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2187

LABORATORY ANALYSIS REPORT

Report Number	**N04639R**
Customer	**SIA Estonian. Latvian & Lithuanian**
	Vilandes iela 3
	Dz.6
	Riga
	Latvija, LV-1010
Booking In Reference	**T0780**
Despatch Note Number	**72576**
Date Samples Received	**26/06/2019**
Diffusion Tube Type	**Tenax**

Identification and estimation of ng on tube in accordance with ISO16000-6

Index to UKAS Accreditation Status	
U	Analysis is UKAS accredited under our Fixed Scope
F	Analysis is UKAS accredited under our Flexible Scope
N	Analysis is not UKAS accredited

Tube Number	**GRA11842**			
Gradko Lab Reference	**04N0506**			
Exposure Time(mins)	**20300**			
Sample ID	**63**			
Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
Benzaldehyde**	U	11	0.3	1.2

Tube Number	**001738**			
Gradko Lab Reference	**04N0507**			
Exposure Time(mins)	**20300**			
Sample ID	**66**			
Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
Benzoic acid	N	189	4.7	22.7
2,6-Diphenyl-p-benzoquinone	N	123	3.0	31.6
Acetophenone**	U	40	1.0	4.7
Benzaldehyde**	U	33	0.8	3.5
Benzenecarbothioic acid	N	27	0.7	3.7
Phenylmaleic anhydride	U	26	0.6	4.5
Acetic acid	U	17	0.4	1.0
Nonanal**	N	14	0.3	1.9
Phenol	U	10	0.3	0.9

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LABORATORY ANALYSIS REPORT

Tube Number	**003376**
Gradko Lab Reference	**04N0508**
Exposure Time(mins)	**20300**
Sample ID	**100**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
2,6-Diphenyl-p-benzoquinone	N	304	7.5	77.9
Benzoic acid	N	212	5.2	25.5
Benzaldehyde**	U	41	1.0	4.2
Acetophenone**	U	39	1.0	4.7
Pentadecane	U	32	0.8	6.6
Nonanal**	N	28	0.7	3.9
Phenylmaleic anhydride	U	27	0.7	4.7
Decanal**	N	26	0.6	4.0
Benzenecarbothioic acid	N	26	0.6	3.5
Acetic acid	U	14	0.3	0.8
Hexanoic acid, 3,5,5-trimethyl-	N	12	0.3	1.9
Phenol	U	11	0.3	1.0
Benzoylformic acid	N	10	0.3	1.5

Tube Number	**GRA02892**
Gradko Lab Reference	**04N0509**
Exposure Time(mins)	**20285**
Sample ID	**52**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
2,6-Diphenyl-p-benzoquinone	N	107	2.6	27.3
Benzoic acid	N	79	1.9	9.5
Benzaldehyde**	U	31	0.8	3.2
Acetophenone**	U	23	0.6	2.7
Nonanal**	N	20	0.5	2.8
Acetic acid	U	19	0.5	1.1
Phenylmaleic anhydride	U	16	0.4	2.8
Decanal**	N	14	0.3	2.1
Phenol	U	11	0.3	1.0
Benzenecarbothioic acid	N	10	0.3	1.4

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LABORATORY ANALYSIS REPORT

Tube Number	**GRA04656**
Gradko Lab Reference	**04N0510**
Exposure Time(mins)	**20280**
Sample ID	**46**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
Benzoic acid	N	87	2.2	10.5
2,6-Diphenyl-p-benzoquinone	N	72	1.8	18.5
Acetic acid	U	32	0.8	1.9
Benzaldehyde**	U	31	0.8	3.3
Acetophenone**	U	24	0.6	2.8
Pentane, 3-methyl-	U	23	0.6	1.9
Nonanal**	N	18	0.4	2.5
1,3-Dioxolane, 2-methyl-	N	17	0.4	1.5
Phenylmaleic anhydride	U	15	0.4	2.6
Hexane	U	15	0.4	1.3
Toluene	U	12	0.3	1.1
Phenol	U	11	0.3	1.0

Tube Number	**GRA11319**
Gradko Lab Reference	**04N0511**
Exposure Time(mins)	**20280**
Sample ID	**37**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
Benzoic acid	N	45	1.1	5.4
2,6-Diphenyl-p-benzoquinone	N	34	0.8	8.8
Benzaldehyde**	U	20	0.5	2.1
Acetophenone**	U	15	0.4	1.8
Nonanal**	N	11	0.3	1.5

Tube Number	**003387**
Gradko Lab Reference	**04N0512**
Exposure Time(mins)	**20280**
Sample ID	**81**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
Benzoic acid	N	174	4.3	20.9
2,6-Diphenyl-p-benzoquinone	N	85	2.1	21.8
Hexanoic acid, 3,5,5-trimethyl-	N	38	0.9	5.9
Acetophenone**	U	34	0.8	4.0
Benzaldehyde**	U	31	0.8	3.2

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LABORATORY ANALYSIS REPORT

	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Nonanal**	N	22	0.5	3.1
Phenylmaleic anhydride	U	22	0.5	3.8
Benzenecarbothioic acid	N	20	0.5	2.8
Acetic acid	U	19	0.5	1.1

Tube Number 001656
Gradko Lab Reference 04N0513
Exposure Time(mins) 20290
Sample ID 36

Compounds	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Tetracosane	U	199	4.9	66.4
Benzoic acid	N	180	4.4	21.6
2,6-Diphenyl-p-benzoquinone	N	114	2.8	29.3
Heneicosane	U	53	1.3	15.4
Acetic acid	U	44	1.1	2.6
Benzaldehyde**	U	31	0.8	3.3
Acetophenone**	U	31	0.8	3.7
Pentane, 3-methyl-	U	29	0.7	2.4
Phenylmaleic anhydride	U	24	0.6	4.1
Benzenecarbothioic acid	N	20	0.5	2.7
Hexane	U	18	0.4	1.5
Cyclohexane	U	18	0.4	1.5
Decanal**	N	15	0.4	2.3
Nonanal**	N	15	0.4	2.0
Butane, 2-methyl-	U	13	0.3	0.9
Toluene	U	12	0.3	1.1
Phenol	U	11	0.3	1.0

Tube Number 001847
Gradko Lab Reference 04N0514
Exposure Time(mins) 20255
Sample ID 32

Compounds	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	175	4.3	45.0
Benzoic acid	N	109	2.7	13.1
Benzaldehyde**	U	28	0.7	2.9
Acetophenone**	U	25	0.6	3.0
Acetic acid	U	19	0.5	1.1

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	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Phenylmaleic anhydride	U	18	0.4	3.1
Benzenecarbothioic acid	N	12	0.3	1.7
Nonanal**	N	11	0.3	1.5
Toluene	U	10	0.3	0.9

Tube Number 003343
Gradko Lab Reference 04N0515
Exposure Time(mins) 20260
Sample ID 43

Compounds	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Benzoic acid	N	193	4.8	23.2
2,6-Diphenyl-p-benzoquinone	N	168	4.1	43.0
Acetophenone**	U	36	0.9	4.2
Benzaldehyde**	U	33	0.8	3.4
Phenylmaleic anhydride	U	27	0.7	4.7
Benzenecarbothioic acid	N	24	0.6	3.2
Phenol	U	12	0.3	1.1
Nonanal**	N	11	0.3	1.6
Acetic acid	U	11	0.3	0.7

Tube Number 003562
Gradko Lab Reference 04N0516
Exposure Time(mins) 20255
Sample ID 44

Compounds	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	196	4.8	50.4
Benzoic acid	N	178	4.4	21.4
Acetophenone**	U	32	0.8	3.8
Benzaldehyde**	U	32	0.8	3.3
Phenylmaleic anhydride	U	25	0.6	4.3
Benzenecarbothioic acid	N	20	0.5	2.7
Acetic acid	U	14	0.3	0.8
Nonanal**	N	13	0.3	1.8
Phenol	U	12	0.3	1.1
Benzoylformic acid	N	11	0.3	1.6
Decanal**	N	10	0.2	1.6

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LABORATORY ANALYSIS REPORT

Tube Number	**001813**
Gradko Lab Reference	**04N0517**
Exposure Time(mins)	**20260**
Sample ID	**50**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
Benzoic acid	N	288	7.1	34.6
2,6-Diphenyl-p-benzoquinone	N	234	5.8	60.0
Benzaldehyde**	U	35	0.9	3.6
Phenylmaleic anhydride	U	35	0.9	5.9
Benzenecarbothioic acid	N	34	0.8	4.6
Decanal**	N	15	0.4	2.4
Benzoylformic acid	N	15	0.4	2.2
Phenol	U	14	0.3	1.3
Nonanal**	N	13	0.3	1.8

Tube Number	**003307**
Gradko Lab Reference	**04N0518**
Exposure Time(mins)	**20270**
Sample ID	**54**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
Benzoic acid	N	274	6.7	32.9
2,6-Diphenyl-p-benzoquinone	N	253	6.2	64.9
Acetophenone**	U	41	1.0	4.8
Benzaldehyde**	U	35	0.9	3.7
Phenylmaleic anhydride	U	35	0.9	6.1
Benzenecarbothioic acid	N	29	0.7	4.0
Benzoylformic acid	N	17	0.4	2.5
Acetic acid	U	14	0.3	0.8
Nonanal**	N	14	0.3	1.9
Phenol	U	11	0.3	1.1
Decanal**	N	11	0.3	1.7

Tube Number	**GRA10379**
Gradko Lab Reference	**04N0519**
Exposure Time(mins)	**20270**
Sample ID	**54 -a**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
Benzaldehyde**	U	15	0.4	1.6

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LABORATORY ANALYSIS REPORT

Tube Number	**Mi036554**
Gradko Lab Reference	**04N0520**
Exposure Time(mins)	**20245**
Sample ID	**47**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
2,6-Diphenyl-p-benzoquinone	N	165	4.1	42.4
Benzoic acid	N	149	3.7	17.9
Benzaldehyde**	U	29	0.7	3.0
Acetophenone**	U	28	0.7	3.3
Phenylmaleic anhydride	U	20	0.5	3.4
Benzenecarbothioic acid	N	17	0.4	2.4
m/p-Xylene	U	13	0.3	1.4

