

FIELD SAMPLING TEST REPORT		
Customer Information Customer Information		
HB Project Number	2010030NY_B11_D1	
Date Received	November 4, 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		

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.

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.

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Date Issued: Product #: Report #: ©2020 UL LLC

UL ID:	SV1TFD
Sample Date:	October 31, 2020
Volume (L):	18.3

Sample Location/Description	V11_D1_BR_04_AM
Total Volatile Organic Compounds	495 μg/m³

CAS			ntration
Number	Compound	μg/m³	ppb
100-42-5	Styrene	70.8	16.6
116-09-6	2-Propanone, 1-hydroxy	39.8	13.1
71-43-2	Benzene	35.7	11.2
91-20-3	Naphthalene	27.5	5.2
19549-87-2	1-Heptene, 2,4-dimethyl*	24.9	4.8
64-19-7	Acetic acid	21.9	8.9
80-62-6	Methyl methacrylate (2-Propenoic acid, 2-methyl-, methyl ester)	19.9	4.9
108-88-3	Toluene (Methylbenzene)	16.1	4.3
141-32-2	Butyl acrylate (2-Propenoic Acid, butyl ester)	12.3	2.3
98-01-1	Furfural (2-Furaldehyde)	11.5	2.9
541-02-6	Cyclopentasiloxane, decamethyl	11.2	0.7
98-83-9	a-Methylstyrene (iso-Propenylbenzene; (1- Methylethenyl)benzene)	9.5	2.0
120-92-3	Cyclopentanone	9.3	2.7
95-13-6	Indene*	9.2	1.9
1330-20-7	Xylenes (Total)	8.8	2.0
66-25-1	Hexanal	7.9	1.9
100-41-4	Benzene, ethyl	7.4	1.7
100-47-0	Benzonitrile	7.2	1.7
90-05-1	Phenol, 2-methoxy*	7.1	1.4
42781-12-4	2-Propanone, 1-(1-methylethoxy)-*	6.2	1.3
767-60-2	1H-Indene, 3-methyl*	6.1	1.1
271-89-6	Benzofuran*	6.0	1.2
108-95-2	Phenol	6.0	1.6
71-36-3	1-Butanol (N-Butyl alcohol)	5.8	1.9
100-52-7	Benzaldehyde	5.6	1.3
25265-77-4	2,2,4-Trimethyl-1,3-pentanediol monoisobutyrate	5.4	0.6
77-68-9	Propanoic acid, 2-methyl-, 3-hydroxy-2,2,4- trimethylpentyl ester (component of Texanol)	5.4	0.6
5989-27-5	D-Limonene*	5.3	1.0
4747-07-3	Hexane, 1-methoxy*	5.0	1.1
106-44-5	Phenol, 4-methyl (p-Cresol)*	5.0	1.1
565-69-5	3-Pentanone, 2-methyl*	4.2	1.0
1000191-08-0	1-Hydroxy-4,4-dimethylcyclohexanecarbonitrile*	4.1	0.7
95-48-7	Phenol, 2-methyl*	4.0	0.9
98-86-2	Acetophenone (Ethanone, 1-phenyl)*	4.0	0.8
620-02-0	2-Furancarboxaldehyde, 5-methyl*	3.9	0.9

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UL ID:	SV1TFD
Sample Date:	October 31, 2020
Volume (L):	18.3

