




FIELD SAMPLING TEST REPORT	
Customer Information	UL VERIFICATION SERVICES, INC. LST.FAI.HBDCResults@ul.com 3251 Old Lee Highway, Suite 100 Fairfax VA 22030 USA
HB Project Number	2011006NY_B14
Date Received	November 12, 2020
Testing Laboratory Location	UL Environment - Marietta, 2211 Newmarket Parkway, Marietta, GA 30067-9399 USA
Method	USEPA Compendium Method TO-17 ; ASTM 6196
Authorized by	 Allyson M. McFry Chemistry Laboratory Director
<p>Sampling: Reported data were obtained from samples and sampling information as provided by the on-site investigator. These data and general information are provided to assist the investigator in an overall IAQ assessment. Interpretation of data is left to the client or persons who conducted the field work.</p> <p>This test is accredited and meets the requirements of ISO/IEC 17025 as verified by ANSI National Accreditation Board. Refer to certificate and scope of accreditation AT-1297.</p> <p>This report shall not be reproduced, except in full, without permission from UL. Results contained within this report only apply to the actual product tested under the testing conditions documented in this report.</p>	

Date Issued: November 23, 2020
Product #: 1001079085-3459215
Report #: 1001079085-3459215
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UL ID:	SV1TFDF
Sample Date:	November 10, 2020
Volume (L):	18.0

CONCENTRATIONS OF TOTAL AND INDIVIDUAL VOLATILE ORGANIC COMPOUNDS

Sample Location/Description		B14_LR_Hall_Field Blank	
Total Volatile Organic Compounds		BQL	
CAS Number	Compound	Concentration	
		µg/m³	ppb
109-67-1	1-Pentene	2.5	0.9

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UL ID:	SV1TFD
Sample Date:	November 10, 2020
Volume (L):	18.3

CONCENTRATIONS OF TOTAL AND INDIVIDUAL VOLATILE ORGANIC COMPOUNDS

Sample Location/Description		B14_LR_Hall_Pre	
Total Volatile Organic Compounds		324 µg/m³	
CAS Number	Compound	Concentration	
		µg/m³	ppb
25265-77-4	2,2,4-Trimethyl-1,3-pentanediol monoisobutyrate	155	17.5
66-25-1	Hexanal	16.8	4.1
80-56-8	Pinene, alpha (2,6,6-Trimethyl-bicyclo[3.1.1]hept-2-ene)	13.8	2.5
91-20-3	Naphthalene	12.8	2.4
64-19-7	Acetic acid	12.4	5.0
5989-27-5	D-Limonene*	7.9	1.4
18172-67-3	Bicyclo[3.1.1]heptane, 6,6-dimethyl-2-methylene-, (1S)-*	7.8	1.4
98-01-1	Furfural (2-Furaldehyde)	6.9	1.8
111-76-2	Ethanol, 2-butoxy	5.9	1.2
112-41-4	1-Dodecene	5.2	0.8
104-76-7	1-Hexanol, 2-ethyl	5.2	1.0
142-62-1	Hexanoic acid	4.9	1.0
124-19-6	Nonyl aldehyde (Nonanal)	4.7	0.8
144-19-4	1,3-Pentanediol, 2,2,4-trimethyl	4.5	0.8
124-13-0	Octanal	4.4	0.8
108-95-2	Phenol	4.2	1.1
541-02-6	Cyclopentasiloxane, decamethyl	4.1	0.3
110-43-0	2-Heptanone	3.9	0.8
142-96-1	n-Butyl ether	3.6	0.7
71-36-3	1-Butanol (N-Butyl alcohol)	3.6	1.2
100-42-5	Styrene	3.5	0.8
108-88-3	Toluene (Methylbenzene)	3.5	0.9
71-41-0	1-Pentanol (N-Pentyl alcohol)	3.4	0.9
110-62-3	Pentanal	3.2	0.9
98-86-2	Acetophenone (Ethanone, 1-phenyl)*	3.0	0.6
140-67-0	Estragole (4-Allylanisole)	2.7	0.5
112-53-8	1-Dodecanol*	2.6	0.3
123-86-4	Acetate, butyl	2.6	0.5
100-52-7	Benzaldehyde	2.5	0.6
629-50-5	Tridecane	2.5	0.3
57-55-6	1,2-Propanediol (Propylene glycol)	2.4	0.8
15986-80-8	2-Methyl-3-propylpyrazine*	2.4	0.4
208-96-8	Acenaphthylene*	2.2	0.4
91-57-6	Naphthalene, 2-methyl	2.2	0.4