Tube Number	**003566**
Gradko Lab Reference	**04N0521**
Exposure Time(mins)	**20225**
Sample ID	**84**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
Benzoic acid	N	195	4.8	23.6
2,6-Diphenyl-p-benzoquinone	N	165	4.1	42.5
Pentane, 2-methyl-	U	41	1.0	3.5
Acetophenone**	U	39	1.0	4.7
Benzaldehyde**	U	39	1.0	4.1
Pentane, 3-methyl-	U	37	0.9	3.1
Phenylmaleic anhydride	U	29	0.7	4.9
Nonanal**	N	28	0.7	3.9
Hexane	U	27	0.7	2.3
Benzenecarbothioic acid	N	25	0.6	3.4
Toluene	U	19	0.5	1.7
Phenol	U	18	0.4	1.7
Decanal**	N	15	0.4	2.3
m/p-Xylene	U	14	0.4	1.5
1-Hexanol, 2-ethyl-	U	12	0.3	1.6
Cyclopentane, methyl-	N	12	0.3	1.0
Benzoylformic acid	N	10	0.2	1.5

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LABORATORY ANALYSIS REPORT

Tube Number	**GRA09672**
Gradko Lab Reference	**04N0522**
Exposure Time(mins)	**20245**
Sample ID	**58**

Compounds	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Benzoic acid	N	199	4.9	24.0
2,6-Diphenyl-p-benzoquinone	N	181	4.5	46.4
Benzaldehyde**	U	41	1.0	4.3
Acetophenone**	U	39	1.0	4.6
Decanal**	N	33	0.8	5.0
Phenylmaleic anhydride	U	31	0.8	5.2
Nonanal**	N	27	0.7	3.8
Benzenecarbothioic acid	N	24	0.6	3.2
Acetic acid	U	14	0.3	0.8
Phenol	U	13	0.3	1.2
Dibutyl phthalate	U	13	0.3	3.4
Benzoylformic acid	N	12	0.3	1.8

Tube Number	**GRA10682**
Gradko Lab Reference	**04N0523**
Exposure Time(mins)	**20245**
Sample ID	**61**

Compounds	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	111	2.7	28.5
Benzoic acid	N	43	1.1	5.2
Benzaldehyde**	U	26	0.6	2.7
Acetophenone**	U	22	0.5	2.6
Pentane, 2-methyl-	U	22	0.5	1.8
Pentane, 3-methyl-	U	16	0.4	1.4
Decanal**	N	16	0.4	2.5
Nonanal**	N	14	0.3	2.0
Hexane	U	13	0.3	1.1
Hexanoic acid, 3,5,5-trimethyl-	N	12	0.3	1.9

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LABORATORY ANALYSIS REPORT

Tube Number	**GRA09343**
Gradko Lab Reference	**04N0524**
Exposure Time(mins)	**20245**
Sample ID	**57**

Compounds	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Benzoic acid	N	114	2.8	13.7
2,6-Diphenyl-p-benzoquinone	N	95	2.4	24.5
Hexanoic acid, 3,5,5-trimethyl-	N	29	0.7	4.6
Benzaldehyde**	U	25	0.6	2.6
Acetophenone**	U	24	0.6	2.8
Nonanal**	N	16	0.4	2.3
Phenylmaleic anhydride	U	16	0.4	2.8
Acetic acid	U	16	0.4	1.0
m/p-Xylene	U	15	0.4	1.6
Dibutyl phthalate	U	14	0.3	3.9
Benzenecarbothioic acid	N	12	0.3	1.7

Tube Number	**003370**
Gradko Lab Reference	**04N0525**
Exposure Time(mins)	**20250**
Sample ID	**53**

Compounds	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Benzoic acid	N	230	5.7	27.8
2,6-Diphenyl-p-benzoquinone	N	186	4.6	47.8
Hexanoic acid, 3,5,5-trimethyl-	N	43	1.1	6.8
Benzaldehyde**	U	42	1.0	4.4
Nonanal**	N	34	0.8	4.8
Acetic acid	U	34	0.8	2.0
Acetophenone**	U	33	0.8	3.9
Phenylmaleic anhydride	U	24	0.6	4.2
Benzenecarbothioic acid	N	21	0.5	2.8
Phenol	U	16	0.4	1.5
m/p-Xylene	U	15	0.4	1.6
Dibutyl phthalate	U	15	0.4	4.0
Diethyl phthalate	U	14	0.4	3.1
Benzoylformic acid	N	13	0.3	2.0
Decanal**	N	13	0.3	2.0
Oxime-, methoxy-phenyl-_	N	12	0.3	1.8
Toluene	U	11	0.3	1.0

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LABORATORY ANALYSIS REPORT

Tube Number	**003394**
Gradko Lab Reference	**04N0526**
Exposure Time(mins)	**20250**
Sample ID	**41**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
2,6-Diphenyl-p-benzoquinone	N	406	10.0	104.1
Benzoic acid	N	199	4.9	23.9
Benzaldehyde**	U	41	1.0	4.3
Acetophenone**	U	35	0.9	4.1
Phenylmaleic anhydride	U	27	0.7	4.6
Acetic acid	U	20	0.5	1.2
Benzenecarbothioic acid	N	19	0.5	2.6
Phenol	U	13	0.3	1.2
Oxime-, methoxy-phenyl-_	N	12	0.3	1.8
Dibutyl phthalate	U	12	0.3	3.2

Tube Number	**003577**
Gradko Lab Reference	**04N0527**
Exposure Time(mins)	**20245**
Sample ID	**42**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
2,6-Diphenyl-p-benzoquinone	N	284	7.0	73.0
Benzoic acid	N	212	5.2	25.5
Benzaldehyde**	U	35	0.9	3.7
Acetophenone**	U	32	0.8	3.8
Phenylmaleic anhydride	U	29	0.7	5.0
Acetic acid	U	22	0.5	1.3
Benzenecarbothioic acid	N	20	0.5	2.7
Dibutyl phthalate	U	15	0.4	4.0
Nonanal**	N	14	0.3	2.0
Phenol	U	13	0.3	1.2
Benzoylformic acid	N	12	0.3	1.8
Ethanol, 2-phenoxy-	N	11	0.3	1.4

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LABORATORY ANALYSIS REPORT

Tube Number	**003383**
Gradko Lab Reference	**04N0528**
Exposure Time(mins)	**20250**
Sample ID	**35**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
2,6-Diphenyl-p-benzoquinone	N	444	11.0	114.1
Benzoic acid	N	187	4.6	22.5
Benzaldehyde**	U	35	0.9	3.7
Acetophenone**	U	31	0.8	3.7
Pentadecane	U	26	0.6	5.5
Phenylmaleic anhydride	U	23	0.6	3.9
Benzenecarbothioic acid	N	19	0.5	2.6
Acetic acid	U	16	0.4	1.0
Dibutyl phthalate	U	12	0.3	3.3
Nonanal**	N	11	0.3	1.5

Tube Number	**003569**
Gradko Lab Reference	**04N0529**
Exposure Time(mins)	**20240**
Sample ID	**30**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
2,6-Diphenyl-p-benzoquinone	N	269	6.6	69.0
Benzoic acid	N	238	5.9	28.7
Benzaldehyde**	U	38	0.9	3.9
Acetophenone**	U	36	0.9	4.2
Phenylmaleic anhydride	U	31	0.8	5.2
Benzenecarbothioic acid	N	24	0.6	3.3
Acetic acid	U	23	0.6	1.3
Benzoylformic acid	N	11	0.3	1.7
Phenol	U	11	0.3	1.0

Tube Number	**GRA10500**
Gradko Lab Reference	**04N0530**
Exposure Time(mins)	**20245**
Sample ID	**31**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
2,6-Diphenyl-p-benzoquinone	N	54	1.3	13.8
Acetic acid	U	28	0.7	1.7
Benzaldehyde**	U	26	0.6	2.7

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	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Benzoic acid	N	19	0.5	2.3
Pentane, 3-methyl-	U	18	0.4	1.5
Acetophenone**	U	14	0.3	1.7
Hexane	U	12	0.3	1.0
Nonanal**	N	10	0.2	1.4

Tube Number GRA11097
Gradko Lab Reference 04N0531
Exposure Time(mins) 20135
Sample ID 101

Compounds	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	301	7.5	77.6
Benzoic acid	N	104	2.6	12.7
Benzaldehyde**	U	33	0.8	3.5
Acetophenone**	U	25	0.6	3.0
Acetic acid	U	25	0.6	1.5
Nonanal**	N	16	0.4	2.2
Pentane, 3-methyl-	U	13	0.3	1.1
Phenylmaleic anhydride	U	13	0.3	2.2
Decanal**	N	12	0.3	1.8
m/p-Xylene	U	12	0.3	1.2
Phenol	U	11	0.3	1.0

Tube Number 003363
Gradko Lab Reference 04N0532
Exposure Time(mins) 20145
Sample ID 33

Compounds	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	349	8.7	90.2
Benzoic acid	N	155	3.9	18.8
Benzaldehyde**	U	34	0.8	3.5
Acetophenone**	U	30	0.7	3.5
Phenylmaleic anhydride	U	21	0.5	3.7
Hexanoic acid, 3,5,5-trimethyl-	N	21	0.5	3.2
Acetic acid	U	15	0.4	0.9
Benzenecarbothioic acid	N	13	0.3	1.8
Dibutyl phthalate	U	12	0.3	3.2
Phenol	U	12	0.3	1.1

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LABORATORY ANALYSIS REPORT

Tube Number	**003366**
Gradko Lab Reference	**04N0533**
Exposure Time(mins)	**20150**
Sample ID	**29**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
Benzoic acid	N	208	5.2	25.2
2,6-Diphenyl-p-benzoquinone	N	187	4.6	48.2
Acetophenone**	U	36	0.9	4.3
Benzaldehyde**	U	33	0.8	3.5
Phenylmaleic anhydride	U	24	0.6	4.2
Benzenecarbothioic acid	N	20	0.5	2.8
Phenol	U	13	0.3	1.2
Acetic acid	U	13	0.3	0.7
Nonanal**	N	11	0.3	1.5