CAS	Compound	Concentration	
Number	Compound	μg/m³	ppb
80-56-8	Pinene, alpha (2,6,6-Trimethyl-bicyclo[3.1.1]hept-2-ene)	3.8	0.7
98-56-6	Benzene, 1-chloro-4-(trifluoromethyl)-*	3.8	0.5
496-11-7	Indane	3.7	0.8
627-08-7	Propane, 1-(1-methylethoxy)*	3.5	0.8
123-86-4	Acetate, butyl	3.2	0.7
93-51-6	Phenol, 2-methoxy-4-methyl*	3.2	0.6
928-97-2	3-Hexen-1-ol, (E)*	3.1	0.8
1120-73-6	2-Cyclopenten-1-one, 2-methyl*	3.0	0.8
142-96-1	n-Butyl ether	3.0	0.6
111-76-2	Ethanol, 2-butoxy	2.9	0.6
1192-62-7	Ethanone, 1-(2-furanyl)*	2.9	0.6
769-78-8	Vinyl benzoate*	2.8	0.5
5077-67-8	1-Hydroxy-2-butanone*	2.8	0.8
95-65-8	Phenol, 3,4-dimethyl-*	2.6	0.5
112-41-4	1-Dodecene	2.6	0.4
4170-30-3	2-Butenal	2.6	0.9
15176-21-3	1,4-Dioxane, 2,5-dimethyl*	2.5	0.5
71-41-0	1-Pentanol (N-Pentyl alcohol)	2.5	0.7
25551-13-7	Trimethylbenzene (All Isomers)	2.5	0.5
300-57-2	Allylbenzene	2.3	0.5
208-96-8	Acenaphthylene*	2.3	0.4
91337-07-4	2-Isopropyl-5-methyl-1-heptanol*	2.3	0.3
4359-46-0	1,3-Dioxolane, 2-ethyl-4-methyl*	2.3	0.5
98-00-0	2-Furanmethanol*	2.3	0.6
3102-33-8	3-Penten-2-one, (E)-*	2.2	0.6
6975-92-4	1-Hexene, 2,5-dimethyl*	2.1	0.5
814-78-8	3-Buten-2-one, 3-methyl*	2.0	0.6
52829-98-8	Cyclopentanemethanol, .alphamethyl-*	2.0	0.4

UL ID:	SV2TFD
Sample Date:	October 31, 2020
Volume (L):	17.9

Sample Location/Description	B11_D1_BR_04_60_AM
Total Volatile Organic Compounds	425 μg/m³

CAS	Concentration		
Number	Compound	μg/m³	ppb
100-42-5	Styrene	78.0	18.3
71-43-2	Benzene	42.5	13.3
64-19-7	Acetic acid	30.7	12.5
116-09-6	2-Propanone, 1-hydroxy	22.4	7.4
19549-87-2	1-Heptene, 2,4-dimethyl*	22.3	4.3
91-20-3	Naphthalene	21.5	4.1
108-88-3	Toluene (Methylbenzene)	18.0	4.8
80-62-6	Methyl methacrylate (2-Propenoic acid, 2-methyl-, methyl ester)	17.7	4.3
541-02-6	Cyclopentasiloxane, decamethyl	16.6	1.1
141-32-2	Butyl acrylate (2-Propenoic Acid, butyl ester)	10.2	1.9
1330-20-7	Xylenes (Total)	9.0	2.1
100-41-4	Benzene, ethyl	8.5	2.0
95-13-6	Indene*	8.3	1.7
66-25-1	Hexanal	8.2	2.0
98-83-9	a-Methylstyrene (iso-Propenylbenzene; (1- Methylethenyl)benzene)	7.9	1.6
98-01-1	Furfural (2-Furaldehyde)	7.6	1.9
100-47-0	Benzonitrile	6.4	1.5
71-36-3	1-Butanol (N-Butyl alcohol)	5.1	1.7
120-92-3	Cyclopentanone	4.8	1.4
42781-12-4	2-Propanone, 1-(1-methylethoxy)-*	4.7	1.0
100-52-7	Benzaldehyde	4.7	1.1
767-60-2	1H-Indene, 3-methyl*	4.6	0.9
77-68-9	Propanoic acid, 2-methyl-, 3-hydroxy-2,2,4- trimethylpentyl ester (component of Texanol)	4.2	0.5
5989-27-5	D-Limonene*	4.1	0.7
565-69-5	3-Pentanone, 2-methyl*	4.0	1.0
25265-77-4	2,2,4-Trimethyl-1,3-pentanediol monoisobutyrate	4.0	0.4
271-89-6	Benzofuran*	4.0	0.8
98-56-6	Benzene, 1-chloro-4-(trifluoromethyl)-*	4.0	0.5
110-86-1	Pyridine	3.9	1.2
4747-07-3	Hexane, 1-methoxy*	3.7	0.8
111-76-2	Ethanol, 2-butoxy	3.6	0.8
90-05-1	Phenol, 2-methoxy*	3.5	0.7
1000191-08-0	1-Hydroxy-4,4-dimethylcyclohexanecarbonitrile*	3.5	0.6
627-08-7	Propane, 1-(1-methylethoxy)*	3.3	0.8
108-95-2	Phenol	3.3	0.8

