



ADVANCED CHEMICAL SENSORS, INC.

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Passive Monitoring to Measure VOC's in Workplace and Indoor Air

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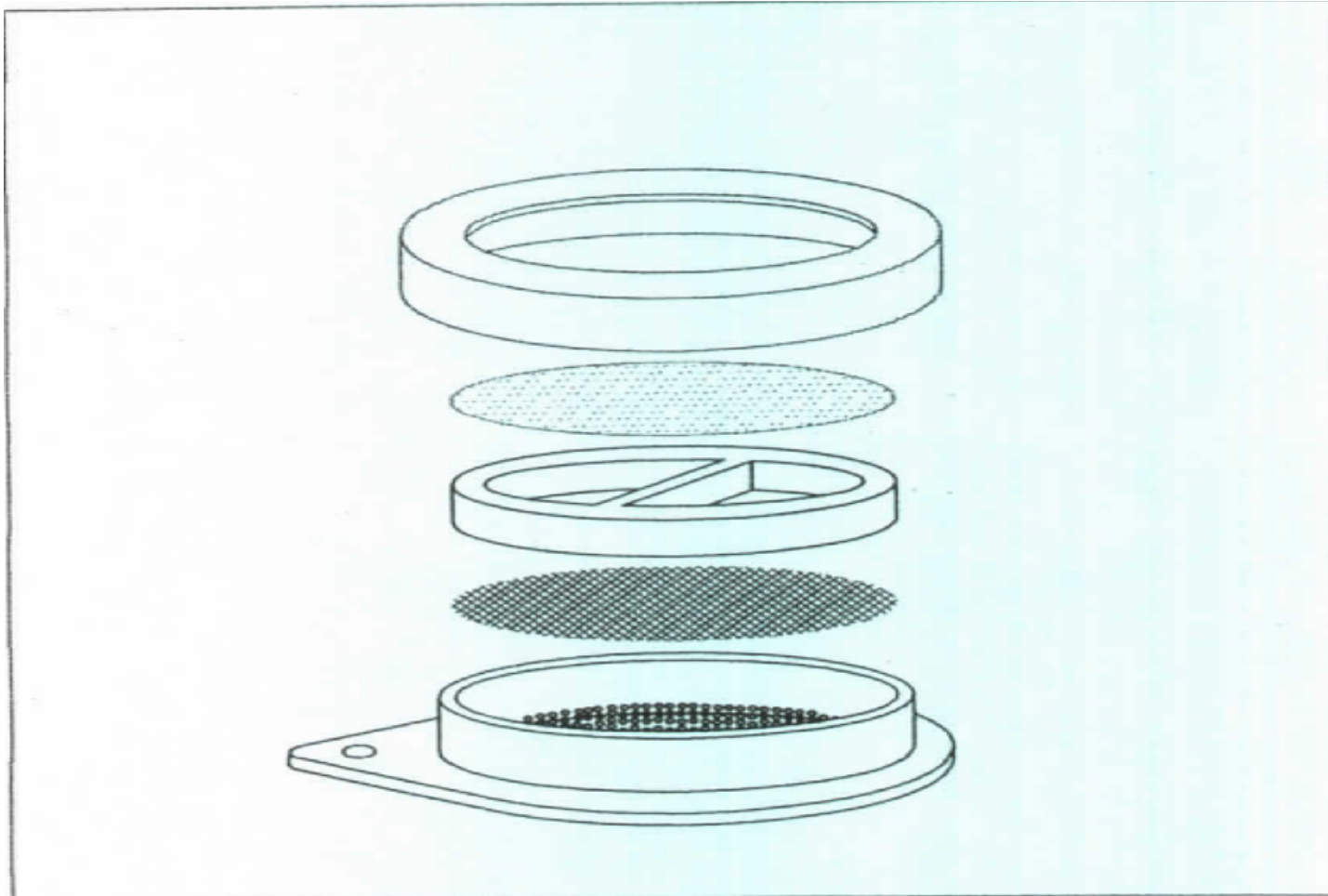


Figure 1

Table 1.

Reporting Limits – 24 Hours Basis

Chemical Name	Concentration	
	ppb	µg/m ³
Benzene	8.	24.
Ethyl Benzene	16.	69.
Toluene	16.	60.
Xylene	16.	70.
Methylene Chloride	32.	111.
Styrene	50.	212.
p-Dichlorobenzene	16.	96.

