

## CERTIFICATE

Certificate number SLRC22C\_220428 22-04-29 09:29 BL

Client	Organisation	SLR Consulting Ltd
	Contact	Richard Johnson
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	Telephone	0117 906 4280
Project	Project Code	SLRC22C_220428
	Lab technician	Jack Willmott & Nancy Davis
Investigated item	<p>Odour concentration in <math>\text{ou}_\text{E}/\text{m}^3</math>, determined by sensory measurement of odour concentration of an odour sample supplied in a sampling bag.</p> <p>The information included within this certificate relates to Olfasense UK's UKAS accredited odour concentration measurement procedures including pre-dilution. Sampling procedures and transit conditions are outside of the control of the laboratory and are not covered within the scope of Olfasense UK's odour concentration measurement accreditation.</p>	
Identification	The odour sample bags were labelled individually. The label showed the identification of the bag. This identification is referenced within the results.	
Method	<p>The odour concentration measurements were performed according to the European Standard EN13725:2003 'Air quality – Determination of odour concentration by dynamic olfactometry', and according to those parts as described in the internal procedure QD01: 'Procedure for olfactometry based on EN13725:2003'. The odour perception characteristic of the panel within the presentation series for the samples was analogous to that for the butanol calibration. The forced-choice method of presentation was used and at least two rounds are presented to determine the panel threshold. Sample bags are manufactured from PET, Nalophane and are not re-used.</p>	
Measuring range	The dilution range of the olfactometer is 1:44962 to 1:12.4. The lower limit of detection is 30 $\text{ou}_\text{E}/\text{m}^3$ . If the concentration of the odour sample exceeded the higher dilution factors the odour sample may have been pre-diluted. If samples are pre-diluted in the laboratory this is specified under the column <i>Pre-dilution factor Z</i> in Table 1.	
Environment	The measurements were performed in an air and odour conditioned room, at a temperature of $T \leq 25^\circ\text{C}$ and with a fluctuation of less than $\pm 3^\circ\text{C}$ . The $\text{CO}_2$ concentration is $\leq 0.15\%$ . The laboratory is stationary and permanent.	
Dates and times	The measurement dates and times are specified together with the results in Table 1.	
Results	The measurement results are presented in Table 1 of this certificate.	
Uncertainty	The confidence limits for a value $x$ for one measurement according to EN13725 (including up to 1 no. pre-dilution), with a cover factor $k = 2$ are: $x \cdot 2.45^{-1} \leq x \leq x \cdot 2.23$ . The most recent interlaboratory comparison result is $A = 0.050$ .	
Traceability	The measurements have been performed using standards for which the traceability to (inter)national standards has been demonstrated. The assessors are individually selected to comply with fixed criteria and are monitored in time to keep within the limits set. The results from the assessors are traceable to primary standards (PSM's) of n-butanol in nitrogen.	



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Table 1 Measurement results

Analysis file	Sample ID	Client Reference	Analysis result [ouE.m <sup>-3</sup> ]	Pre-dilution factor Z	Odour concentration [ouE.m <sup>-3</sup> ]	Date and time of sampling	Date and time of analysis	Number of valid panel members	Number of valid ITE values	Remarks
220427ARG	22042802	220427ARG	8647	-	8647	27-04-2022 11:31	28-04-2022 10:37	5	10	Three series were presented.
220427BRG	22042803	220427BRG	7807	-	7807	27-04-2022 11:36	28-04-2022 10:47	5	10	
220427CRG	22042804	220427CRG	7690	-	7690	27-04-2022 11:41	28-04-2022 11:06	5	10	
220427DRG	22042805	220427DRG	2752	-	2752	27-04-2022 11:51	28-04-2022 11:19	5	10	
220427ERG	22042806	220427ERG	2456	-	2456	27-04-2022 11:56	28-04-2022 11:38	5	10	
220427FRG	22042807	220427FRG	2848	-	2848	27-04-2022 12:01	28-04-2022 11:49	5	10	
220427GRG	22042808	220427GRG	253	-	253	27-04-2022 12:45	28-04-2022 12:13	5	10	
220427HRG	22042809	220427HRG	95	-	95	27-04-2022 12:50	28-04-2022 12:23	5	10	
220427IRG	22042810	220427IRG	248	-	248	27-04-2022 12:56	28-04-2022 12:33	5	10	
220427JRG	22042811	220427JRG	634	-	634	27-04-2022 13:10	28-04-2022 12:42	5	8	
220427KRG	22042812	220427KRG	295	-	295	27-04-2022 13:15	28-04-2022 12:51	5	10	
220427LRG	22042813	220427LRG	236	-	236	27-04-2022 13:20	28-04-2022 14:27	4	8	
220427MRG	22042814	220427MRG	305	-	305	27-04-2022 13:37	28-04-2022 14:36	4	8	
220427NRG	22042815	220427MRG	349	-	349	27-04-2022 13:42	28-04-2022 14:45	4	8	
220427ORG	22042816	220427ORG	282	-	282	27-04-2022 13:48	28-04-2022 14:52	4	8	
220427PRG	22042817	220427PRG	271	-	271	27-04-2022 14:04	28-04-2022 15:13	4	8	
220427QRG	22042818	220427QRG	255	-	255	27-04-2022 14:09	28-04-2022 15:21	4	8	
220427RRG	22042819	220427RRG	287	-	287	27-04-2022 14:16	28-04-2022 15:29	4	8	



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\* Please note the client reference and date/time of sampling is data provided by the client

### Certificate approved by:

Amber Simm

Bristol, 29 April, 2022,



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