Tube Number	**GRA10753**
Gradko Lab Reference	**04N0534**
Exposure Time(mins)	**20155**
Sample ID	**28**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
Benzaldehyde**	**U**	20	0.5	2.1
m/p-Xylene	**U**	11	0.3	1.1
Acetic acid	**U**	11	0.3	0.6
Acetophenone**	**U**	10	0.2	1.2

Tube Number	**003578**
Gradko Lab Reference	**04N0535**
Exposure Time(mins)	**20160**
Sample ID	**25**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
2,6-Diphenyl-p-benzoquinone	N	269	6.7	69.3
Benzoic acid	N	162	4.0	19.6
Acetic acid	U	43	1.1	2.6
Benzaldehyde**	U	34	0.8	3.5
Acetophenone**	U	31	0.8	3.6
Phenylmaleic anhydride	U	22	0.5	3.8
Benzenecarbothioic acid	N	18	0.4	2.5
Phenol	U	12	0.3	1.1
Nonanal**	N	11	0.3	1.6

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Tube Number	**GRA10442**
Gradko Lab Reference	**04N0536**
Exposure Time(mins)	**20145**
Sample ID	**27**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
2,6-Diphenyl-p-benzoquinone	N	173	4.3	44.6
Benzoic acid	N	90	2.2	10.9
Benzaldehyde**	U	28	0.7	2.9
Acetophenone**	U	23	0.6	2.7
Acetic acid	U	12	0.3	0.7
Phenylmaleic anhydride	U	12	0.3	2.0
Benzenecarbothioic acid	N	11	0.3	1.5

Tube Number	**GRA10845**
Gradko Lab Reference	**04N0537**
Exposure Time(mins)	**20160**
Sample ID	**23**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
2,6-Diphenyl-p-benzoquinone	N	170	4.2	43.8
Benzoic acid	N	153	3.8	18.5
Benzaldehyde**	U	42	1.0	4.4
Acetophenone**	U	26	0.6	3.1
m/p-Xylene	U	22	0.5	2.3
Acetic acid	U	21	0.5	1.3
Hexanoic acid, 3,5,5-trimethyl-	N	19	0.5	3.0
Phenylmaleic anhydride	U	19	0.5	3.3
Benzenecarbothioic acid	N	15	0.4	2.0
Phenol	U	12	0.3	1.1

Tube Number	**GRA11928**
Gradko Lab Reference	**04N0538**
Exposure Time(mins)	**20155**
Sample ID	**19**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
2,6-Diphenyl-p-benzoquinone	N	148	3.7	38.1
Benzoic acid	N	105	2.6	12.7
Benzaldehyde**	U	26	0.7	2.8
Acetophenone**	U	25	0.6	2.9
m/p-Xylene	U	14	0.4	1.5

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	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Benzenecarbothioic acid	N	14	0.3	1.9
Acetic acid	U	13	0.3	0.8
Phenylmaleic anhydride	U	13	0.3	2.2

Tube Number	**GRA07165**
Gradko Lab Reference	**04N0539**
Exposure Time(mins)	**20155**
Sample ID	**12**

Compounds	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	120	3.0	31.0
Benzoic acid	N	98	2.4	11.9
Benzaldehyde**	U	30	0.7	3.1
Acetophenone**	U	29	0.7	3.5
Benzenecarbothioic acid	N	16	0.4	2.2
Phenylmaleic anhydride	U	15	0.4	2.6
Acetic acid	U	14	0.4	0.8
Phenol	U	11	0.3	1.0

Tube Number	**Mi063564**
Gradko Lab Reference	**04N0540**
Exposure Time(mins)	**20150**
Sample ID	**75**

Compounds	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Benzaldehyde**	U	14	0.4	1.5
Nonanal**	N	12	0.3	1.7

Tube Number	**GRA03613**
Gradko Lab Reference	**04N0541**
Exposure Time(mins)	**20155**
Sample ID	**14**

Compounds	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	110	2.7	28.5
Benzoic acid	N	95	2.4	11.5
Benzaldehyde**	U	32	0.8	3.4
Acetic acid	U	26	0.6	1.5
Acetophenone**	U	21	0.5	2.5
Phenylmaleic anhydride	U	16	0.4	2.7
Benzenecarbothioic acid	N	12	0.3	1.6

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LABORATORY ANALYSIS REPORT

Tube Number	**003345**
Gradko Lab Reference	**04N0542**
Exposure Time(mins)	**20100**
Sample ID	**24**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
2,6-Diphenyl-p-benzoquinone	N	223	5.5	57.7
Benzoic acid	N	176	4.4	21.3
Acetic acid	U	48	1.2	2.9
Benzaldehyde**	U	36	0.9	3.8
Acetophenone**	U	32	0.8	3.8
Phenylmaleic anhydride	U	25	0.6	4.4
Pentane, 3-methyl-	U	22	0.6	1.9
Hexane	U	18	0.5	1.6
Benzenecarbothioic acid	N	16	0.4	2.2
Nonanal**	N	16	0.4	2.2
Phenol	U	13	0.3	1.2
Oxime-, methoxy-phenyl-_	N	13	0.3	1.9
Heptane, 2,2,4,6,6-pentamethyl-	N	10	0.3	1.7
Decanal**	N	10	0.3	1.6

Tube Number	**GRA03012**
Gradko Lab Reference	**04N0547**
Exposure Time(mins)	**20170**
Sample ID	**22**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
Acetic acid	U	23	0.6	1.3
Benzaldehyde**	U	19	0.5	2.0
Pentane, 3-methyl-	U	14	0.3	1.2

Tube Number	**GRA02819**
Gradko Lab Reference	**04N0543**
Exposure Time(mins)	**20165**
Sample ID	**20**

Compounds	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
Benzaldehyde**	U	16	0.4	1.6

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LABORATORY ANALYSIS REPORT

Tube Number	**GRA04475**
Gradko Lab Reference	**04N0544**
Exposure Time(mins)	**20100**
Sample ID	**15**

Compounds	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	120	3.0	31.0
Benzoic acid	N	103	2.6	12.4
Benzaldehyde**	U	32	0.8	3.4
Acetophenone**	U	22	0.5	2.6
Phenylmaleic anhydride	U	15	0.4	2.5
Acetic acid	U	14	0.4	0.9
Nonanal**	N	12	0.3	1.7
Phenol	U	11	0.3	1.0

Tube Number	**GRA09449**
Gradko Lab Reference	**04N0545**
Exposure Time(mins)	**20105**
Sample ID	**16**

Compounds	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Benzoic acid	N	139	3.5	16.9
2,6-Diphenyl-p-benzoquinone	N	122	3.0	31.5
Benzaldehyde**	U	36	0.9	3.8
Acetic acid	U	27	0.7	1.6
Acetophenone**	U	23	0.6	2.8
Phenylmaleic anhydride	U	21	0.5	3.6
Benzenecarbothioic acid	N	13	0.3	1.8
Phenol	U	12	0.3	1.1

Tube Number	**GRA10206**
Gradko Lab Reference	**04N0546**
Exposure Time(mins)	**20160**
Sample ID	**0 (Control)**

Compounds	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Hexanoic acid, 3,5,5-trimethyl-	N	32	0.8	5.0
Nonanal**	N	15	0.4	2.0
Benzoic acid	N	11	0.3	1.4

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LABORATORY ANALYSIS REPORT

Tube Number	**GRA06751**
Gradko Lab Reference	**190708_TXTABLANK_10**
Sample ID	**Laboratory Blank**

All Compounds below 10ng

Results are not Blank corrected.
Estimated results as ng on tube are calculated by reference to toluene in accordance with ISO 16000-6

2,6-Diphenyl-p-benzoquinone is not present in mass spectrum libraries. It has been tentatively identified by comparison of the mass spectrum and retention times of the standard 2,5-Diphenyl-p-benzoquinone. 2,6-Diphenyl-p-benzoquinone may be an artifact due to degradation of Tenax by nitrogen dioxide.

****Compounds may be an artifact due to reaction of ozone with the Tenax sorbent.**
Acetic Acid may be an artifact due to the breakdown of Tenax sorbent.

UPTAKE RATES
All Compounds 2.00ng.ppm^{-1}.min^{-1}

Analysts Name	**Katya Paldamova**	**Date of Analysis**	**08/07/2019**
Report Checked By	**Gavin Aikman**	**Date of Report**	**10/07/2019**

Analysis has been carried out in accordance with in-house method GLM 13

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LABORATORY ANALYSIS REPORT

Report Number	**N05745R**
Customer	**SIA Estonian. Latvian & Lithuanian Vilandes iela 3 Dz.6 Riga Latvija, LV-1010**
Booking In Reference	**T1008**
Despatch Note Number	**73023**
Date Samples Received	**06/08/2019**
Diffusion Tube Type	**Tenax**

Identification and estimation of ng on tube in accordance with ISO16000-6

Index to UKAS Accreditation Status	
U	Analysis is UKAS accredited under our Fixed Scope
F	Analysis is UKAS accredited under our Flexible Scope
N	Analysis is not UKAS accredited

Tube Number	**GRA07295**
Gradko Lab Reference	**04N0762**
Exposure Time(mins)	**20180**
Sample ID	**92**

Top 20 VOC	**Accreditation Status**	**Estimated ng on tube**	**ppb in air***	**µgm^{-3}***
Acetic acid	U	32	0.8	1.9
Benzoic acid	N	23	0.6	2.8
Benzaldehyde**	U	19	0.5	2.0
Acetophenone**	U	14	0.3	1.6
Butane, 2-methyl-	U	11	0.3	0.7
1,3,5-Trifluorobenzene	N	7	0.2	1.0
Nonanal**	N	7	0.2	1.0
Phenol	U	6	0.2	0.6
Benzene	U	6	0.1	0.4
Toluene	U	5	0.1	0.5
Decanal**	N	<5	<0.1	<0.8
alpha-Pinene	U	<5	<0.1	<0.7
Benzenecarbothioic acid	N	<5	<0.1	<0.7
Phenylmaleic anhydride	U	<5	<0.1	<0.9
Dibutyl phthalate	U	<5	<0.1	<1.4
Cyclohexane, isocyanato-	N	<5	<0.1	<0.6
Benzothiazole	N	<5	<0.1	<0.7
Oxime-, methoxy-phenyl-_	N	<5	<0.1	<0.7
Phthalic anhydride	N	<5	<0.1	<0.7
1-Hexanol, 2-ethyl-	U	<5	<0.1	<0.6