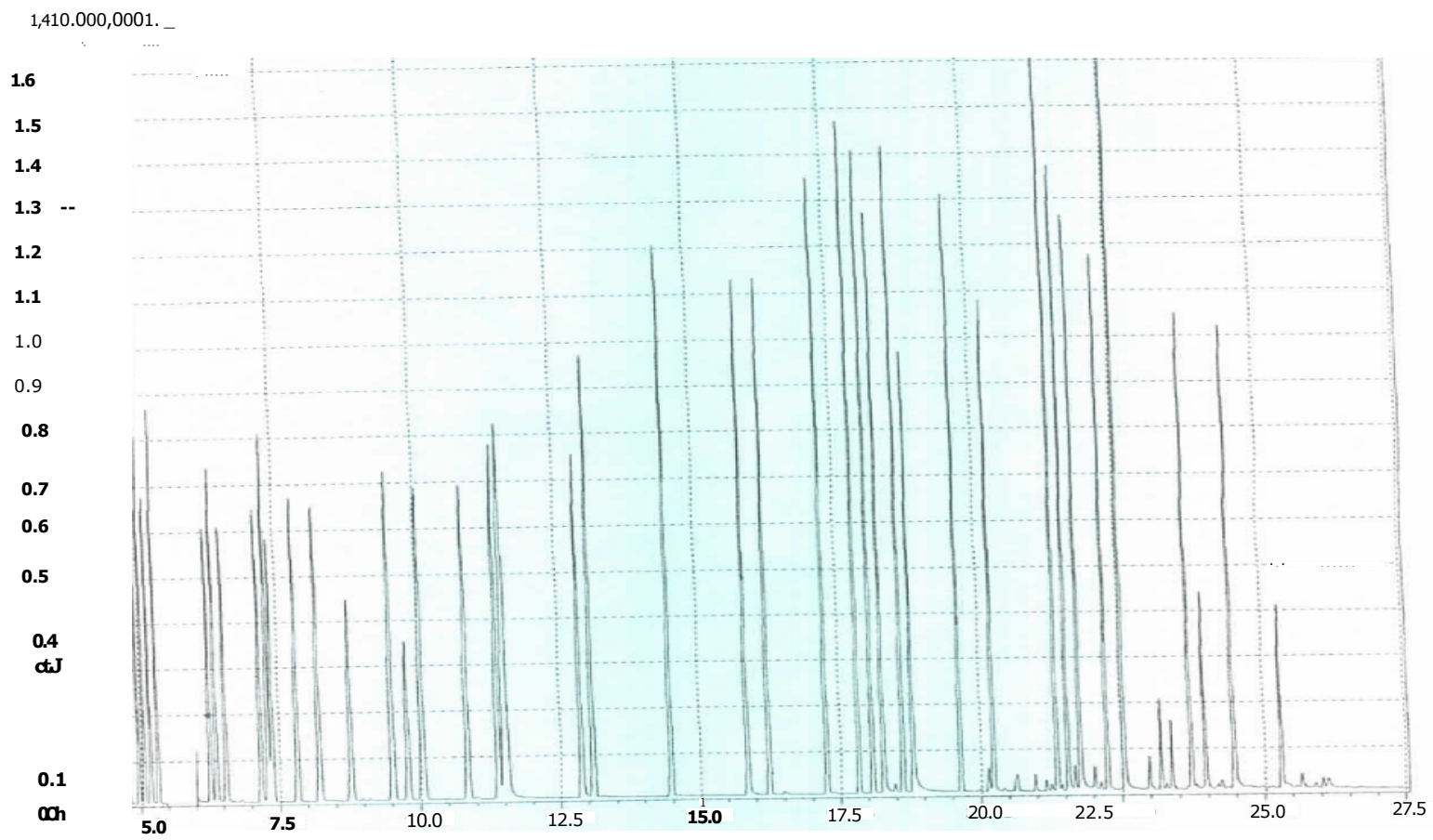


Figure 2

ID#	Name	R.Time	m/z
3	Methyl Alcohol	3.82	31.00
4	Isobutane	3.85	43.00
6	2-Methyl-1-propene	3.99	41.00
11	ethyl alcohol	4.28	31.00
12	Acetonitrile	4.47	41.00
14	acetone	4.64	43.00
16	ipa	4.74	45.00
17	Propylene Oxide	4.76	28.00
19	Acrylonitrile	4.94	53.00
20	ethyl ether	5.04	31.00
22	pentane	5.04	43.00
23	Ethyl formate(areginal)	5.04	31.00
27	2-Methyl-2-Propanol	5.16	59.00
32	6(Pentene(z)	5.35	55.00
33	mecl2	5.30	49.00
34	7(2-Methyl-2-Butene)	5.35	55.00
38	methyl t-butyl ether	6.24	73.00
39	diacetyl	6.24	43.00
40	Vinyl Acetate	6.24	43.00
41	Cyclopentane	6.35	42.00
43	mek	6.53	43.00
46	3-Methylpentane	6.80	57.00
48	ethyl acetate	7.16	43.00
50	hexane	7.29	57.00
51	chloroform	7.37	83.00
54	n-Propyl Bromide	7.81	43.00
56	2-Methyl-2-Butanol	8.20	59.00
58	Methylcyclopentane	8.42	56.00
59	111Trichloroethane	8.76	97.00
60	1-Butyl Alcohol	9.09	56.00
62	Benzene	9.51	78.00
66	Carbon Tetrachloride	9.78	117.00
68	cyclohexane	10.04	56.00
74	Cyclohexene	10.84	67.00
76	Ethyl Acrylate	10.84	55.00
78	Di-n-propyl ether	10.97	43.00
81	Trichloroethylene	11.37	130.00
84	Isooctane	11.49	57.00
86	Ethyl propanoate	11.53	29.00
87	Cellosolve	11.54	31.00
95	MIBK	12.86	43.00