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UL ID:	SV2TFD
Sample Date:	October 31, 2020
Volume (L):	17.9

CAS	Compound	Concentration	
Number	Compound	μg/m³	ppb
98-86-2	Acetophenone (Ethanone, 1-phenyl)*	3.2	0.7
142-96-1	n-Butyl ether	2.9	0.6
3102-33-8	3-Penten-2-one, (E)-*	2.9	0.8
80-56-8	Pinene, alpha (2,6,6-Trimethyl-bicyclo[3.1.1]hept-2-ene)	2.9	0.5
620-02-0	2-Furancarboxaldehyde, 5-methyl*	2.8	0.6
496-11-7	Indane	2.7	0.6
6144-93-0	2-Pentanol, 4,4-dimethyl	2.7	0.6
123-86-4	Acetate, butyl	2.6	0.6
91337-07-4	2-Isopropyl-5-methyl-1-heptanol*	2.4	0.3
1120-73-6	2-Cyclopenten-1-one, 2-methyl*	2.3	0.6
71-41-0	1-Pentanol (N-Pentyl alcohol)	2.2	0.6
25551-13-7	Trimethylbenzene (All Isomers)	2.2	0.4
1192-62-7	Ethanone, 1-(2-furanyl)*	2.1	0.5
4359-46-0	1,3-Dioxolane, 2-ethyl-4-methyl*	2.1	0.4
95-48-7	Phenol, 2-methyl*	2.1	0.5
769-78-8	Vinyl benzoate*	2.1	0.3
112-41-4	1-Dodecene	2.0	0.3
4170-30-3	2-Butenal	2.0	0.7

UL ID:	SV3TFD
Sample Date:	October 31, 2020
Volume (L):	18.3

Sample Location/Description	B11_D1_BR_04_PM
Total Volatile Organic Compounds	433 μg/m³

CAS	Compound	Concentration	
Number		μg/m³	ppb
100-42-5	Styrene	71.2	16.7
116-09-6	2-Propanone, 1-hydroxy	43.2	14.3
91-20-3	Naphthalene	28.3	5.4
64-19-7	Acetic acid	25.8	10.5
71-43-2	Benzene	24.0	7.5
19549-87-2	1-Heptene, 2,4-dimethyl*	21.6	4.2
80-62-6	Methyl methacrylate (2-Propenoic acid, 2-methyl-, methyl ester)	14.0	3.4
108-88-3	Toluene (Methylbenzene)	12.4	3.3
66-25-1	Hexanal	11.0	2.7
141-32-2	Butyl acrylate (2-Propenoic Acid, butyl ester)	10.7	2.0
98-01-1	Furfural (2-Furaldehyde)	10.7	2.7
120-92-3	Cyclopentanone	10.7	3.1
90-05-1	Phenol, 2-methoxy*	9.2	1.8
108-95-2	Phenol	8.4	2.2
95-13-6	Indene*	8.0	1.7
98-83-9	a-Methylstyrene (iso-Propenylbenzene; (1- Methylethenyl)benzene)	7.9	1.6
100-41-4	Benzene, ethyl	6.8	1.6
25265-77-4	2,2,4-Trimethyl-1,3-pentanediol monoisobutyrate	6.1	0.7
77-68-9	Propanoic acid, 2-methyl-, 3-hydroxy-2,2,4- trimethylpentyl ester (component of Texanol)	6.1	0.7
98-56-6	Benzene, 1-chloro-4-(trifluoromethyl)-*	6.0	0.8
106-44-5	Phenol, 4-methyl (p-Cresol)*	5.9	1.3
100-47-0	Benzonitrile	5.5	1.3
71-36-3	1-Butanol (N-Butyl alcohol)	5.5	1.8
1330-20-7	Xylenes (Total)	4.8	1.1
95-48-7	Phenol, 2-methyl*	4.7	1.1
767-60-2	1H-Indene, 3-methyl*	4.7	0.9
100-52-7	Benzaldehyde	4.6	1.1
42781-12-4	2-Propanone, 1-(1-methylethoxy)-*	4.6	1.0
4747-07-3	Hexane, 1-methoxy*	4.2	0.9
5989-27-5	D-Limonene*	4.1	0.7
93-51-6	Phenol, 2-methoxy-4-methyl*	4.1	0.7
96-35-5	Acetic acid, hydroxy-, methyl ester*	3.8	1.0
541-02-6	Cyclopentasiloxane, decamethyl	3.6	0.2
208-96-8	Acenaphthylene*	3.4	0.6
620-02-0	2-Furancarboxaldehyde, 5-methyl*	3.4	0.8