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LABORATORY ANALYSIS REPORT

Tube Number	**GRA05772**
Gradko Lab Reference	**04N0763**
Exposure Time(mins)	**20165**
Sample ID	**91**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Tetracosane	U	62	1.5	21
Acetic acid	U	40	1.0	2.4
Toluene	U	26	0.6	2.4
Benzaldehyde**	U	25	0.6	2.6
Butane, 2-methyl-	U	21	0.5	1.5
Benzoic acid	N	18	0.5	2.2
m/p-Xylene	U	18	0.4	1.9
Benzene	U	16	0.4	1.2
Hexane	U	15	0.4	1.3
Pentane, 3-methyl-	U	14	0.3	1.2
Pentane	U	12	0.3	0.9
Octane	U	12	0.3	1.4
Acetophenone**	U	11	0.3	1.3
Cyclohexane, methyl-	U	10	0.2	0.9
Decanal**	N	9	0.2	1.4
Nonanal**	N	9	0.2	1.2
Nonane	U	8	0.2	1.1
Benzene, 1,2,4-trimethyl-	U	8	0.2	1.0
Heptane	U	8	0.2	0.8
Ethylbenzene	U	8	0.2	0.8

Tube Number	**GRA09724**
Gradko Lab Reference	**04N0764**
Exposure Time(mins)	**20150**
Sample ID	**90**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Acetic acid	U	12	0.3	0.7
Hexanal**	N	10	0.2	1.0
Benzaldehyde**	U	8	0.2	0.8
Benzene	U	6	0.1	0.5
Toluene	U	5	0.1	0.5
Butane, 2-methyl-	U	<5	<0.1	<0.4
m/p-Xylene	U	<5	<0.1	<0.5
Dibutyl phthalate	U	<5	<0.1	<1.4
.alpha.-Pinene	U	<5	<0.1	<0.7
Nonanal**	N	<5	<0.1	<0.7

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	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Cyclohexane, isocyanato-	N	<5	<0.1	<0.6
Phenol	U	<5	<0.1	<0.5
1,3,5-Trifluorobenzene	N	<5	<0.1	<0.7
Hexane	U	<5	<0.1	<0.4
1-Hexanol, 2-ethyl-	U	<5	<0.1	<0.6
Acetophenone**	U	<5	<0.1	<0.6
3-Carene	U	<5	<0.1	<0.7
o-Xylene	U	<5	<0.1	<0.5
Formamide, N,N-diethyl-	N	<5	<0.1	<0.5
Heptane, 2,2,4,6,6-pentamethyl-	N	<5	<0.1	<0.8

Tube Number	**GRA10776**
Gradko Lab Reference	**04N0765**
Exposure Time(mins)	**20120**
Sample ID	**76**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Butane, 2-methyl-	U	18	0.5	1.3
Benzaldehyde**	U	17	0.4	1.8
Acetic acid	U	15	0.4	0.9
Acetophenone**	U	9	0.2	1.0
Toluene	U	8	0.2	0.7
m/p-Xylene	U	7	0.2	0.7
Benzene	U	7	0.2	0.5
Benzoic acid	N	5	0.1	0.7
Nonanal**	N	<5	<0.1	<0.7
alpha-Pinene	U	<5	<0.1	<0.7
Phenol	U	<5	<0.1	<0.5
Pentane	U	<5	<0.1	<0.4
Benzene, 1,2,4-trimethyl-	U	<5	<0.1	<0.6
Ethylbenzene	U	<5	<0.1	<0.5
Pentane, 3-methyl-	U	<5	<0.1	<0.4
o-Xylene	U	<5	<0.1	<0.5
Octane	U	<5	<0.1	<0.6
Hexanoic acid, 3,5,5-trimethyl-	N	<5	<0.1	<0.8
Heptane	U	<5	<0.1	<0.5
Octanal**	U	<5	<0.1	<0.6

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LABORATORY ANALYSIS REPORT

Tube Number	**GRA08821**
Gradko Lab Reference	**04N0766**
Exposure Time(mins)	**20090**
Sample ID	**82**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	52	1.3	13
Benzoic acid	N	38	0.9	4.6
Benzaldehyde**	U	21	0.5	2.2
Butane, 2-methyl-	U	19	0.5	1.3
Acetic acid	U	17	0.4	1.0
Acetophenone**	U	12	0.3	1.4
Nonanal**	N	10	0.2	1.4
Toluene	U	8	0.2	0.8
m/p-Xylene	U	7	0.2	0.8
Phenol	U	7	0.2	0.6
Benzene	U	6	0.1	0.5
Benzothiazole	N	5	0.1	0.7
Decanal**	N	<5	<0.1	<0.8
alpha-Pinene	U	<5	<0.1	<0.7
Benzenecarbothioic acid	N	<5	<0.1	<0.7
Cyclohexane, isocyanato-	N	<5	<0.1	<0.6
o-Xylene	U	<5	<0.1	<0.5
1-Hexanol, 2-ethyl-	U	<5	<0.1	<0.6
Phthalic anhydride	N	<5	<0.1	<0.7
Phenylmaleic anhydride	U	<5	<0.1	<0.9

Tube Number	**GRA11364**
Gradko Lab Reference	**04N0767**
Exposure Time(mins)	**20075**
Sample ID	**87**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Tetracosane	U	62	1.5	21
Butane, 2-methyl-	U	58	1.4	4.1
Toluene	U	16	0.4	1.5
m/p-Xylene	U	15	0.4	1.6
Benzaldehyde**	U	13	0.3	1.4
Benzene	U	13	0.3	1.0
Pentane, 3-methyl-	U	8	0.2	0.7
Pentane	U	8	0.2	0.5
Ethylbenzene	U	6	0.2	0.7
Octane	U	6	0.2	0.7
o-Xylene	U	5	0.1	0.6

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	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Benzene, 1,2,4-trimethyl-	U	5	0.1	0.6
Hexane	U	5	0.1	0.4
alpha-Pinene	U	<5	<0.1	<0.7
Heptane	U	<5	<0.1	<0.5
Cyclopentane, methyl-	N	<5	<0.1	<0.4
Cyclohexane, methyl-	U	<5	<0.1	<0.5
Hexane, 3-methyl-	U	<5	<0.1	<0.5
Acetophenone**	U	<5	<0.1	<0.6
Cyclohexane, isocyanato-	N	<5	<0.1	<0.6

Tube Number	**001832**
Gradko Lab Reference	**04N0768**
Exposure Time(mins)	**20055**
Sample ID	**83**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Tetracosane	U	95	2.4	32
Benzoic acid	N	43	1.1	5.2
Benzaldehyde**	U	22	0.5	2.3
Acetic acid	U	16	0.4	1.0
Acetophenone**	U	16	0.4	1.9
Nonanal**	N	15	0.4	2.2
Butane, 2-methyl-	U	13	0.3	1.0
Benzenecarbothioic acid	N	8	0.2	1.0
Toluene	U	7	0.2	0.6
Benzene, 1,2,4-trimethyl-	U	7	0.2	0.8
Benzene	U	6	0.1	0.5
m/p-Xylene	U	6	0.1	0.6
Phenol	U	5	0.1	0.5
Decanal**	N	<5	<0.1	<0.8
Phenylmaleic anhydride	U	<5	<0.1	<0.9
o-Xylene	U	<5	<0.1	<0.5
alpha-Pinene	U	<5	<0.1	<0.7
Pentane, 3-methyl-	U	<5	<0.1	<0.4
Octanal**	U	<5	<0.1	<0.6
Benzothiazole	N	<5	<0.1	<0.7

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Tube Number	**003397**
Gradko Lab Reference	**04N0769**
Exposure Time(mins)	**20020**
Sample ID	**P8**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Tetracosane	U	82	2.1	28
Benzoic acid	N	48	1.2	5.8
2,6-Diphenyl-p-benzoquinone	N	39	1.0	10
Benzaldehyde**	U	24	0.6	2.6
Acetophenone**	U	19	0.5	2.3
m/p-Xylene	U	18	0.5	2.0
Toluene	U	14	0.3	1.3
Acetic acid	U	13	0.3	0.8
o-Xylene	U	11	0.3	1.1
Benzenecarbothioic acid	N	8	0.2	1.1
Phenol	U	7	0.2	0.6
Nonanal**	N	7	0.2	1.0
Phenylmaleic anhydride	U	6	0.2	1.1
Ethylbenzene	U	6	0.2	0.6
Benzene	U	5	0.1	0.4
Decanal**	N	5	0.1	0.7
alpha-Pinene	U	<5	<0.1	<0.7
Undecane	U	<5	<0.1	<0.8
Benzene, 1,2,4-trimethyl-	U	<5	<0.1	<0.6
Dibutyl phthalate	U	<5	<0.1	<1.4

Tube Number	**001880**
Gradko Lab Reference	**04N0770**
Exposure Time(mins)	**20005**
Sample ID	**P9**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Benzoic acid	N	74	1.9	9.0
Benzaldehyde**	U	23	0.6	2.5
2,6-Diphenyl-p-benzoquinone	N	20	0.5	5.3
Acetophenone**	U	19	0.5	2.3
Acetic acid	U	14	0.3	0.8
Benzenecarbothioic acid	N	11	0.3	1.5
Phenol	U	9	0.2	0.8
Nonanal**	N	9	0.2	1.3
Phenylmaleic anhydride	U	9	0.2	1.5
Butane, 2-methyl-	U	7	0.2	0.5
Ethanol, 2-phenoxy-	N	7	0.2	0.9

