



# Air and Stack Emissions AIR 2020-21

Air and Stack Emissions Proficiency Testing Scheme Application Form



Please complete all sections below and return to LGC Proficiency Testing by email, fax or post.

Returning customer Lab ID:

Purchase order no.:   
(compulsory)

Round	Despatch Date	Reporting Deadline	Samples																																						
			Workplace															Ambient				Indoor		Stack Emissions																	
			1	1A*	1B*	1C*	2X	2F	2I	3	4	5	6	7	8	9	10 A*	10 B*	16*	18*	19* NEW	11	12	12 A*	13*	14	17*	21	22	31	32	33	34	35	36	37	38*	39*	40		
AR037	06 Apr 2020	04 May 2020																																							
AR038	04 May 2020	13 Jul 2020																																							
AR039	20 Jul 2020	17 Aug 2020																																							
AR040	21 Sep 2020	19 Oct 2020																																							
AR041	16 Nov 2020	25 Jan 2021																																							
AR042	18 Jan 2021	15 Feb 2021																																							

\*Please note that these samples are not currently within the scope of LGC's UKAS accreditation.

Not available

Please indicate the number of samples required in the relevant boxes above



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Workplace Air		
Sample	Supplied as	Target Analyte(s)
1# - Metals	4 x spiked membrane filters 25mm Ø	Cadmium; Chromium; Cobalt; Copper; Iron; Manganese; Nickel; Lead; Zinc
1A* - Metals	4 x spiked cassette capsules 37mm Ø	Cadmium; Chromium; Cobalt; Copper; Iron; Manganese; Nickel; Lead; Zinc
1B* - Metals	4 x spiked membrane filters 37mm Ø	Cadmium; Chromium; Cobalt; Copper; Iron; Manganese; Nickel; Lead; Zinc
1C* - Metals	4 x spiked Zefon DIS filter inserts 25mm Ø	Cadmium; Chromium; Cobalt; Copper; Iron; Manganese; Nickel; Lead; Zinc
2X - <u>Direct</u> Measurement of Quartz by XRD	4 x dynamically loaded PVC GLA5000 filters 25mm Ø	Respirable grade quartz by XRD (by <u>direct</u> analysis of filters supplied)
2F - <u>Direct</u> Measurement of Quartz by FTIR	4 x dynamically loaded PVC GLA5000 filters 25mm Ø	Respirable grade quartz by FTIR (by <u>direct</u> analysis of filters supplied)
2I - <u>Indirect</u> Measurement of Quartz by XRD or FTIR	4 x dynamically loaded PVC GLA5000 filters 25mm Ø	Respirable grade quartz by either XRD or FTIR (by <u>indirect</u> analysis, i.e. by ashing and redeposition onto analytical filter or by KBr disc)
3** - Dust	4 x spiked glass fibre filters 25mm Ø	Dust by gravimetry (mass of solids)
4** - Dust	4 x spiked glass fibre filters 37mm Ø	Dust by gravimetry (mass of solids)
5 - VOCs	4 x dynamically loaded charcoal sorbent tubes (workplace air levels)	Benzene; Toluene; Xylene; Ethyl benzene
6 - VOCs	4 x dynamically loaded charcoal sorbent tubes (workplace air levels)	1,1,1-Trichloroethane; n-Hexane; n-Butyl acetate; Tetrachloroethene; Trichloroethylene
7 - VOCs	4 x spiked Tenax thermal desorption tubes (workplace air levels)	Benzene; Toluene; Xylene; Ethyl benzene
8 - Aldehydes	4 x spiked glass fibre filters 25mm Ø	Formaldehyde; Acetaldehyde
9 - Cr (VI)	4 x spiked NaOH treated Millipore PVDF filters 25mm Ø	Chromium (VI)
10A* - Metals***	1 x bulk welding fume sample	Chromium; Cobalt; Copper; Iron; Manganese; Nickel; Zinc
10B* - Lead	1 x bulk lead-containing dust sample	Lead
16* - Diesel fume	4 x dynamically loaded quartz fibre filters 25mm Ø	Elemental carbon
18* - Beryllium	4 x spiked mixed cellulose ester filter 37mm Ø	Beryllium
19* - Cr (VI) <b>NEW</b>	1 x bulk chromate-containing welding fume or paint dust sample	Chromium (VI)

#For sample 1, the manganese measurand is not currently included in LGC's UKAS scope of accreditation.

\*Please note that these samples are not currently within the scope of LGC's UKAS accreditation.

\*\*Filters are despatched to participants in order for them to weigh and then should be returned to LGC Standards Bury for spiking. LGC Standards Bury then re-send the spiked filters back to the participants for reweighing. Please see page 4 for further details.

\*\*\*For sample 10A one or more of the listed elements will be included in each round.