Date Issued: Product #: Report #: ©2020 UL LLC

UL ID:	SV3TFD
Sample Date:	October 31, 2020
Volume (L):	18.3

CAS	Compound	Concentration	
Number		μg/m³	ppb
565-69-5	3-Pentanone, 2-methyl*	3.4	0.8
1000191-08-0	1-Hydroxy-4,4-dimethylcyclohexanecarbonitrile*	3.3	0.5
627-08-7	Propane, 1-(1-methylethoxy)*	3.3	0.8
271-89-6	Benzofuran*	3.1	0.6
98-86-2	Acetophenone (Ethanone, 1-phenyl)*	3.0	0.6
111-76-2	Ethanol, 2-butoxy	2.9	0.6
95-65-8	Phenol, 3,4-dimethyl-*	2.9	0.6
1192-62-7	Ethanone, 1-(2-furanyl)*	2.7	0.6
123-86-4	Acetate, butyl	2.6	0.5
496-11-7	Indane	2.6	0.5
142-96-1	n-Butyl ether	2.5	0.5
1120-73-6	2-Cyclopenten-1-one, 2-methyl*	2.5	0.6
80-56-8	Pinene, alpha (2,6,6-Trimethyl-bicyclo[3.1.1]hept-2-ene)	2.4	0.4
290-37-9	Pyrazine	2.4	0.7
91337-07-4	2-Isopropyl-5-methyl-1-heptanol*	2.4	0.3
71-41-0	1-Pentanol (N-Pentyl alcohol)	2.2	0.6
92-52-4	1,1'-Biphenyl*	2.1	0.3
769-78-8	Vinyl benzoate*	2.0	0.3
3102-33-8	3-Penten-2-one, (E)-*	2.0	0.6

Date Issued: Product #: Report #: ©2020 UL LLC

UL ID:	SV4TFD
Sample Date:	October 31, 2020
Volume (L):	18.1

Sample Location/Description	B11_D1_BR_04_60_PM
Total Volatile Organic Compounds	516 μg/m³