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	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
1-Hexanol, 2-ethyl-	U	<5	<0.1	<0.6
Toluene	U	<5	<0.1	<0.5
Benzene	U	<5	<0.1	<0.4
alpha-Pinene	U	<5	<0.1	<0.7
m/p-Xylene	U	<5	<0.1	<0.5
Decanal**	N	<5	<0.1	<0.8
Phthalic anhydride	N	<5	<0.1	<0.7
Heptane, 2,2,4,6,6-pentamethyl-	N	<5	<0.1	<0.8
Oxime-, methoxy-phenyl-_	N	<5	<0.1	<0.8

Tube Number	**003297**
Gradko Lab Reference	**04N0771**
Exposure Time(mins)	**19965**
Sample ID	**85**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	110	2.7	28.6
Benzoic acid	N	80	2.0	9.8
Tetracosane	U	76	1.9	26
Toluene	U	37	0.9	3.4
Benzaldehyde**	U	27	0.7	2.9
Acetophenone**	U	19	0.5	2.3
m/p-Xylene	U	15	0.4	1.6
alpha-Pinene	U	14	0.4	2.0
Phenol	U	9	0.2	0.9
Phenylmaleic anhydride	U	9	0.2	1.5
Nonanal**	N	8	0.2	1.2
Acetic acid	U	8	0.2	0.5
Benzenecarbothioic acid	N	8	0.2	1.1
o-Xylene	U	8	0.2	0.9
Hexanal**	N	6	0.1	0.6
Ethylbenzene	U	6	0.1	0.6
Benzene	U	6	0.1	0.4
Benzothiazole	N	<5	<0.1	<0.7
Decanal**	N	<5	<0.1	<0.8
Benzene, 1,2,4-trimethyl-	U	<5	<0.1	<0.6

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Tube Number	**001602**
Gradko Lab Reference	**04N0772**
Exposure Time(mins)	**20370**
Sample ID	**80**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Benzoic acid	N	65	1.6	7.8
Tetracosane	U	53	1.3	17.5
Benzaldehyde**	U	21	0.5	2.2
Acetophenone**	U	16	0.4	1.9
Benzenecarbothioic acid	N	10	0.2	1.3
Acetic acid	U	8	0.2	0.5
Phenol	U	7	0.2	0.7
Phenylmaleic anhydride	U	7	0.2	1.2
Butane, 2-methyl-	U	7	0.2	0.5
Nonanal**	N	<5.0	<0.1	<0.7
Dibutyl phthalate	U	<5.0	<0.1	<1.4
Benzene	U	<5.0	<0.1	<0.4
m/p-Xylene	U	<5.0	<0.1	<0.5
Toluene	U	<5.0	<0.1	<0.5
Phthalic anhydride	N	<5.0	<0.1	<0.7
Carbamic chloride, diethyl-	N	<5.0	<0.1	<0.7
Benzothiazole	N	<5.0	<0.1	<0.7
Benzeneacetaldehyde**	N	<5.0	<0.1	<0.6
o-Xylene	U	<5.0	<0.1	<0.5
Octanal**	U	<5.0	<0.1	<0.6

Tube Number	**001844**
Gradko Lab Reference	**04N0773**
Exposure Time(mins)	**20350**
Sample ID	**8**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	37	0.9	9.5
Benzoic acid	N	24	0.6	2.9
Benzaldehyde**	U	16	0.4	1.7
Acetophenone**	U	14	0.3	1.6
Diethyl phthalate	U	9	0.2	1.9
Nonanal**	N	7	0.2	1.0
Acetic acid	U	6	0.2	0.4
Benzenecarbothioic acid	N	6	0.1	0.8
Toluene	U	5	0.1	0.5
Phenylmaleic anhydride	U	5	0.1	0.9
Phenol	U	<5	<0.1	<0.5

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	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Dibutyl phthalate	U	<5	<0.1	<1.4
Benzene	U	<5	<0.1	<0.4
Decanal**	N	<5	<0.1	<0.8
m/p-Xylene	U	<5	<0.1	<0.5
Heptane, 2,2,4,6,6-pentamethyl-	N	<5	<0.1	<0.8
Hexanal**	N	<5	<0.1	<0.5
alpha-Pinene	U	<5	<0.1	<0.7
1-Hexanol, 2-ethyl-	U	<5	<0.1	<0.6
Phthalic anhydride	N	<5	<0.1	<0.7

Tube Number	**GRA10228**
Gradko Lab Reference	**04N0774**
Exposure Time(mins)	**20340**
Sample ID	**P5**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Benzaldehyde**	U	8	0.2	0.9
Acetophenone**	U	5	0.1	0.6
Nonanal**	N	<5	<0.1	<0.7
Acetic acid	U	<5	<0.1	<0.3
Benzene	U	<5	<0.1	<0.4
Phenol	U	<5	<0.1	<0.5
Benzoic acid	N	<5	<0.1	<0.6
alpha-Pinene	U	<5	<0.1	<0.7
Toluene	U	<5	<0.1	<0.5
Hexanal**	N	<5	<0.1	<0.5
Cyclohexane, isocyanato-	N	<5	<0.1	<0.6
3-Carene	U	<5	<0.1	<0.7
Benzothiazole	N	<5	<0.1	<0.7
Methyl Isobutyl Ketone	N	<5	<0.1	<0.5
m/p-Xylene	U	<5	<0.1	<0.5
Decanal**	N	<5	<0.1	<0.8
Phenol	U	<5	<0.1	<0.5
1-Hexanol, 2-ethyl-	U	<5	<0.1	<0.6
1,3,5-Trifluorobenzene	N	<5	<0.1	<0.6

19 Compounds detected

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LABORATORY ANALYSIS REPORT

Tube Number	**GRA02688**
Gradko Lab Reference	**04N0775**
Exposure Time(mins)	**20315**
Sample ID	**7**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
3-Methylcyclopentyl acetate	N	58	1.4	8.1
Decanal**	N	22	0.5	3.3
Nonanal**	N	21	0.5	3.0
Benzaldehyde**	U	20	0.5	2.1
Hexanoic acid, 3,5,5-trimethyl-	N	19	0.5	2.9
5,9-Dodecadien-2-one, 6,10-dimethyl-, (E,E))-	N	18	0.4	3.7
Benzoic acid	N	18	0.4	2.1
Acetic acid	U	18	0.4	1.0
Acetophenone**	U	10	0.3	1.2
Octanal**	U	10	0.2	1.3
Methyl vinyl ketone	N	8	0.2	0.5
2-Butenal, 3-methyl-	N	5	0.1	0.4
Ethanone, 1-(1-cyclohexen-1-yl)-	N	5	0.1	0.6
Hexanal**	N	5	0.1	0.5
1-Butanol, 3-methoxy-	N	<5	<0.1	<0.5
Benzenecarbothioic acid	N	<5	<0.1	<0.7
3-Buten-2-ol, 2-methyl-	N	<5	<0.1	<0.4
5-Hepten-2-one, 6-methyl-	N	<5	<0.1	<0.6
Phenol	U	<5	<0.1	<0.5
Toluene	U	<5	<0.1	<0.5

Tube Number	**GRA11937**
Gradko Lab Reference	**04N0776**
Exposure Time(mins)	**20290**
Sample ID	**9**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Acetic acid	U	30	0.7	1.8
Benzaldehyde**	U	16	0.4	1.6
Benzoic acid	N	11	0.3	1.4
1,4-Pentadiene	N	10	0.2	0.7
Hexane	U	8	0.2	0.7
Acetophenone**	U	8	0.2	0.9
Butane, 2-methyl-	U	7	0.2	0.5
Pentane, 3-methyl-	U	6	0.2	0.5
2-Butanone	U	6	0.1	0.4
Nonanal**	N	5	0.1	0.7
1,3,5-Trifluorobenzene	N	5	0.1	0.7

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	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Phenol	U	5	0.1	0.5
Benzene	U	<5	<0.1	<0.4
Toluene	U	<5	<0.1	<0.5
Butanoic acid	N	<5	<0.1	<0.4
Cyclohexane, isocyanato-	N	<5	<0.1	<0.6
Benzenecarbothioic acid	N	<5	<0.1	<0.7
alpha-Pinene	U	<5	<0.1	<0.7
m/p-Xylene	U	<5	<0.1	<0.5
Hexanal**	N	<5	<0.1	<0.5

Tube Number	**GRA10685**
Gradko Lab Reference	**04N0777**
Exposure Time(mins)	**20270**
Sample ID	**1**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Tetracosane	U	45	1.1	15
Acetic acid	U	15	0.4	0.9
Toluene	U	11	0.3	1.0
Benzaldehyde**	U	10	0.2	1.0
Hexanal**	N	9	0.2	0.9
Butane, 2-methyl-	U	9	0.2	0.6
1,4-Pentadiene	N	7	0.2	0.5
Nonanal**	N	6	0.1	0.8
Benzene	U	<5	<0.1	<0.4
Acetophenone**	U	<5	<0.1	<0.6
m/p-Xylene	U	<5	<0.1	<0.5
alpha-Pinene	U	<5	<0.1	<0.7
Benzoic acid	N	<5	<0.1	<0.6
Phenol	U	<5	<0.1	<0.5
o-Xylene	U	<5	<0.1	<0.5
Benzothiazole	N	<5	<0.1	<0.7
5-Hepten-2-one, 6-methyl-	N	<5	<0.1	<0.6
1-Hexanol, 2-ethyl-	U	<5	<0.1	<0.6
Decanal**	N	<5	<0.1	<0.8
3-Carene	U	<5	<0.1	<0.7

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Tube Number	**GRA02653**
Gradko Lab Reference	**04N0778**
Exposure Time(mins)	**20255**
Sample ID	**2**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Tetracosane	U	47	1.2	16
Acetic acid	U	24	0.6	1.4
Benzaldehyde**	U	13	0.3	1.3
Butane, 2-methyl-	U	11	0.3	0.7
1,4-Pentadiene	N	9	0.2	0.6
Benzene	U	7	0.2	0.6
Hexane	U	7	0.2	0.6
m/p-Xylene	U	6	0.2	0.7
Toluene	U	6	0.1	0.5
Acetophenone**	U	5	0.1	0.6
Nonanal**	N	<5	<0.1	<0.7
Benzoic acid	N	<5	<0.1	<0.6
Hexanal**	N	<5	<0.1	<0.5
Ethylbenzene	U	<5	<0.1	<0.5
alpha-Pinene	U	<5	<0.1	<0.7
Phenol	U	<5	<0.1	<0.5
Heptane, 2,2,4,6,6-pentamethyl-	N	<5	<0.1	<0.8
Limonene	U	<5	<0.1	<0.7
o-Xylene	U	<5	<0.1	<0.5
3-Carene	U	<5	<0.1	<0.7