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CAS Number	Compound	Concentration	
		µg/m³	ppb
1000099-98-7	1-Ethylpropyl 2-ethylhexanoate*	2.1	0.2
92-52-4	1,1'-Biphenyl*	2.1	0.3
99172-18-6	3,5-Heptadienal, 2-ethylidene-6-methyl-*	2.0	0.3
115948-98-6	2,2-Dimethyl-3-vinyl-bicyclo[2.2.1]heptane*	2.0	0.3
112-40-3	Dodecane	2.0	0.3

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UL ID:	SV2TFD
Sample Date:	November 11, 2020
Volume (L):	20.4

CONCENTRATIONS OF TOTAL AND INDIVIDUAL VOLATILE ORGANIC COMPOUNDS

Sample Location/Description		B14_LR_Hall_Post	
Total Volatile Organic Compounds		14.2 µg/m³	
CAS Number	Compound	Concentration	
		µg/m³	ppb
25265-77-4	2,2,4-Trimethyl-1,3-pentanediol monoisobutyrate	5.1	0.6
64-19-7	Acetic acid	4.8	2.0
91-20-3	Naphthalene	3.9	0.7
71-43-2	Benzene	3.1	1.0
108-95-2	Phenol	2.0	0.5

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UL ID:	SV3TFD
Sample Date:	November 11, 2020
Volume (L):	21.8

CONCENTRATIONS OF TOTAL AND INDIVIDUAL VOLATILE ORGANIC COMPOUNDS

Sample Location/Description		B14_Kitchen_HZA	
Total Volatile Organic Compounds		3,260 µg/m³	
CAS Number	Compound	Concentration	
		µg/m³	ppb
631-61-8	Ammonium acetate*	197	62.6
64-19-7	Acetic acid	146	59.6
25265-77-4	2,2,4-Trimethyl-1,3-pentanediol monoisobutyrate	135	15.3
71-43-2	Benzene	126	39.4
91-20-3	Naphthalene	118	22.4
98-01-1	Furfural (2-Furaldehyde)	65.7	16.7
108-95-2	Phenol	58.6	15.2
102-76-1	1,2,3-Propanetriol, triacetate (Triacetin)*	56.2	6.3
208-96-8	Acenaphthylene*	55.9	9.0
90-05-1	Phenol, 2-methoxy*	50.9	10.0
93-51-6	Phenol, 2-methoxy-4-methyl*	47.6	8.4
100-42-5	Styrene	47.3	11.1
104-76-7	1-Hexanol, 2-ethyl	46.8	8.8
120-92-3	Cyclopentanone	45.3	13.2
92-52-4	1,1'-Biphenyl*	44.8	7.1
7473-98-5	2-Hydroxy-iso-butyrophenone*	44.7	6.6
106-44-5	Phenol, 4-methyl (p-Cresol)*	40.7	9.2
142-62-1	Hexanoic acid	40.7	8.6
100-52-7	Benzaldehyde	40.6	9.4
540-97-6	Cyclohexasiloxane, dodecamethyl	39.9	2.2
5932-68-3	trans-Isoeugenol*	35.8	5.3
18202-23-8	8,11-Octadecadiynoic acid, methyl ester*	35.8	3.0
34860-03-2	2-Pentanol, 3-methyl-, 2-acetate*	32.6	5.5
108-88-3	Toluene (Methylbenzene)	32.6	8.6
91-57-6	Naphthalene, 2-methyl	31.4	5.4
66-25-1	Hexanal	31.1	7.6
95-13-6	Indene*	29.6	6.2
98-00-0	2-Furanmethanol*	29.5	7.4
3008-40-0	1,2-Cyclopentanedione*	29.4	7.3
95-48-7	Phenol, 2-methyl*	29.4	6.6
765-70-8	1,2-Cyclopentanedione, 3-methyl*	29.1	6.3
91-10-1	Phenol, 2,6-dimethoxy*	28.5	4.5
80-56-8	Pinene, alpha (2,6,6-Trimethyl-bicyclo[3.1.1]hept-2-ene)	28.5	5.1
2785-89-9	Phenol, 4-ethyl-2-methoxy*	28.3	4.5
621-58-9	Phenol, 5-ethenyl-2-methoxy-*	27.7	4.5