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Ambient Air		
Sample	Supplied as	Target Analyte(s)
11 - NO <sub>2</sub>	4 x dynamically loaded Palmes type diffusion tubes	Nitrogen dioxide (as nitrite)
12 - VOCs	4 x dynamically loaded Tenax thermal desorption tubes (ambient air levels)	Benzene; Toluene; Xylene; Ethyl benzene
12A* - VOCs	4 x dynamically loaded Carboxpack thermal desorption tubes (ambient air levels)	Benzene; Toluene; Xylene; Ethyl benzene
13* - Metals	4 x spiked quartz fibre filters 47mm Ø	Antimony <b>NEW</b> ; Arsenic, Cadmium; Nickel; Lead
14 - Anions on filters	4 x spiked quartz fibre filters 47mm Ø	Chloride; Nitrate, Sulfate
17* - Dust**	4 x spiked quartz fibre filters 47mm Ø	Dust by gravimetry (mass of solids)

\*Please note that these samples are not currently within the scope of LGC's UKAS accreditation.

\*\*Filters are despatched to participants in order for them to weigh and then should be returned to LGC Standards Bury for spiking. LGC Standards Bury then re-send the spiked filters back to the participants for reweighing. Please see page 4 for further details.

Indoor/Chamber Air		
Sample	Supplied as	Target Analyte(s)
21 - VOCs (Material Emission Testing)	4 x dynamically loaded Tenax thermal desorption tubes at chamber air levels	Benzene; n-Hexane; Toluene; Butyl acetate; MIBK; Cyclohexanone; p-Xylene; Diacetyl <sup>#</sup> ; Phenol; 124-TMB; Limonene; 4-PCH; Dodecane
22*** - VOCs (Qualitative determination)	2 x dynamically loaded Tenax thermal desorption tubes at chamber air levels	Qualitative determination of VOCs including alcohol, aliphatic, aromatic, ester, halocarbon and terpene compounds

<sup>#</sup>For sample 21, the diacetyl measurand is not currently included in LGC's UKAS scope of accreditation.

\*\*\*See Appendix B in the AIR PT Scheme Description for compound listing.

Stack Emissions		
Sample	Supplied as	Target Analyte(s)
31 - Mercury	1 x potassium permanganate & sulfuric acid impinger solution containing mercury	Volume; Mercury
32 - Mercury	1 x potassium dichromate & nitric acid impinger solution containing mercury	Volume; Mercury
33 - Metals	1 x nitric acid impinger solution containing up to 6 trace metals	<b>AR037</b> – Volume; As; Cr; Cu; Pb; Ni; Tl <b>AR039</b> – Volume; Sb; Cd; Co; Mn; Se <sup>#</sup> <b>NEW</b> ; V <b>AR040</b> – Volume; Sb; Cd; Co; Mn; Ni; V <b>AR042</b> – Volume; As; Cr; Cu; Pb; Se <sup>#</sup> <b>NEW</b> ; Tl
34 - Sulfur dioxide	1 x hydrogen peroxide impinger solution containing SO <sub>2</sub>	Volume; Sulfur dioxide
35 - Hydrogen fluoride	1 x sodium hydroxide impinger solution containing HF	Volume; Hydrogen fluoride
36 - Hydrogen chloride	1 x aqueous impinger solution containing hydrogen chloride	Volume; Hydrogen chloride
37 - Ammonia	1 x sulfuric acid impinger solution containing ammonia	Volume; Ammonia

<sup>#</sup>For sample 33, Selenium is not currently included in LGC's UKAS scope of accreditation.





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Stack Emissions continued		
Sample	Supplied as	Target Analyte(s)
38* - Metals	1 x quartz filter spiked with up to 6 trace elements and fly ash 47mm Ø	AR037 – As; Cr; Cu; Pb; Ni; Tl AR039 – Sb; Cd; Co; Mn; Se <b>NEW</b> ; V AR040 – Sb; Cd; Co; Mn; Ni; V AR042 – As; Cr; Cu; Pb; Se <b>NEW</b> ; Tl
39* - Dust analysis (solution)	1 x rinsing solution containing dissolved and suspended solids	Total solids
40 - Dust analysis (filter)**	4 x spiked quartz filters 47mm Ø	Dust analysis (mass of solids)

\*Please note that these samples are not currently within the scope of LGC's UKAS accreditation.

### Dust Filter Samples (3, 4, 17 and 40) Distribution Schedule

For the dust filter samples (3, 4, 17 and 40), four filters are despatched to participants in order for them to weigh. Participants then ship the filters back to LGC Standards Bury for spiking. LGC Standards Bury re-send the spiked filters back to the participants for reweighing who then report the results (initial value; reweighing value; calculated difference) to LGC Standards Bury via PORTAL for assessment. Dust filter sample specific dates:

Round	Despatch Date (week commencing)	Filters required back at LGC by	Filters re-despatch date (week commencing)	Reporting Deadline
AR038	04 May 2020	26 May 2020	22 Jun 2020	13 Jul 2020
AR041	16 Nov 2020	08 Dec 2020	04 Jan 2021	25 Jan 2021

For details on the full technical specification of the scheme, please refer to the AIR Scheme Description.

Send Test Materials to:	Send Invoices to:
Contact name: Department: Company: Address:  Town/City: Post/Zip Code: Country: Tel: Fax: E-mail:	Contact name: Department: Company: Address:  Town/City: Post/Zip Code: Country: Tel: Fax: E-mail: VAT no:

Send Report Notifications to:
Contact name: E-mail#:

#An email will be sent to this address to notify when the report is available to download from PORTAL, the online reporting system