Tube Number	**GRA10022**
Gradko Lab Reference	**04N0779**
Exposure Time(mins)	**20250**
Sample ID	**3**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Acetylacetone	N	53	1.3	5.2
Acetic acid	U	22	0.5	1.3
Benzaldehyde**	U	10	0.2	1.0
1,4-Pentadiene	N	7	0.2	0.5
alpha-Pinene	U	5	0.1	0.7
Benzene	U	<5	<0.1	<0.4
3-Carene	U	<5	<0.1	<0.7
Acetophenone**	U	<5	<0.1	<0.6
Toluene	U	<5	<0.1	<0.5
Nonanal**	N	<5	<0.1	<0.7
m/p-Xylene	U	<5	<0.1	<0.5

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	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Phenol	U	<5	<0.1	<0.5
Methyl Isobutyl Ketone	N	<5	<0.1	<0.5
Decanal**	N	<5	<0.1	<0.8
o-Xylene	U	<5	<0.1	<0.5
beta-Pinene	N	<5	<0.1	<0.7
Ethylbenzene	U	<5	<0.1	<0.5
Benzothiazole	N	<5	<0.1	<0.7
Benzoic acid	N	<5	<0.1	<0.6
19 Compounds detected				

Tube Number	**GRA04885**
Gradko Lab Reference	**04N0780**
Exposure Time(mins)	**20240**
Sample ID	**4**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Benzaldehyde**	U	8	0.2	0.9
Acetophenone**	U	<5	<0.1	<0.6
Acetic acid	U	<5	<0.1	<0.3
alpha-Pinene	U	<5	<0.1	<0.7
Benzene	U	<5	<0.1	<0.4
Benzoic acid	N	<5	<0.1	<0.6
Toluene	U	<5	<0.1	<0.5
3-Carene	U	<5	<0.1	<0.7
m/p-Xylene	U	<5	<0.1	<0.5
Phenol	U	<5	<0.1	<0.5
Nonanal**	N	<5	<0.1	<0.7
Heptane, 2,2,4,6,6-pentamethyl-	N	<5	<0.1	<0.8
1,4-Pentadiene	N	<5	<0.1	<0.3
beta-Pinene	N	<5	<0.1	<0.7
1-Hexanol, 2-ethyl-	U	<5	<0.1	<0.6
o-Xylene	U	<5	<0.1	<0.5
Ethylbenzene	U	<5	<0.1	<0.5
Benzene, 1,3-dichloro-	U	<5	<0.1	<0.7
Butane, 2-methyl-	U	<5	<0.1	<0.4
19 Compounds detected				

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LABORATORY ANALYSIS REPORT

Tube Number	**GRA05062**
Gradko Lab Reference	**04N0781**
Exposure Time(mins)	**20210**
Sample ID	**P3**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Benzoic acid	N	15	0.4	1.8
Hexanal**	U	13	0.3	1.3
Benzaldehyde**	U	13	0.3	1.3
Acetophenone**	U	10	0.3	1.2
Acetic acid	U	7	0.2	0.4
Nonanal**	N	<5	<0.1	<0.7
Benzenecarbothioic acid	N	<5	<0.1	<0.7
Phenol	U	<5	<0.1	<0.5
Benzene	U	<5	<0.1	<0.4
Toluene	U	<5	<0.1	<0.5
Phenylmaleic anhydride	U	<5	<0.1	<0.9
m/p-Xylene	U	<5	<0.1	<0.5
Heptane, 2,2,4,6,6-pentamethyl-	N	<5	<0.1	<0.8
Octanal**	U	<5	<0.1	<0.6
Decanal**	N	<5	<0.1	<0.8
o-Xylene	U	<5	<0.1	<0.5
Benzeneacetaldehyde	N	<5	<0.1	<0.6
Phthalic anhydride	N	<5	<0.1	<0.7
Oxime-, methoxy-phenyl-_	N	<5	<0.1	<0.7
alpha-Pinene	U	<5	<0.1	<0.7

Tube Number	**GRA03849**
Gradko Lab Reference	**04N0782**
Exposure Time(mins)	**20245**
Sample ID	**105**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	47	1.2	12
Octanoic acid	N	9	0.2	1.2
Acetic acid	U	8	0.2	0.5
Benzaldehyde**	U	8	0.2	0.8
Benzoic acid	N	7	0.2	0.8
m/p-Xylene	U	6	0.1	0.6
Butane, 2-methyl-	U	5	0.1	0.4
Toluene	U	5	0.1	0.5
Acetophenone**	U	<5	<0.1	<0.6
Benzene	U	<5	<0.1	<0.4
alpha-Pinene	U	<5	<0.1	<0.7

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	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Hexanoic acid, 2-ethyl-	N	<5	<0.1	<0.7
Hexane	U	<5	<0.1	<0.4
Ethylbenzene	U	<5	<0.1	<0.5
Phthalic anhydride	N	<5	<0.1	<0.7
Benzene, 1,2,4-trimethyl-	U	<5	<0.1	<0.6
Heptane, 2,2,4,6,6-pentamethyl-	N	<5	<0.1	<0.8
Phenol	U	<5	<0.1	<0.5
o-Xylene	U	<5	<0.1	<0.5
Hexanoic acid, 3,5,5-trimethyl-	N	<5	<0.1	<0.8

Tube Number	**GRA10880**
Gradko Lab Reference	**04N0783**
Exposure Time(mins)	**20210**
Sample ID	**60**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	104	2.6	27
Acetic acid	U	30	0.8	1.8
Benzaldehyde**	U	21	0.5	2.2
Butane, 2-methyl-	U	15	0.4	1.1
Hexanal**	N	14	0.3	1.4
Benzoic acid	N	13	0.3	1.6
Acetophenone**	U	13	0.3	1.5
Nonanal**	N	9	0.2	1.2
Pentane	U	8	0.2	0.6
Toluene	U	8	0.2	0.7
Hexane	U	7	0.2	0.6
Pentane, 3-methyl-	U	7	0.2	0.6
m/p-Xylene	U	6	0.1	0.6
Phenol	U	5	0.1	0.5
Decanal**	N	<5	<0.1	<0.8
Benzene	U	<5	<0.1	<0.4
Benzenecarbothioic acid	N	<5	<0.1	<0.7
alpha-Pinene	U	<5	<0.1	<0.7
Phenylmaleic anhydride	U	<5	<0.1	<0.9
1,3,5-Trifluorobenzene	N	<5	<0.1	<0.7

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LABORATORY ANALYSIS REPORT

Tube Number	**GRA08401**
Gradko Lab Reference	**04N0784**
Exposure Time(mins)	**20215**
Sample ID	**64**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	36	0.9	9.2
Benzaldehyde**	U	21	0.5	2.2
Benzoic acid	N	16	0.4	1.9
Acetic acid	U	16	0.4	0.9
Hexanoic acid, 3,5,5-trimethyl-	N	12	0.3	1.8
Acetophenone**	U	11	0.3	1.3
m/p-Xylene	U	10	0.2	1.0
Toluene	U	8	0.2	0.7
Butane, 2-methyl-	U	7	0.2	0.5
Benzene	U	6	0.2	0.5
Nonanal**	N	6	0.2	0.9
Phenol	U	6	0.1	0.5
alpha-Pinene	U	<5	<0.1	<0.7
Ethylbenzene	U	<5	<0.1	<0.5
Heptane, 2,2,4,6,6-pentamethyl-	N	<5	<0.1	<0.8
o-Xylene	U	<5	<0.1	<0.5
Benzene, 1,2,4-trimethyl-	U	<5	<0.1	<0.6
Decanal**	N	<5	<0.1	<0.8
Octane	U	<5	<0.1	<0.6
Hexane	U	<5	<0.1	<0.4

Tube Number	**GRA09810**
Gradko Lab Reference	**04N0785**
Exposure Time(mins)	**20195**
Sample ID	**65**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	77	1.9	20
Benzoic acid	N	44	1.1	5.3
Benzaldehyde**	U	31	0.8	3.3
Acetic acid	U	19	0.5	1.1
Acetophenone**	U	15	0.4	1.8
m/p-Xylene	U	15	0.4	1.5
o-Xylene	U	10	0.2	1.0
Toluene	U	8	0.2	0.8
Butane, 2-methyl-	U	8	0.2	0.6
Benzene	U	7	0.2	0.6
Nonanal**	N	6	0.1	0.8

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	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Phenol	U	6	0.1	0.5
Pentane, 3-methyl-	U	6	0.1	0.5
Ethylbenzene	U	5	0.1	0.6
Benzene, 1,2,4-trimethyl-	U	<5	<0.1	<0.6
Styrene	U	<5	<0.1	<0.5
Benzenecarbothioic acid	N	<5	<0.1	<0.7
Phenylmaleic anhydride	U	<5	<0.1	<0.9
Cyclohexane, isocyanato-	N	<5	<0.1	<0.6
Hexane	U	<5	<0.1	<0.4

Tube Number	**000067**
Gradko Lab Reference	**04N0786**
Exposure Time(mins)	**20455**
Sample ID	**68**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	111	2.7	28
Benzoic acid	N	31	0.8	3.7
Acetic acid	U	30	0.7	1.8
Benzaldehyde**	U	20	0.5	2.1
Butane, 2-methyl-	U	20	0.5	1.4
Acetophenone**	U	14	0.3	1.6
m/p-Xylene	U	12	0.3	1.2
Toluene	U	11	0.3	1.0
Nonanal**	N	7	0.2	1.0
Benzene	U	7	0.2	0.5
Phenylmaleic anhydride	U	6	0.1	1.0
o-Xylene	U	5	0.1	0.6
alpha-Pinene	U	5	0.1	0.7
Phenol	U	<5	<0.1	<0.5
Ethylbenzene	U	<5	<0.1	<0.5
2-Furanmethanol	N	<5	<0.1	<0.5
Benzene, 1,2,4-trimethyl-	U	<5	<0.1	<0.6
Hexanal**	N	<5	<0.1	<0.5
Benzenecarbothioic acid	N	<5	<0.1	<0.7
Phthalic anhydride	N	<5	<0.1	<0.7