CAS	Compound	Concentration	
Number	Compound	μg/m³	ppb
100-42-5	Styrene	84.9	19.9
116-09-6	2-Propanone, 1-hydroxy	31.3	10.3
91-20-3	Naphthalene	28.3	5.4
71-43-2	Benzene	28.2	8.8
19549-87-2	1-Heptene, 2,4-dimethyl*	21.8	4.2
64-19-7	Acetic acid	18.9	7.7
80-62-6	Methyl methacrylate (2-Propenoic acid, 2-methyl-, methyl ester)	18.8	4.6
108-88-3	Toluene (Methylbenzene)	15.8	4.2
141-32-2	Butyl acrylate (2-Propenoic Acid, butyl ester)	13.6	2.6
98-83-9	a-Methylstyrene (iso-Propenylbenzene; (1- Methylethenyl)benzene)	10.7	2.2
98-01-1	Furfural (2-Furaldehyde)	10.6	2.7
95-13-6	Indene*	10.2	2.2
66-25-1	Hexanal	9.3	2.3
1330-20-7	Xylenes (Total)	9.3	2.1
120-92-3	Cyclopentanone	8.9	2.6
100-41-4	Benzene, ethyl	8.3	1.9
90-05-1	Phenol, 2-methoxy*	7.6	1.5
77-68-9	Propanoic acid, 2-methyl-, 3-hydroxy-2,2,4- trimethylpentyl ester (component of Texanol)	7.5	0.8
100-47-0	Benzonitrile	7.2	1.7
25265-77-4	2,2,4-Trimethyl-1,3-pentanediol monoisobutyrate	7.0	0.8
42781-12-4	2-Propanone, 1-(1-methylethoxy)-*	6.8	1.4
108-95-2	Phenol	6.6	1.7
271-89-6	Benzofuran*	6.5	1.3
100-52-7	Benzaldehyde	6.5	1.5
5989-27-5	D-Limonene*	6.2	1.1
300-57-2	Allylbenzene	6.0	1.2
106-44-5	Phenol, 4-methyl (p-Cresol)*	5.7	1.3
541-02-6	Cyclopentasiloxane, decamethyl	5.3	0.3
4747-07-3	Hexane, 1-methoxy*	5.2	1.1
71-36-3	1-Butanol (N-Butyl alcohol)	4.8	1.6
1000191-08-0	1-Hydroxy-4,4-dimethylcyclohexanecarbonitrile*	4.6	0.7
98-86-2	Acetophenone (Ethanone, 1-phenyl)*	4.5	0.9
565-69-5	3-Pentanone, 2-methyl*	4.4	1.1
95-48-7	Phenol, 2-methyl*	4.2	1.0
508-32-7	Tricyclo[2.2.1.0(2,6)]heptane, 1,7,7-trimethyl-	4.0	0.7

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UL ID:	SV4TFD
Sample Date:	October 31, 2020
Volume (L):	18.1

CAS	Compound	Concentration	
Number	Compound	μg/m³	ppb
98-56-6	Benzene, 1-chloro-4-(trifluoromethyl)-*	4.0	0.5
111-76-2	Ethanol, 2-butoxy	3.9	0.8
620-02-0	2-Furancarboxaldehyde, 5-methyl*	3.8	0.8
627-08-7	Propane, 1-(1-methylethoxy)*	3.8	0.9
1192-62-7	Ethanone, 1-(2-furanyl)*	3.8	0.8
93-51-6	Phenol, 2-methoxy-4-methyl*	3.7	0.7
91337-07-4	2-Isopropyl-5-methyl-1-heptanol*	3.5	0.5
123-86-4	Acetate, butyl	3.4	0.7
142-96-1	n-Butyl ether	3.2	0.6
769-78-8	Vinyl benzoate*	3.2	0.5
112-41-4	1-Dodecene	3.1	0.5
767-60-2	1H-Indene, 3-methyl*	3.1	0.6
1120-73-6	2-Cyclopenten-1-one, 2-methyl*	3.1	0.8
95-65-8	Phenol, 3,4-dimethyl-*	3.1	0.6
71-41-0	1-Pentanol (N-Pentyl alcohol)	3.0	0.8
15176-21-3	1,4-Dioxane, 2,5-dimethyl*	2.9	0.6
25551-13-7	Trimethylbenzene (All Isomers)	2.8	0.6
1873-25-2	2-Butanol, 1-chloro	2.6	0.6
55170-80-4	1-Decene, 2,4-dimethyl*	2.6	0.4
3102-33-8	3-Penten-2-one, (E)-*	2.5	0.7
208-96-8	Acenaphthylene*	2.5	0.4
4359-46-0	1,3-Dioxolane, 2-ethyl-4-methyl*	2.4	0.5
79-09-4	Propanoic acid	2.3	0.8
34324-40-8	Tetracyclo[5.3.0.0<2,6>.0<3,10>]deca-4,8-diene*	2.3	0.4
5077-67-8	1-Hydroxy-2-butanone*	2.3	0.6
98-00-0	2-Furanmethanol*	2.2	0.6
3913-02-8	1-Octanol, 2-butyl-*	2.2	0.3
1000293-33-2	m-Toluic acid, 2-ethylcyclohexyl ester*	2.2	0.2
92-52-4	1,1'-Biphenyl*	2.1	0.3
107-87-9	2-Pentanone*	2.1	0.6
1121-05-7	2-Cyclopenten-1-one, 2,3-dimethyl-*	2.0	0.4
91-57-6	Naphthalene, 2-methyl	2.0	0.3
111-55-7	1,2-Ethanediol, diacetate (Ethylene glycol diacetate)	2.0	0.3
7058-01-7	Cyclohexane, (1-methylpropyl)*	2.0	0.3

