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	2010030NY_B11_D3
Date Received	November 6, 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.

Date Issued: November 16, 2020
Product #: 1001079085-3444940
Report #: 1001079085-3444940

UL ID:	SV1TFDF
Sample Date:	November 2, 2020
Volume (L):	18.0

CONCENTRATIONS OF TOTAL AND INDIVIDUAL VOLATILE ORGANIC COMPOUNDS

Sample Location/Description	B11_D3_BR_04_Field Blank
Total Volatile Organic Compounds	BQL

CAS Number	Compound	Concentration	
		µg/m³	ppb
109-67-1	1-Pentene	5.1	1.8

Date Issued: November 16, 2020
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UL ID:	SV1TFD
Sample Date:	November 2, 2020
Volume (L):	18.6

CONCENTRATIONS OF TOTAL AND INDIVIDUAL VOLATILE ORGANIC COMPOUNDS

Sample Location/Description	B11_D3_BR_04_AM
Total Volatile Organic Compounds	107 µg/m³

CAS Number	**Compound**	**Concentration**	
		µg/m³	**ppb**
100-42-5	Styrene	19.0	4.5
116-09-6	2-Propanone, 1-hydroxy	17.6	5.8
64-19-7	Acetic acid	8.4	3.4
91-20-3	Naphthalene	8.0	1.5
19549-87-2	1-Heptene, 2,4-dimethyl*	5.7	1.1
541-02-6	Cyclopentasiloxane, decamethyl	5.1	0.3
120-92-3	Cyclopentanone	4.6	1.3
66-25-1	Hexanal	4.5	1.1
108-88-3	Toluene (Methylbenzene)	4.2	1.1
71-43-2	Benzene	3.9	1.2
141-32-2	Butyl acrylate (2-Propenoic Acid, butyl ester)	3.5	0.7
7287-82-3	1-(2-Methylphenyl)ethanol*	3.4	0.6
98-01-1	Furfural (2-Furaldehyde)	3.4	0.9
80-56-8	Pinene, alpha (2,6,6-Trimethyl-bicyclo[3.1.1]hept-2-ene)	3.1	0.6
90-05-1	Phenol, 2-methoxy*	2.7	0.5
95-13-6	Indene*	2.6	0.5
71-36-3	1-Butanol (N-Butyl alcohol)	2.5	0.8
80-62-6	Methyl methacrylate (2-Propenoic acid, 2-methyl-, methyl ester)	2.5	0.6
1330-20-7	Xylenes (Total)	2.3	0.5
590-86-3	Butanal, 3-methyl*	2.1	0.6
100-47-0	Benzonitrile	2.1	0.5
108-95-2	Phenol	2.1	0.5
5989-27-5	D-Limonene*	2.0	0.4

Date Issued: November 16, 2020
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UL ID:	SV2TFD
Sample Date:	November 2, 2020
Volume (L):	18.0

CONCENTRATIONS OF TOTAL AND INDIVIDUAL VOLATILE ORGANIC COMPOUNDS

Sample Location/Description	B11_D3_BR_04_60_AM
Total Volatile Organic Compounds	54.4 µg/m³

CAS Number	**Compound**	**Concentration**	
		µg/m³	**ppb**
100-42-5	Styrene	15.7	3.7
541-02-6	Cyclopentasiloxane, decamethyl	10.5	0.7
116-09-6	2-Propanone, 1-hydroxy	5.7	1.9
19549-87-2	1-Heptene, 2,4-dimethyl*	4.6	0.9
91-20-3	Naphthalene	3.9	0.7
64-19-7	Acetic acid	3.6	1.4
71-43-2	Benzene	2.7	0.8
66-25-1	Hexanal	2.5	0.6
108-88-3	Toluene (Methylbenzene)	2.5	0.7
80-56-8	Pinene, alpha (2,6,6-Trimethyl-bicyclo[3.1.1]hept-2-ene)	2.2	0.4
98-01-1	Furfural (2-Furaldehyde)	2.1	0.5
7287-82-3	1-(2-Methylphenyl)ethanol*	2.0	0.4