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CAS Number	Compound	Concentration	
		µg/m³	ppb
123-31-9	1,4-Benzenediol (Hydroquinone)*	27.5	6.1
541-02-6	Cyclopentasiloxane, decamethyl	27.5	1.8
80-62-6	Methyl methacrylate (2-Propenoic acid, 2-methyl-, methyl ester)	27.1	6.6
130876-99-2	5,8-Decadien-2-one, 5,9-dimethyl-, (E)-*	27.0	3.7
159087-74-8	1,4-Dihydrothujopsene-(11)*	26.1	3.1
1000293-33-2	m-Toluic acid, 2-ethylcyclohexyl ester*	26.0	2.6
600-22-6	Propanoic acid, 2-oxo-, methyl ester*	25.1	6.0
1330-20-7	Xylenes (Total)	24.7	5.7
86-73-7	2,2-Metaylenebiphenyl (Fluorene)*	24.6	3.6
6638-05-7	3,5-Dimethoxy-4-hydroxytoluene*	24.0	3.5
13651-14-4	Benzyl alcohol, 2,3-dimethyl-*	23.8	4.3
1000253-25-5	Hexanediamide, N,N'-di-benzoyloxy-*	23.6	1.5
1000210-02-4	3-Phenylhex-5-en-3-ol*	23.4	3.2
592-20-1	2-Propanone, 1-(acetyloxy)-*	22.8	4.8
105-67-9	Phenol, 2,4-dimethyl	22.8	4.6
100-47-0	Benzonitrile	22.2	5.3
25551-13-7	Trimethylbenzene (All Isomers)	22.2	4.5
1000391-91-5	Glutaric acid, 3-methylbut-2-en-1-yl 2-isopropylphenyl ester*	22.0	1.7
2936-08-5	2,2-di-n-Propylacetyl chloride*	22.0	3.3
541-05-9	Cyclotrisiloxane, hexamethyl	22.0	2.4
1000373-16-5	1-Piperidin-1-ylpropan-2-yl acetate*	21.5	2.8
51193-03-4	Fragranyl isovaalerate*	20.9	2.1
3524-87-6	4(1H)-Pyrimidinone, 6-methyl-*	20.5	4.6
620-02-0	2-Furancarboxaldehyde, 5-methyl*	20.3	4.5
1000309-61-4	Oxalic acid, 4-chlorophenyl nonyl ester*	19.9	1.5
107-50-6	Cycloheptasiloxane, tetradecamethyl-*	19.8	0.9
111-76-2	Ethanol, 2-butoxy	19.7	4.1
50551-88-7	5-Hexen-2-ol, 5-methyl-*	19.2	4.1
85-01-8	Phenanthrene*	19.0	2.6
1515-72-6	N-n-Butylphthalimide*	18.6	2.2
1204-76-8	[2.4.5-Tris(hydroxymethyl)phenyl]methanol*	18.4	2.3
2425-77-6	1-Decanol, 2-hexyl*	18.2	1.8
132-64-9	Dibenzofuran*	17.7	2.6
2503-46-0	2-Propanone, 1-(4-hydroxy-3-methoxyphenyl)-*	17.4	2.4
5077-67-8	1-Hydroxy-2-butanone*	17.2	4.8
28072-48-2	4-Amino-1-.beta.-d-ribofuranosylpyrazolo[3,4-d]pyrimidine 5'-phosphate*	16.8	1.2
827-54-3	Naphthalene, 2-vinyl	16.7	2.7
534-22-5	Furan, 2-methyl-*	16.5	4.9
7476-81-5	Butanoic acid, 4-chlorophenyl ester*	16.5	2.0
563-80-4	2-Butanone, 3-methyl*	16.3	4.6
1072-52-2	1-Aziridineethanol*	15.5	4.4
930-27-8	Furan, 3-methyl*	15.5	4.6
126-86-3	2,4,7,9-Tetramethyl-5-decyn-4,7-diol*	15.5	1.7