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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.

Values below 2.0 μ g/m³ are for information purposes only. Chemical was detected, but below the quantifiable level of 0.04 μ g 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 \leq 36 ng of total VOC.

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age __1__ot __1_ Project # 2010030NY B11 D1 1001670976-3438740 Company: ULVS (Healthy Buildings) ACTIVE CHEMICAL SAMPLING CHAIN OF CUSTODY Contact: CARESULTS@UL.COM Project/P.O./Job Number: Address: 3251 Old Lee Highway #100 2010030NY_B11_D1 Phone: 571.655.7919 Fairfax, VA 22030 Sample Date: 31 OCT 2020 703.323.4440 Please check the Investigator: VOLATILE ORGANICS: IVOC SCAN: SAM.HORNER appropriate fields; TOP 20 IVOC Use separate COC TVOC ONLY ALDEHYDE SCAN: OTHER for each sample method. B.T.E.X. FORMALDEHYDE ONLY ANALYSIS: LEED V4 TAT: Standard X Next Day Rush* LEED V4.1 OTHER B.T.E.X. Comments: One (1) Week TAT Please – Looking for results by COB Tuesday November 3rd. Thank you * Rush charges apply; please call in advance to confirm availability SAMPLE ID/ UL ID SAMPLE LOCATION/ TUBE ID START TIME STOP DESCRIPTION **FLOW** PUMP ID TIME SAMPLED VOLUME 2010030NY-11D/ TIME RATE Voi B11_D1_BR_04_AM # (MIN) (L) s/n B26564 (L/MIN) 08:31 12:31 2010030NY-11E/ 240 2018 B11_D1_BR_04_60_AM 0.07609 18.2616 L s/n B26612 08:19 09:19 2010030NY-11F/ 60 5116 B11_D1_BR_04_PM 1/03 0.29841 17.9043 L s/n B26907 12:39 16:39 2010030NY-11G/ 240 2018 1/04 B11_D1_BR_04_60_PM 0.07609 18.2616 L s/n B649462 13:48 14:48 VSIF 2001030NY-12C/ 60 4257 B12_LR_Hall_Field Blank 0.30100 18.0600 L s/n b26606* *Note: this Field Blank was submitted with 2010030NY_B12 n/a samples collected on the same date at the same site Thank you Released By: SAM.HORNER (Print/Sign) Date/Time: 03Nov2020 3438740 Method of Shipment: UPS Next Description 2010030NY_B11_D1 3438740 Date/Time Sample Condition 10:15 AM Customer: UL Verification Services, Inc.

Received Date: Aurora Project No.: 1001070976
Order No.:

2020-NOV-04 01:52:14 PM Oracle Project No.:

> Date Issued: Product #: Report #: ©2020 UL LLC

November 13, 2020 1001070976-3438740 1001070976-3438740

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