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LABORATORY ANALYSIS REPORT

Tube Number	**003312**
Gradko Lab Reference	**04N0787**
Exposure Time(mins)	**20425**
Sample ID	**67**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	95	2.3	24
Benzoic acid	N	59	1.5	7.1
Acetic acid	U	30	0.7	1.7
Butane, 2-methyl-	U	26	0.6	1.8
Benzaldehyde**	U	24	0.6	2.5
Acetophenone**	U	18	0.4	2.1
Benzene	U	12	0.3	0.9
m/p-Xylene	U	10	0.3	1.1
Toluene	U	10	0.2	0.9
Pentane, 3-methyl-	U	9	0.2	0.7
Hexane	U	8	0.2	0.7
Benzenecarbothioic acid	N	8	0.2	1.1
Phenol	U	8	0.2	0.7
Butanal	U	7	0.2	0.5
Phenylmaleic anhydride	U	7	0.2	1.2
1,3,5-Trifluorobenzene	N	7	0.2	0.9
Nonanal**	N	6	0.1	0.9
Benzene, 1,2,4-trimethyl-	U	<5	<0.1	<0.6
alpha-Pinene	U	<5	<0.1	<0.7
o-Xylene	U	<5	<0.1	<0.5

Tube Number	**003568**
Gradko Lab Reference	**04N0788**
Exposure Time(mins)	**20355**
Sample ID	**73**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	73	1.8	19
Benzoic acid	N	49	1.2	5.8
Benzaldehyde**	U	19	0.5	2.0
Acetic acid	U	18	0.4	1.1
Acetophenone**	U	14	0.3	1.7
Toluene	U	10	0.2	0.9
m/p-Xylene	U	6	0.2	0.6
Benzene	U	6	0.2	0.5
Butane, 2-methyl-	U	6	0.1	0.4
Benzenecarbothioic acid	N	6	0.1	0.8
alpha-Pinene	U	5	0.1	0.7

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	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Phenol	U	5	0.1	0.5
Nonanal**	N	<5	<0.1	<0.7
Heptane, 2,2,4,6,6-pentamethyl-	N	<5	<0.1	<0.8
Phenylmaleic anhydride	U	<5	<0.1	<0.9
o-Xylene	U	<5	<0.1	<0.5
Formamide, N,N-dimethyl-	N	<5	<0.1	<0.4
Phthalic anhydride	N	<5	<0.1	<0.7
Pentane, 3-methyl-	U	<5	<0.1	<0.4
Benzothiazole	N	<5	<0.1	<0.7

Tube Number	**002252**
Gradko Lab Reference	**04N0789**
Exposure Time(mins)	**20370**
Sample ID	**79**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	114	2.8	29
Benzoic acid	N	65	1.6	7.8
Benzaldehyde**	U	21	0.5	2.2
Acetophenone**	U	19	0.5	2.2
Acetic acid	U	11	0.3	0.6
Toluene	U	10	0.2	0.9
Butane, 2-methyl-	U	9	0.2	0.6
m/p-Xylene	U	8	0.2	0.9
Benzenecarbothioic acid	N	8	0.2	1.1
Benzene	U	7	0.2	0.5
alpha-Pinene	U	7	0.2	0.9
Cyclohexane, methyl-	U	7	0.2	0.6
Phenylmaleic anhydride	U	6	0.2	1.1
Phenol	U	6	0.1	0.5
Nonanal**	N	5	0.1	0.7
Benzene, 1,2,4-trimethyl-	U	<5	<0.1	<0.6
o-Xylene	U	<5	<0.1	<0.5
Nonane	U	<5	<0.1	<0.6
Ethylbenzene	U	<5	<0.1	<0.5
Octane	U	<5	<0.1	<0.6

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LABORATORY ANALYSIS REPORT

Tube Number	**GRA10241**
Gradko Lab Reference	**04N0790**
Exposure Time(mins)	**20315**
Sample ID	**78**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	44	1.1	11
Acetic acid	U	20	0.5	1.2
Benzoic acid	N	17	0.4	2.0
Benzaldehyde**	U	15	0.4	1.6
Butane, 2-methyl-	U	14	0.3	1.0
Acetophenone**	U	10	0.3	1.2
Toluene	U	9	0.2	0.8
Benzene	U	7	0.2	0.5
m/p-Xylene	U	6	0.1	0.6
alpha-Pinene	U	5	0.1	0.7
Pentane, 3-methyl-	U	<5	<0.1	<0.4
Nonanal**	N	<5	<0.1	<0.7
Phenol	U	<5	<0.1	<0.5
o-Xylene	U	<5	<0.1	<0.5
Heptane, 2,2,4,6,6-pentamethyl-	N	<5	<0.1	<0.8
Benzenecarbothioic acid	N	<5	<0.1	<0.7
Ethylbenzene	U	<5	<0.1	<0.5
Benzene, 1,2,4-trimethyl-	U	<5	<0.1	<0.6
Hexane, 3-methyl-	U	<5	<0.1	<0.5
Hexanal**	N	<5	<0.1	<0.5

Tube Number	**GRA02365**
Gradko Lab Reference	**04N0791**
Exposure Time(mins)	**20300**
Sample ID	**77**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	23	0.6	5.8
Benzoic acid	N	18	0.4	2.1
Benzaldehyde**	U	17	0.4	1.8
Acetic acid	U	12	0.3	0.7
Acetophenone**	U	10	0.3	1.2
Toluene	U	6	0.2	0.6
Benzene	U	5	0.1	0.4
Nonanal**	N	5	0.1	0.7
Butane, 2-methyl-	U	5	0.1	0.4
alpha-Pinene	U	5	0.1	0.7
m/p-Xylene	U	<5	<0.1	<0.5

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	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Phenol	U	<5	<0.1	<0.5
Benzenecarbothioic acid	N	<5	<0.1	<0.7
Benzene, 1,2,4-trimethyl-	U	<5	<0.1	<0.6
o-Xylene	U	<5	<0.1	<0.5
Formamide, N,N-dimethyl-	N	<5	<0.1	<0.4
Oxime-, methoxy-phenyl-_	N	<5	<0.1	<0.7
Benzothiazole	N	<5	<0.1	<0.7
Heptane, 2,2,4,6,6-pentamethyl-	N	<5	<0.1	<0.8
Phthalic anhydride	N	<5	<0.1	<0.7

Tube Number	**001761**
Gradko Lab Reference	**04N0792**
Exposure Time(mins)	**20275**
Sample ID	**74**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	85	2.1	22
Benzoic acid	N	69	1.7	8.3
Benzaldehyde**	U	24	0.6	2.5
Acetic acid	U	20	0.5	1.2
Acetophenone**	U	17	0.4	2.0
alpha-Pinene	U	9	0.2	1.2
Butane, 2-methyl-	U	9	0.2	0.6
Phenol	U	8	0.2	0.8
m/p-Xylene	U	8	0.2	0.9
Benzenecarbothioic acid	N	8	0.2	1.1
Toluene	U	7	0.2	0.7
Phenylmaleic anhydride	U	6	0.2	1.1
Benzene	U	6	0.1	0.5
Nonanal**	N	5	0.1	0.7
o-Xylene	U	<5	<0.1	<0.5
Phthalic anhydride	N	<5	<0.1	<0.7
Decanal**	N	<5	<0.1	<0.8
Ethylbenzene	U	<5	<0.1	<0.5
Benzene, 1,2,4-trimethyl-	U	<5	<0.1	<0.6
Oxime-, methoxy-phenyl-_	N	<5	<0.1	<0.7

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LABORATORY ANALYSIS REPORT

Tube Number	**002324**
Gradko Lab Reference	**04N0793**
Exposure Time(mins)	**20235**
Sample ID	**70**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	42	1.0	11
Benzoic acid	N	37	0.9	4.5
Benzaldehyde**	U	18	0.4	1.9
Acetic acid	U	16	0.4	0.9
Acetophenone**	U	14	0.3	1.6
Butane, 2-methyl-	U	13	0.3	0.9
Nonanal**	N	7	0.2	1.0
Benzene	U	6	0.2	0.5
Toluene	U	6	0.2	0.6
Phenol	U	6	0.2	0.6
alpha-Pinene	U	5	0.1	0.7
Benzenecarbothioic acid	N	<5	<0.1	<0.7
m/p-Xylene	U	<5	<0.1	<0.5
Phenylmaleic anhydride	U	<5	<0.1	<0.9
Formamide, N,N-dimethyl-	N	<5	<0.1	<0.4
Cyclohexane, isocyanato-	N	<5	<0.1	<0.6
Pentane, 3-methyl-	U	<5	<0.1	<0.4
Benzothiazole	N	<5	<0.1	<0.7
1-Hexanol, 2-ethyl-	U	<5	<0.1	<0.6
Hexanoic acid, 3,5,5-trimethyl-	N	<5	<0.1	<0.8

Tube Number	**003398**
Gradko Lab Reference	**04N0794**
Exposure Time(mins)	**20225**
Sample ID	**71**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	47	1.2	12
Benzoic acid	N	42	1.0	5.0
Benzaldehyde**	U	19	0.5	2.0
Acetic acid	U	18	0.5	1.1
Acetophenone**	U	13	0.3	1.6
Butane, 2-methyl-	U	10	0.2	0.7
Nonanal**	N	8	0.2	1.1
Phenol	U	8	0.2	0.7
Toluene	U	6	0.1	0.5
alpha-Pinene	U	5	0.1	0.7
Benzenecarbothioic acid	N	<5	<0.1	<0.7