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CAS Number	Compound	Concentration	
		µg/m³	ppb
96-33-3	2-Propenoic acid, methyl ester*	15.3	4.3
111-14-8	Heptanoic acid*	14.9	2.8
1000452-86-9	Phenylalanine, DL, .alpha.-methyl-, n-butyl ester*	14.3	1.5
6124-79-4	4-Methyl-5H-furan-2-one*	14.2	3.5
98-86-2	Acetophenone (Ethanone, 1-phenyl)*	14.1	2.9
1000369-65-4	Diethylmalonic acid, pentyl 3-phenylpropyl ester*	14.0	1.0
110-86-1	Pyridine	13.8	4.3
100-41-4	Benzene, ethyl	13.7	3.2
5444-75-7	Benzoic acid, 2-ethylhexyl ester*	13.7	1.4
119-61-9	Benzophenone (Diphenyl methanone)	13.5	1.8
497-39-2	4,6-di-tert-Butyl-m-cresol*	13.1	1.5
3126-95-2	Oxirane, (propoxymethyl)-*	13.0	2.7
1121-05-7	2-Cyclopenten-1-one, 2,3-dimethyl-*	13.0	2.9
571-58-4	Naphthalene, 1,4-dimethyl	12.8	2.0
3544-25-0	4-Aminobenzyl cyanide*	12.7	2.4
544-76-3	Hexadecane (Cetane)	12.7	1.4
1000314-85-9	Phthalimide, N-isopropyl-*	12.6	1.6
110-93-0	5-Hepten-2-one, 6-methyl	12.5	2.4
613-46-7	2-Naphthalenecarbonitrile*	11.8	1.9
22004-32-6	2,5-Dimethoxy-4-ethylamphetamine*	10.9	1.2
6846-50-0	TXIB (2,2,4-Trimethyl-1,3-pentanediol diisobutyrate)	10.7	0.9
79-09-4	Propanoic acid	9.8	3.2
78-93-3	2-Butanone (Methyl ethyl ketone, MEK)	9.6	3.3
1120-73-6	2-Cyclopenten-1-one, 2-methyl*	9.4	2.4
105-38-4	Propanoic acid, ethenyl ester*	9.2	2.2
2235-15-6	1(2H)-Acenaphthylenone*	9.1	1.3
1689-77-6	Thiophene, 2,5-bis(1,1-dimethylethyl)-*	9.0	1.1
116-09-6	2-Propanone, 1-hydroxy	8.7	2.9
108-68-9	Phenol, 3,5-dimethyl-*	8.6	1.7
6627-88-9	Phenol, 2,6-dimethoxy-4-(2-propenyl)-*	8.5	1.1
67-64-1	Acetone	8.4	3.5
3363-56-2	2,5,6-Trimethylbenzimidazole*	7.9	1.2
20017-67-8	Benzenepropanol, .gamma.-phenyl-*	7.8	0.9
4593-89-9	Acetamide, N-(3,4,5-trimethoxyphenethyl)-*	7.7	0.7
556-68-3	Cyclooctasiloxane, hexadecamethyl-*	7.6	0.3
17496-18-3	1H-Inden-1-ol, 2,3-dihydro-2-methyl-*	7.1	3.6
646-06-0	1,3-Dioxolane	7.1	2.3
19551-78-1	Benzene, 1,4-diethoxy-2-methoxy*	7.1	0.9
3777-69-3	Furan, 2-pentyl	7.1	1.2
68-12-2	Formamide, N,N-dimethyl*	6.8	2.3
10031-87-5	Acetic acid, 2-ethylbutyl ester*	6.8	1.2
629-78-7	Heptadecane	6.5	0.7
24524-56-9	Ether, tert-butyl isopropylidenecyclopropyl*	6.4	1.0
581-40-8	Naphthalene, 2,3-dimethyl*	6.4	1.0
1821-02-9	2-Oxo-n-valeric acid*	6.3	1.3

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CAS Number	Compound	Concentration	
		µg/m³	ppb
109-08-0	Pyrazine, methyl*	6.3	1.6
20628-06-2	4,5-Dimethoxy-2-hydroxyacetophenone*	6.3	0.8
51437-25-3	Cyclohexene 3-(tert-butyl)peroxide*	6.2	0.9
14035-34-8	2,6-Bis(1,1-dimethylethyl)-4-(1-oxopropyl)phenol*	6.1	0.6
1000356-95-4	Phthalic acid, hex-3-yl isobutyl ester*	6.1	0.5
7446-09-5	Sulfur dioxide	6.0	2.3
638-49-3	Formic acid, pentyl ester*	5.9	1.2
486-25-9	9H-Fluoren-9-one*	5.7	0.8
109-67-1	1-Pentene	5.5	1.9
108-41-8	Benzene, 1-chloro-3-methyl-*	5.2	1.0
98-82-8	Benzene, 1-methylethyl (Cumene)	5.2	1.1
593-45-3	Octadecane	5.2	0.5
928-55-2	Ethyl-1-propenyl ether*	5.2	1.5
1070-66-2	2-n-Butylacrolein*	5.1	1.1
3147-62-4	3,5-Dihydroxybenzamide*	4.9	0.8
765-43-5	Ethanone, 1-cyclopropyl*	4.9	1.4
79-20-9	Acetate, methyl (Acetic acid, methyl ester)	4.8	1.6
7188-38-7	Propane, 2-isocyano-2-methyl-*	4.5	1.3
36960-22-2	1-Hydroxy-3-methyl-2-butanone*	4.4	1.1
108-90-7	Benzene, chloro	4.0	0.9
2040-96-2	Cyclopentane, propyl*	3.9	0.9
6995-79-5	1,4-Cyclohexanediol, trans-*	3.9	0.8
94-28-0	Hexanoic acid, 2-ethyl-, 1,2-ethanediylobis(oxy-2,1-ethanediyl) ester*	3.7	0.2
625-86-5	Furan, 2,5-dimethyl-*	3.6	0.9
57-10-3	Hexadecanoic acid*	3.6	0.3
42781-12-4	2-Propanone, 1-(1-methylethoxy)-*	3.4	0.7
143586-27-0	Cyclohexene, 3,3,5,5-tetramethyl-1-(trimethylsilyloxy)-*	3.3	0.4
290-37-9	Pyrazine	3.1	1.0
78-85-3	2-Propenal, 2-methyl	3.1	1.1
20314-74-3	di-n-Amylfumarate*	3.1	0.3
7719-02-0	Silane, dichloroethenylphenyl-*	3.0	0.4
3208-16-0	Furan, 2-ethyl	3.0	0.8
295-48-7	Cyclopentadecane*	2.7	0.3
123-73-9	2-Butenal, (E)-*	2.7	0.9