UL ID:	SV3TFD
Sample Date:	November 2, 2020
Volume (L):	18.6

CONCENTRATIONS OF TOTAL AND INDIVIDUAL VOLATILE ORGANIC COMPOUNDS

Sample Location/Description	B11_D3_BR_04_PM
Total Volatile Organic Compounds	126 µg/m³

CAS Number	Compound	Concentration	
		µg/m³	ppb
100-42-5	Styrene	25.6	6.0
116-09-6	2-Propanone, 1-hydroxy	16.4	5.4
64-19-7	Acetic acid	11.7	4.8
91-20-3	Naphthalene	9.7	1.9
19549-87-2	1-Heptene, 2,4-dimethyl*	6.7	1.3
120-92-3	Cyclopentanone	6.2	1.8
71-43-2	Benzene	4.5	1.4
7287-82-3	1-(2-Methylphenyl)ethanol*	4.3	0.8
141-32-2	Butyl acrylate (2-Propenoic Acid, butyl ester)	4.0	0.8
66-25-1	Hexanal	3.9	1.0
98-01-1	Furfural (2-Furaldehyde)	3.9	1.0
108-88-3	Toluene (Methylbenzene)	3.7	1.0
90-05-1	Phenol, 2-methoxy*	3.3	0.6
108-95-2	Phenol	3.1	0.8
80-56-8	Pinene, alpha (2,6,6-Trimethyl-bicyclo[3.1.1]hept-2-ene)	2.9	0.5
77-68-9	Propanoic acid, 2-methyl-, 3-hydroxy-2,2,4-trimethylpentyl ester (component of Texanol)	2.8	0.3
5989-27-5	D-Limonene*	2.6	0.5
106-44-5	Phenol, 4-methyl (p-Cresol)*	2.5	0.6
80-62-6	Methyl methacrylate (2-Propenoic acid, 2-methyl-, methyl ester)	2.4	0.6
100-41-4	Benzene, ethyl	2.4	0.6
100-47-0	Benzonitrile	2.4	0.6
300-57-2	Allylbenzene	2.3	0.5
71-36-3	1-Butanol (N-Butyl alcohol)	2.3	0.7
100-52-7	Benzaldehyde	2.2	0.5
1330-20-7	Xylenes (Total)	2.2	0.5
95-13-6	Indene*	2.1	0.4
95-48-7	Phenol, 2-methyl*	2.1	0.5

UL ID:	SV4TFD
Sample Date:	November 2, 2020
Volume (L):	18.2

CONCENTRATIONS OF TOTAL AND INDIVIDUAL VOLATILE ORGANIC COMPOUNDS

Sample Location/Description	B11_D3_BR_04_60_PM
Total Volatile Organic Compounds	123 µg/m³