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	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Benzene	U	<5	<0.1	<0.4
Oxime-, methoxy-phenyl-_	N	<5	<0.1	<0.7
Phenylmaleic anhydride	U	<5	<0.1	<0.9
m/p-Xylene	U	<5	<0.1	<0.5
o-Xylene	U	<5	<0.1	<0.5
Cyclohexane, isocyanato-	N	<5	<0.1	<0.6
1-Hexanol, 2-ethyl-	U	<5	<0.1	<0.6
Heptane, 2,2,4,6,6-pentamethyl-	N	<5	<0.1	<0.8
Benzothiazole	N	<5	<0.1	<0.7

Tube Number	**001534**
Gradko Lab Reference	**04N0795**
Exposure Time(mins)	**20220**
Sample ID	**72**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Benzoic acid	N	51	1.3	6.2
Acetic acid	U	34	0.8	2.0
2,6-Diphenyl-p-benzoquinone	N	31	0.8	7.9
Butane, 2-methyl-	U	22	0.6	1.6
Benzaldehyde**	U	19	0.5	2.0
Acetophenone**	U	14	0.3	1.6
Nonanal**	N	10	0.3	1.5
alpha-Pinene	U	8	0.2	1.1
Hexane	U	8	0.2	0.7
Pentane, 3-methyl-	U	8	0.2	0.6
Toluene	U	7	0.2	0.6
Phenol	U	7	0.2	0.6
Phenylmaleic anhydride	U	6	0.2	1.1
Benzene	U	6	0.1	0.5
m/p-Xylene	U	6	0.1	0.6
Benzenecarbothioic acid	N	6	0.1	0.8
Oxime-, methoxy-phenyl-_	N	<5	<0.1	<0.7
Hexanal**	N	<5	<0.1	<0.5
Formamide, N,N-dimethyl-	N	<5	<0.1	<0.4
Benzothiazole	N	<5	<0.1	<0.7

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LABORATORY ANALYSIS REPORT

Tube Number	**003390**
Gradko Lab Reference	**04N0796**
Exposure Time(mins)	**20205**
Sample ID	**103**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	69	1.7	18
Benzoic acid	N	44	1.1	5.3
Nonanal**	N	31	0.8	4.4
Benzaldehyde**	U	24	0.6	2.5
Acetophenone**	U	17	0.4	2.0
Acetic acid	U	12	0.3	0.7
alpha-Pinene	U	11	0.3	1.5
m/p-Xylene	U	10	0.2	1.0
Acetylacetone	N	9	0.2	0.9
Toluene	U	8	0.2	0.8
Decanal**	N	8	0.2	1.3
Butane, 2-methyl-	U	7	0.2	0.5
Phenol	U	7	0.2	0.6
Benzenecarbothioic acid	N	6	0.1	0.8
Benzene	U	5	0.1	0.4
o-Xylene	U	5	0.1	0.5
Hexanal**	N	<5	<0.1	<0.5
Cyclohexane, isocyanato-	N	<5	<0.1	<0.6
1-Hexanol, 2-ethyl-	U	<5	<0.1	<0.6
Ethanol, 2-phenoxy-	N	<5	<0.1	<0.7

Tube Number	**003288**
Gradko Lab Reference	**04N0797**
Exposure Time(mins)	**20195**
Sample ID	**86**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	107	2.7	28
Benzoic acid	N	60	1.5	7.3
Benzaldehyde**	U	28	0.7	2.9
Acetic acid	U	24	0.6	1.4
Acetophenone**	U	18	0.4	2.1
alpha-Pinene	U	11	0.3	1.4
Butane, 2-methyl-	U	9	0.2	0.6
Benzenecarbothioic acid	N	9	0.2	1.2
Phenol	U	9	0.2	0.8
Nonanal**	N	7	0.2	1.0
Phenylmaleic anhydride	U	6	0.1	1.0

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LABORATORY ANALYSIS REPORT

	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Benzene	U	6	0.1	0.4
Toluene	U	<5	<0.1	<0.5
Dibutyl phthalate	U	<5	<0.1	<1.4
1-Hexanol, 2-ethyl-	U	<5	<0.1	<0.6
3-Carene	U	<5	<0.1	<0.7
m/p-Xylene	U	<5	<0.1	<0.5
Oxime-, methoxy-phenyl-_	N	<5	<0.1	<0.7
1-Butanol	U	<5	<0.1	<0.4
Heptane, 2,2,4,6,6-pentamethyl-	N	<5	<0.1	<0.8

Tube Number	**003233**
Gradko Lab Reference	**04N0798**
Exposure Time(mins)	**20175**
Sample ID	**111**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
2,6-Diphenyl-p-benzoquinone	N	49	1.2	13
Benzoic acid	N	45	1.1	5.4
Benzaldehyde**	U	27	0.7	2.8
Acetic acid	U	24	0.6	1.4
Acetophenone**	U	15	0.4	1.8
Nonanal**	N	11	0.3	1.5
Phenol	U	8	0.2	0.7
Benzenecarbothioic acid	N	5	0.1	0.7
Decanal**	N	<5	<0.1	<0.8
Oxime-, methoxy-phenyl-_	N	<5	<0.1	<0.7
Benzene	U	<5	<0.1	<0.4
Octanal**	U	<5	<0.1	<0.6
Phenylmaleic anhydride	U	<5	<0.1	<0.9
Toluene	U	<5	<0.1	<0.5
1-Hexanol, 2-ethyl-	U	<5	<0.1	<0.6
Hexanal**	N	<5	<0.1	<0.5
Formamide, N,N-dimethyl-	N	<5	<0.1	<0.4
Benzothiazole	N	<5	<0.1	<0.7
o-Xylene	U	<5	<0.1	<0.5
m/p-Xylene	U	<5	<0.1	<0.5

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LABORATORY ANALYSIS REPORT

Tube Number	**001675**
Gradko Lab Reference	**04N0799**
Exposure Time(mins)	**20170**
Sample ID	**104**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
alpha-Pinene	U	80	2.0	11
2,6-Diphenyl-p-benzoquinone	N	57	1.4	15
Benzoic acid	N	48	1.2	5.8
Benzaldehyde**	U	23	0.6	2.5
3-Carene	U	23	0.6	3.1
Acetic acid	U	23	0.6	1.4
Acetophenone**	U	18	0.4	2.2
Octanoic acid	N	15	0.4	2.1
m/p-Xylene	U	12	0.3	1.3
Toluene	U	11	0.3	1.0
Butane, 2-methyl-	U	10	0.2	0.7
Nonanal**	N	8	0.2	1.2
Phenol	U	7	0.2	0.7
beta-Pinene	N	7	0.2	0.9
o-Xylene	U	7	0.2	0.7
Benzenecarbothioic acid	N	6	0.2	0.9
Phenylmaleic anhydride	U	5	0.1	0.9
Ethylbenzene	U	<5	<0.1	<0.5
Benzene	U	<5	<0.1	<0.4
Pentane, 3-methyl-	U	<5	<0.1	<0.4

Tube Number	**003381**
Gradko Lab Reference	**04N0800**
Exposure Time(mins)	**20150**
Sample ID	**89**

Top 20 VOC	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Benzoic acid	N	57	1.4	6.9
2,6-Diphenyl-p-benzoquinone	N	29	0.7	7.4
Benzaldehyde**	U	22	0.6	2.4
Acetophenone**	U	19	0.5	2.3
Acetic acid	U	17	0.4	1.0
Nonanal**	N	12	0.3	1.6
Benzenecarbothioic acid	N	8	0.2	1.1
Oxime-, methoxy-phenyl-_	N	8	0.2	1.1
Phenol	U	7	0.2	0.7
Decanal**	N	<5	<0.1	<0.8
Hexanoic acid, 3,5,5-trimethyl-	N	<5	<0.1	<0.8

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LABORATORY ANALYSIS REPORT

	Accreditation Status	Estimated ng on tube	ppb in air*	µgm^{-3}*
Octanal**	U	<5	<0.1	<0.6
1-Hexanol, 2-ethyl-	U	<5	<0.1	<0.6
Phenylmaleic anhydride	U	<5	<0.1	<0.9
Benzene	U	<5	<0.1	<0.4
Toluene	U	<5	<0.1	<0.5
m/p-Xylene	U	<5	<0.1	<0.5
Hexanal**	N	<5	<0.1	<0.5
Benzothiazole	N	<5	<0.1	<0.7
Phthalic anhydride	N	<5	<0.1	<0.7

Tube Number	**003295**
Gradko Lab Reference	**04N0801**
Sample ID	**0 (Control)**

Top 20 VOC	Accreditation Status	Estimated ng on tube
Cyclopentane	N	22
Butane, 2-methyl-	U	15
Toluene	U	10
Pentane	U	8
Benzaldehyde**	U	6
1-Pentene, 2-methyl-	N	6
Pentane, 3-methyl-	U	5
Nonanal**	N	<5
Hexane	U	<5
Benzoic acid	N	<5
Hexanal**	N	<5
Decanal**	N	<5
Cyclopentane, methyl-	N	<5
Phenol	U	<5
Acetophenone**	U	<5
1-Hexanol, 2-ethyl-	U	<5
Benzyl alcohol	N	<5
Octanal**	U	<5
m/p-Xylene	U	<5
1,3,5-Trifluorobenzene	N	<5

Results are not Blank corrected.

Estimated results as ng on tube are calculated by reference to toluene in accordance with ISO 16000-6

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LABORATORY ANALYSIS REPORT

2,6-Diphenyl-p-benzoquinone is not present in mass spectrum libraries. It has been tentatively identified by comparison of the mass spectrum and retention times of the standard 2,5-Diphenyl-p-benzoquinone.

2,6-Diphenyl-p-benzoquinone may be an artifact due to degradation of Tenax by nitrogen dioxide.

Results reported as <5ng on tube are below the reporting limit.
Reporting limit for non BTEX compounds are derived from the non-specific standard Toluene.

****Compounds may be an artifact due to reaction of ozone with the Tenax sorbent.**
Acetic Acid may be an artifact due to the breakdown of Tenax sorbent.

UPTAKE RATES

All Compounds 2.00ng.ppm^{-1}.min^{-1}

Analysts Name	**Katya Paldamova**	**Date of Analysis**	**20/08/2019**
Report Checked By	**Mariella Angelova**	**Date of Report**	**28/08/2019**

Analysis has been carried out in accordance with in-house method GLM 13

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