Individual compounds and TVOC (total volatile organic compounds) are calibrated relative to toluene.

Field Blanks: Reported concentrations based on 18.0 L of volume sampled for VOCs. Actual field blanks are not intended to have a measurable amount of air sampled.

†Denotes quantified using multipoint authentic standard curve. Other VOCs quantified relative to toluene.

Values below 2.0 µg/m³ are for information purposes only. Chemical was detected, but below the quantifiable level of 0.04 µg based on a standard of 18 L air collection volume.

UL Environment's quality assurance program monitors blank sorbent media to ensure that the residual background does not exceed UL Environment's quality objective of ≤ 36 ng of total VOC.

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Project # 2011006NY B14



1001079085 - 3459215

ACTIVE CHEMICAL SAMPLING CHAIN OF CUSTODY								
Company: ULVS (Healthy Buildings)			Contact: CARERESULTS@UL.COM			Project/P.O./Job Number: 2011006NY_B14		
Address: 3251 Old Lee Highway #100 Fairfax, VA 22030			Phone: 571.655.7919 Fax: 703.323.4440			Sample Date: 10-11Nov2020 Investigator: SAM.HORNER		
Please check the appropriate fields; Use separate COC for each sample method.	VOLATILE ORGANICS: IVOC SCAN: <u> </u> TOP 20 IVOC <u> </u> TVOC ONLY <u> </u> OTHER <u> </u> B.T.E.X.							
	ALDEHYDE SCAN: <u> </u> FORMALDEHYDE ONLY <u> </u>				ANALYSIS: LEED V4 <u> </u> LEED V4.1 <u> </u> OTHER <u> </u> B.T.E.X.			
	TAT: Standard <u> X </u> Next Day Rush* <u> </u> * Rush charges apply; please call in advance to confirm availability							
Comments:								
UL ID	SAMPLE ID/ TUBE ID	SAMPLE LOCATION/ DESCRIPTION	START TIME	STOP TIME	TIME SAMPLED (MIN)	PUMP ID #	FLOW RATE (L/MIN)	VOLUME (L)
101	2011006NY-14A/ s/n B26892	B14_LR_Hall_Pre	10Nov 09:47	10Nov 10:47	60	QT30-6	0.3055	18.3315
102	2011006NY-14B/ s/n B27054	B14_LR_Hall_Post	11Nov 11:49	11Nov 12:56	67	4257	0.3040	20.3690
103	2011006NY-14C/ s/n B26972	B14_Kitchen_HZA	11Nov 11:09	11Nov 11:44	35	5116	0.6218	21.7623
104	2011006NY-14D/ s/n B26172	B14_LR_Hall_Field Blank						n/a
					3459215			
Released By: SAM HORNER (Print/Sign)		Date/Time: 11Nov2020		Method of Shipment: UPS Next Da		Description 2011006NY_B14		
Received By: <i>[Signature]</i>		Date/Time: 11/12/20 10:20 AM		Sample Condition: Acceptable		Customer: UL Verification Services, Inc. Received Date: 2020-NOV-12 12:25:47 PM Aurora Project No.: 1001079085 Order No.: Oracle Project No.:		

3 of 4

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