CAS Number	Compound	Concentration	
		µg/m³	ppb
116-09-6	2-Propanone, 1-hydroxy	21.1	7.0
100-42-5	Styrene	19.7	4.6
64-19-7	Acetic acid	11.8	4.8
91-20-3	Naphthalene	8.9	1.7
108-88-3	Toluene (Methylbenzene)	6.4	1.7
19549-87-2	1-Heptene, 2,4-dimethyl*	5.5	1.1
120-92-3	Cyclopentanone	5.3	1.6
71-43-2	Benzene	4.7	1.5
98-01-1	Furfural (2-Furaldehyde)	4.4	1.1
66-25-1	Hexanal	3.6	0.9
141-32-2	Butyl acrylate (2-Propenoic Acid, butyl ester)	3.6	0.7
1330-20-7	Xylenes (Total)	3.2	0.7
71-36-3	1-Butanol (N-Butyl alcohol)	3.1	1.0
90-05-1	Phenol, 2-methoxy*	3.0	0.6
7287-82-3	1-(2-Methylphenyl)ethanol*	2.8	0.5
95-13-6	Indene*	2.7	0.6
541-02-6	Cyclopentasiloxane, decamethyl	2.7	0.2
108-95-2	Phenol	2.5	0.7
590-86-3	Butanal, 3-methyl*	2.5	0.7
100-47-0	Benzonitrile	2.4	0.6
80-62-6	Methyl methacrylate (2-Propenoic acid, 2-methyl-, methyl ester)	2.4	0.6
100-41-4	Benzene, ethyl	2.3	0.5
80-56-8	Pinene, alpha (2,6,6-Trimethyl-bicyclo[3.1.1]hept-2-ene)	2.2	0.4
5989-27-5	D-Limonene*	2.1	0.4
77-68-9	Propanoic acid, 2-methyl-, 3-hydroxy-2,2,4-trimethylpentyl ester (component of Texanol)	2.1	0.2
98-86-2	Acetophenone (Ethanone, 1-phenyl)*	2.1	0.4
98-56-6	Benzene, 1-chloro-4-(trifluoromethyl)-*	2.0	0.3

UL ID:	SV4TFD
Sample Date:	November 2, 2020
Volume (L):	18.2

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 # 2010030NY_B11_D3

1001079085-3444940

ACTIVE CHEMICAL SAMPLING CHAIN OF CUSTODY

Company: ULVS (Healthy Buildings)	Contact: CARESULTS@UL.COM	Project/P.O./Job Number: 2010030NY_B11_D3
Address: 3251 Old Lee Highway #100 Fairfax, VA 22030	Phone: 571.655.7919 Fax: 703.323.4440	Sample Date: 02 Nov 2020 Investigator: SAM.HORNER

Please check the appropriate fields; Use separate COC for each sample method.

VOLATILE ORGANICS: IVOC SCAN: _____ TOP 20 IVOC _____ TVOC ONLY _____ OTHER ___B.T.E.X.

ALDEHYDE SCAN: _____ FORMALDEHYDE ONLY _____ | **ANALYSIS: LEED V4 ___ LEED V4.1 ___ OTHER _B.T.E.X.**

TAT: Standard __X__ Next Day Rush*_____ * Rush charges apply; please call in advance to confirm availability

Comments: One (1) Week TAT Please – Looking for results by COB Friday November 13th. Thank you

UL ID	SAMPLE ID/ TUBE ID	SAMPLE LOCATION/ DESCRIPTION	START TIME	STOP TIME	TIME SAMPLED (MIN)	PUMP ID #	FLOW RATE (L/MIN)	VOLUME (L)
V01	2010030NY-11J/ s/n B26938	B11_D3_BR_04_AM	08:20	12:20	240	2018	0.077515	18.6036 L
V02	2010030NY-11K/ s/n B26513	B11_D3_BR_04_60_AM	08:05	09:05	60	5116	0.2999	17.994 L
V03	2010030NY-11L/ s/n B26889	B11_D3_BR_04_PM	12:29	16:29	240	2018	0.077515	18.6036 L
V04	2010030NY-11M/ s/n B26430	B11_D3_BR_04_60_PM	10:05	11:05	60	4257	0.303115	18.1869 L
V01F	2001030NY-11N/ s/n B26563	B11_D3_BR_04_Field Blank						n/a

Released By: SAM.HORNER (Print/Sign)	Date/Time: 05Nov2020	Method of Shipment: UPS Next D
Received By:	Date/Time: 11/6/20 10:25 AM	Sample Condition: Accepted

3444940

3444940

Description: VOC Tubes and Aldehyde Cartridges

Customer: UL Verification Services, Inc.

Received Date: 2020-NOV-06 12:12:13 PM

Aurora Project No.: 1001079085
Order No.:
Oracle Project No.:

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Date Issued: November 16, 2020
Product #: 1001079085-3444940
Report #: 1001079085-3444940