ID#	Name	R.Time	m/z
97	Methylcyclohexane	13.07	83.00
104	Toluene	14.47	91.00
111	Urethane	15.85	31.00
113	Butyl Acetate	15.85	43.00
115	Perchloroethylene	16.23	166.00
123	Chlorobenzene	17.25	112.00
128	Ethyl Benzene	17.82	91.00
131	M-Xylene	18.07	91.00
132	Cyclohexanol	18.26	57.00
133	Cyclohexanone	18.26	55.00
134	2-Heptanone	18.26	43.00
137	2-Ethoxyethyl acetate	18.46	43.00
138	Styrene	18.60	104.00
140	O-Xylene	18.77	91.00
141	Butyl Cellosolve	18.79	57.00
145	cumene	19.64	105.00
147	alpha-Pinene	20.22	93.00
150	camphene	20.61	93.00
152	1,2,3-Trimethylbenzene	20.73	105.00
154	Methyl Styrene	20.96	117.00
156	beta-Pinene	21.25	93.00
157	Dipropyle Glycol Methyl Ether	21.35	59.00
158	1,2,4Trimethyl Benzene	21.35	105.00
161	Benzyl Chloride	21.54	91.00
166	Benzyl Alcohol	21.77	79.00
168	m-Cymene	22.02	119.00
170	D-Limonene	22.25	68.00
172	o-Cymene	22.32	119.00
173	Acetophenone	22.54	105.00
177	1,3-Divinylbenzene	23.70	130.00
179	Divinylbenzene	23.95	130.00
181	Camphor	24.45	95.00
185	Naphthalene	25.29	128.00

Table II

Table III-A Delivery Room

Quantitative Results Table		
Name	PPB	ug/m3
Isobutane	0.68	1.62
Butane	1.51	3.62
Ethyl Alcohol	4.82	9.07
Acetone	1.89	4.52
2-Methylbutane	1.42	4.19
Methyl Ethyl Ketone	0.63	1.85
	total	24.87

Table VIII-B GI Room

Quantitative Results Table		
Name	PPB	ug/m3
Eth I Alcohol	49.50	93.06
Acetone	35.75	85.80
Isopropyl Alcohol	29,919.17	73,601.17
2-Methyl-2-Propanol	9.74	29.23
Toluene	20.82	78.08
	total	73,887.34

Table IV-A Methylene Chloride Distillation

Quantitative Results Table		
Name	PPB	uglm3
Isobutane	14 60	35.04
Butane	42 97	103.14
Ethyl Alcohol	33 80	63.55
Acetone	62 65	150.37
2-Methylbutane	31.51	92.96
Pentane	13 72	40.47
Methylene Chloride	2,103.10	7,318.79
2-Methylpentane	8.13	28.69
Methyl Ethyl Ketone	6.31	18.61
3-Methylpentane	6 75	30.59
Hexane	53 36	192 10
Toluene	14 15	53.06
Xylene	6.08	26.37
	total	8,153.74

Table IV-B Methylene Chloride Pumping

Quantitative Results Table		
Name	PPB	ug/m3
Methyl alcohol	1,668.34	2,168 84
Ethyl Alcohol	824.81	1,550.64
Isopropyl Alcohol	541.57	1,332.27
Methylene Chloride	359,688.47	1,251,715.87
1,2-Epoxybutane	1,941.31	5,746.29
Hexane	750 85	2,703.05
	total	1,265,216.96

Table V Ink Production

Quantitative Results Table		
Name	PPB	ug/m3
Isobutane	28.87	69.29
Ethyl Alcohol	1,262.47	2,373.44
Acetone	92.72	222.53
Isopropyl Alcohol	17,332.57	42,638.13
Diacetyl	99.00	346.49
Methyl Ethyl Ketone	38,049.68	112,246.55
Ethyl Acetate	14,137.41	49,480.95
1-Methoxy-2-Propanol	132.27	496.01
Cyclohexane	92.52	323.81
Acetoin	605.51	2,179.83
n-Propyl Acetate	22,676.68	99,777.40
MIBK	2,350.64	9,637.64
Toluene	515.34	1,932.51
	total	321,724.57

