollutants which may include hydrocarbons, pesticides, herbicides, ammonia, Biological Oxygen Demand, and other inorganic and organic parameters.

Here is how ALS can help.

With any new regulation it is always advisable to partner with a reputable laboratory that can help you ensure compliance for yourself or your end client. ALS prides itself on offering a service that you can rely on with an experienced technical and client-facing team who are familiar with the requirements of these notices and can support you in understanding permit requirements.

PFAS Requirements

Per- and polyfluoroalkyl substances (PFAS) have become a major focus of worldwide concern including here in the UK. PFAS are a group of active constituents in aqueous film forming foams (AFFF). Because of the extensive historic use of AFFF at airport sites, during emergency response and training, there is a requirement to analyse discharges to determine concentrations of PFAS.

As our understanding of the presence, toxicity, and potential effects of this group of emerging contaminants continues to advance, the demands for PFAS analysis continues to increase. ALS remains one of the global leaders in this field and is responding to the changing regulatory and analytical requirements of PFAS testing.

Why ALS?

ALS Laboratories has vast experience in working with the aviation industry globally and has a detailed understanding of the requirements of Environmental Permits.

With Regulation 61, the assessment of PFAS is vital and presents unique challenges. It is therefore essential to partner with a laboratory with experience in analysing such samples to ensure sites are properly characterised using the most advanced analytical techniques available. We provide a high-quality and cost-effective solution to meet your PFAS testing needs.

Sampling Requirements and Laboratory Analysis

ALS can now offer the following suite (TM 434) which is fully compliant with the requirements of Annex I of the Regulation 61 notice (see Table 1). Samples are extracted using solid phase extraction (SPE) and analysed by liquid chromatography coupled with a triple quadrupole mass spectrometer (LC-MS/MS).

Samples should be collected using digitubes which help to minimise effects from analyte sorption on sample containers as analysis is carried out of the entire sample including the container rinsate. ALS offer sampling guidance documents to support with your sampling and can offer technical support at every step of the process.

Contact Us

For more details about how ALS can help with this, or any other analysis please contact our Client Services team on the details below.

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Table 1 PFAS Broad Suite (TM 434)

No.	PFAS	CAS No.	PFAS Category	Units	LODs
1	PFDA	335-76-2	PFCA	ng/L	2
2	PFUnA	2058-94-8	PFCA	ng/L	2
3	PFDoA	307-55-1	PFCA	ng/L	2
4	PFTrDA	72629-94-8	PFCA	ng/L	3
5	PFTeA	376-06-7	PFCA	ng/L	1
5	PFHxDA	67905-19-5	PFCA	ng/L	1
6	PFODA	16517-11-6	PFCA	ng/L	1
7	PFBS	375-73-5	PFSA	ng/L	1
8	PFPeS	2706-91-4	PFSA	ng/L	1
9	PFHpS	375-92-8	PFSA	ng/L	1
10	PFNS	68259-12-1	PFSA	ng/L	1
11	PFDS	335-77-3	PFSA	ng/L	2
12	PFUnDS	749786-16-1	PFSA	ng/L	2
13	PFDoS	79780-39-5	PFSA	ng/L	2
14	HFPO-DA	13252-13-6	PFECA	ng/L	2
15	HFPO-TA	13252-14-7	PFECA	ng/L	5
16	ADONA	919005-14-4	PFECA	ng/L	1
17	PFMOPrA	377-73-1	PFECA	ng/L	1
18	NFDHA	151772-58-6	PFECA	ng/L	3
19	PFMOBA	863090-89-5	PFECA	ng/L	1
20	PFecHS	133201-07-7	PFECHS	ng/L	1
21	3:3 FTCA	356-02-5	FTCA	ng/L	2
22	5:3 FTCA	914637-49-3	FTCA	ng/L	5
23	7:3 FTCA	812-70-4	FTCA	ng/L	5
24	PFEESA	113507-82-7	PFESA	ng/L	1
25	9Cl-PF3ONS	756426-58-1	Cl-PFESA	ng/L	1
26	11Cl-PF3OUdS	763051-92-9	Cl-PFESA	ng/L	2
27	4:2 FTS	757124-72-4	FTSA	ng/L	1
28	8:2 FTS	39108-34-4	FTSA	ng/L	2
29	FBSA	30334-69-1	FASA	ng/L	2

Table 1 PFAS Broad Suite (TM 434) continued

No.	PFAS	CAS No.	PFAS Category	Units	LODs
30	FHxSA	41997-13-1	FASA	ng/L	1
31	PFOSA	754-91-6	FASA	ng/L	1
32	N-MeFOSA	31506-32-8	FASA	ng/L	1
33	N-EtFOSA	4151-50-2	FASA	ng/L	1
34	MeFOSE	24448-09-7	FASE	ng/L	10
35	EtFOSE	1691-99-2	FASE	ng/L	10
36	MeFOSAA	2355-31-9	FASAA	ng/L	2
37	EtFOSAA	2991-50-6	FASAA	ng/L	2
38	PFBA	375-22-4	PFCA	ng/L	2
39	PFPA	2706-90-3	PFCA	ng/L	1
40	PFHxA	307-24-4	PFCA	ng/L	1
41	PFHpA	375-85-9	PFCA	ng/L	1
42	PFOA	335-67-1	PFCA	ng/L	0.65
43	PFNA	375-95-1	PFCA	ng/L	1
44	PFHxS	355-46-4	PFSA	ng/L	1
45	Linear PFOS	1763-23-1	PFSA	ng/L	0.65
46	Branched PFOS	N/A	PFSA	ng/L	0.65
47	Total PFOS	N/A	PFSA	ng/L	0.65
48	PFTrDS	174675-49-1	PFSA	ng/L	2
49	6:2 FTS	27619-97-2	FTSA	ng/L	1
50	6:2 FTAB	34455-29-3	FTAB	ng/L	10

Appendix I: PFAS Sampling Considerations

Below is a summary of items that are likely to contain PFAS and therefore should not be used by staff conducting sampling and some acceptable substitutions.

Not to be used	Acceptable alternative
Teflon™ tubing/equipment	HDPE tubing/equipment
Decon 90	Ensure PFAS-free cleaning products (triple rinse de-con procedures with de-ionised water)
PTFE containers	HDPE or other lab approved containers – ensure they are not Teflon lined
Teflon Containers	HDPE or other approved containers
Re-use of equipment	De-contaminate any equipment which is re-used – collect equipment blanks
Water resistant or treated latex gloves	Powderless nitrile gloves
Re-use of gloves	Change gloves immediately before collecting each sample
Externally purchased de-ionised water	Use only PFAS-free de-ionised water provided by the lab for QC samples