Table VI-A Adjacent to Paint Booth

Quantitative Results Table		
Name	PPB	ug/m3
Isobutane	17.27	41.44
Butane	17.17	41.22
Ethyl Alcohol	70.22	132.02
Acetone	46.30	111.12
Isopropyl Alcohol	3,652.90	8,986.13
Ethyl Acetate	9.51	33.29
Tetrahydrofuran	15.33	45.22
1-Methoxy-2-Propanol	8.23	30.85
Hexamethyldisiloxane	1,789.41	9,609.13
Toluene	679.27	2,547.26
Ethylbenzene	15.42	66.93
Xylene	69.52	301.73
1,2,4-Trimethylbenzene	6.86	34.30
D-Limonene	12.11	67.60
	total	22,048.23

Table IV-B Office Area

Quantitative Results Table		
Name	PPB	ug/m3
Isobutane	9.91	23.78
Butane	8.79	21.10
Ethyl Alcohol	55.33	104.02
Acetone	69.89	167.74
Isopropyl Alcohol	3,224.40	7,932.01
2-Methyl-2-Propanol	10.57	31.71
Methyl Ethyl Ketone	25.05	73.91
Ethyl Acetate	9.24	32.34
1-Butyl alcohol	57.97	173.90
1-methoxy-2-Propanol	10.02	37.56
Hexamethyldisiloxane	1,542.94	8,285.57
Toluene	10,725.39	40,220.20
Ethylbenzene	151.35	656.85
Xylene	722.86	3,137.22
1,2,4-Trimethylbenzene	6.09	30.45
	total	60,928.37

Table VII Auto Paint Spray

Quantitative Results Table		
Name	PPB	ug/m 3
Methyl alcohol	7,555,707.35	9,822,419.56
Methyl formate	42,981.67	105,734.91
Ethyl Alcohol	35,137 54	66,058.58
Acetone	75,645,240.60	181,548,577.45.
Methyl Acetate	102,378.40	307,135.19
Cyclopentane	10,694.07	31,012.82
Ethyl Acetate	169,246.16	592,361.56
Toluene	7,548,134.75	28,305,506.32
Diacetone alcohol	55,525 72	266,523.46
Ethylbenzene	10,944 66	47,499.83
Xylene	47,234 12	204,996.10
	total	221,297,824.78

Table VIII - A Outdoor Air

Quantitative Results Table		
Name	PPB	ug/m3
Butane	1.02	2.44
Acetone	1.37	3.29
Toluene	0.84	3.15
	total	8.89

Table VIII-B School Room

Quantitative Results Table		
Name	PPB	ug/m3
Isobutane	2.30	5.53
Butane	0.96	2.30
Ethyl Alcohol	20.56	38.64
Acetone	4.46	10.71
Isopropyl Alcohol	5.06	12.46
Toluene	0.78	2.92
D-Limonene	10.98	61.27
	total	133.83

Table IX Residential Bathroom

Quantitative Results Table		
Name	PPB	ug/m3
Isobutane	46.38	111.31
Butane	74.86	179.67
Ethyl Alcohol	220.17	413.91
Acetone	357.14	857.13
2-Methylbutane	7.51	22.16
Pentane	1.46	4.32
Ethyl Acetate	6.61	23.14
Chloroform	7.07	34.64
Benzene	1.48	5.34
Toluene	4.73	17.75
Butyl Acetate	4.22	20.03
Xylene	3.15	13.65
Alpha-Pinene	1.32	7.38
Cymene	3.79	20.82
D-Limonene	20.75	115.79
	total	1,847.04

Table X Residential Living Area

Quantitative Results Table		
Name	PPB	ug/m3
Isobutane	15.56	37.35
Butane	894.96	2,147.91
Ethyl Alcohol	71.1	133.67
2-Methylbutane	22.39	66.05
Isopropyl Alcohol	69.16	170.13
Pentane	13.98	41.24
2-Methylpentane	6.02	21.26
3-Methylpentane	2.97	13.46
Ethyl Acetate	2.56	8.97
Hexane	4.56	16.4
Chloroform	7.84	38.43
Methylcyclopentane	2.7	9.31
Toluene	7.39	27.73
Ethylbenzene	1.59	6.88
Xylene	6.35	27.57
Alpha-Pinene	3.09	17.22
Ethyltoluene	1.82	8.93
1,2,4-Trimethylbenzene	1.93	9.64
D-Limonene	4.12	22.99
2,2,4,4,6,8,8-Heptamethylnonane	2,419.00	16,689.00
	total	19,514.14