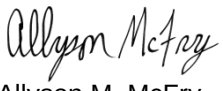
FIELD SAMPLING TEST REPORT	
Customer Information	LST.FAI.HBDCResults@ul.com UL Verification Services, Inc. 3251 Old Lee Highway, Suite 100 Fairfax, VA 22030 USA
HB Project Number	2009049NY
Date Received	October 13, 2020
Testing Laboratory Location	UL Environment - Marietta, 2211 Newmarket Parkway, Marietta, 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 11, 2020
Product #: 1001053392-3387944
Report #: 1001053392-3387944R2

Supersedes Report #: 1001053392-3387944R1

UL ID:	SV1TFD
Sample Date:	October 10, 2020
Volume (L):	17.8

CONCENTRATIONS OF TOTAL AND INDIVIDUAL VOLATILE ORGANIC COMPOUNDS

Sample Location/Description	BURN_05_BR_04_1Day_AM
Total Volatile Organic Compounds	456 µg/m³

CAS Number	**Compound**	**Concentration**	
		µg/m³	**ppb**
100-42-5	Styrene†	54.2	12.7
25265-77-4	2,2,4-Trimethyl-1,3-pentanediol monoisobutyrate	41.6	4.7
98-56-6	Benzene, 1-chloro-4-(trifluoromethyl)-*	35.2	4.8
64-19-7	Acetic acid	32.8	13.3
91-20-3	Naphthalene†	28.9	5.5
116-09-6	2-Propanone, 1-hydroxy	26.6	8.8
98-01-1	Furfural (2-Furaldehyde)	25.0	6.4
42781-12-4	2-Propanone, 1-(1-methylethoxy)-*	11.6	2.4
66-25-1	Hexanal	10.7	2.6
141-32-2	Butyl acrylate (2-Propenoic Acid, butyl ester)	9.9	1.9
108-88-3	Toluene (Methylbenzene)	9.1	2.4
98-83-9	a-Methylstyrene (iso-Propenylbenzene; (1-Methylethenyl)benzene)	9.0	1.9
90-05-1	Phenol, 2-methoxy*	8.8	1.7
71-43-2	Benzene†	8.8	2.8
98-86-2	Acetophenone (Ethanone, 1-phenyl)*	8.6	1.8
95-13-6	Indene*	7.6	1.6
1330-20-7	Xylenes (Total) †	7.5	1.7
1072-82-8	3-Acetyl-1H-pyrroline*	7.0	1.6
767-60-2	1H-Indene, 3-methyl*	6.7	1.3
120-92-3	Cyclopentanone	6.4	1.9
74810-70-1	2-Octene, 1,1,2-trifluoro-*	5.8	0.9
10143-32-5	2-Propanol, 1-(2-ethoxypropoxy)-*	5.7	0.9
15176-21-3	1,4-Dioxane, 2,5-dimethyl*	5.2	1.1
208-96-8	Acenaphthylene*	5.2	0.8
96-29-7	2-Butanone, oxime*	5.0	1.4
100-47-0	Benzonitrile	4.8	1.1
508-32-7	Tricyclo[2.2.1.0(2,6)]heptane, 1,7,7-trimethyl-	4.8	0.9
93-51-6	Phenol, 2-methoxy-4-methyl*	4.7	0.8
627-08-7	Propane, 1-(1-methylethoxy)*	4.6	1.1
100-41-4	Benzene, ethyl†	4.5	1.0
100-52-7	Benzaldehyde	4.5	1.0
5989-27-5	D-Limonene*	4.2	0.8
769-78-8	Vinyl benzoate*	4.1	0.7
123-86-4	Acetate, butyl	4.0	0.9
14593-43-2	Benzene, [(2-propenyloxy)methyl]-*	4.0	0.7
108-39-4	Phenol, 3-methyl*	3.6	0.8
106-21-8	1-Octanol, 3,7-dimethyl	3.5	0.5

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UL ID:	SV1TFD
Sample Date:	October 10, 2020
Volume (L):	17.8

CAS Number	Compound	Concentration	
		µg/m³	ppb
142-96-1	n-Butyl ether	3.4	0.6
92-52-4	1,1'-Biphenyl*	3.3	0.5
541-02-6	Cyclopentasiloxane, decamethyl	3.2	0.2
1192-62-7	Ethanone, 1-(2-furanyl)*	3.2	0.7
126434-25-1	Cyclopropanemethanol, .alpha.,.alpha.-dimethyl-2-methylene-*	3.2	0.7
91337-07-4	2-Isopropyl-5-methyl-1-heptanol*	2.8	0.4
80-62-6	Methyl methacrylate (2-Propenoic acid, 2-methyl-, methyl ester)	2.8	0.7
637-50-3	Benzene, 1-propenyl-*	2.6	0.5
71-36-3	1-Butanol (N-Butyl alcohol)	2.6	0.9
112-41-4	1-Dodecene	2.5	0.4
1000446-79-5	Acetamide, 2-phenyl-N-benzyl-N-isobutyl-*	2.4	0.2
109-97-7	Pyrrole*	2.4	0.9
18409-18-2	2-Decen-1-ol, (E)*	2.4	0.4
91-57-6	Naphthalene, 2-methyl	2.4	0.4
4292-92-6	Cyclohexane, pentyl	2.3	0.4
768-56-9	Benzene, 3-butenyl-*	2.0	0.4
289-95-2	1,3-Diazine*	2.0	0.6
85763-57-1	11-Methyldodecanol*	2.0	0.2
1120-73-6	2-Cyclopenten-1-one, 2-methyl*	2.0	0.5
300-57-2	Allylbenzene	2.0	0.4
621-58-9	Phenol, 5-ethenyl-2-methoxy-*	2.0	0.3

UL ID:	SV1TFDF
Sample Date:	October 10, 2020
Volume (L):	18.0

CONCENTRATIONS OF TOTAL AND INDIVIDUAL VOLATILE ORGANIC COMPOUNDS

Sample Location/Description	BURN_05_BR_04_1Day_Field Blank
Total Volatile Organic Compounds	BQL µg/m³

CAS Number	Compound	Concentration	
		µg/m³	ppb
109-67-1	1-Pentene	3.8	1.3

Date Issued: November 11, 2020
Product #: 1001053392-3387944
Report #: 1001053392-3387944R2

Supersedes Report #: 1001053392-3387944R1

UL ID:	SV2TFD
Sample Date:	October 10, 2020
Volume (L):	17.8

CONCENTRATIONS OF TOTAL AND INDIVIDUAL VOLATILE ORGANIC COMPOUNDS

Sample Location/Description	BURN-_05_BR_04_1Day _AM
Total Volatile Organic Compounds	706 µg/m³

CAS Number	**Compound**	**Concentration**	
		µg/m³	**ppb**
100-42-5	Styrene†	83.2	19.5
64-19-7	Acetic acid	65.4	26.6
116-09-6	2-Propanone, 1-hydroxy	46.7	15.4
25265-77-4	2,2,4-Trimethyl-1,3-pentanediol monoisobutyrate	36.7	4.1
98-56-6	Benzene, 1-chloro-4-(trifluoromethyl)-*	36.5	4.9
98-01-1	Furfural (2-Furaldehyde)	34.8	8.8
91-20-3	Naphthalene†	30.0	5.7
120-92-3	Cyclopentanone	24.0	7.0
42781-12-4	2-Propanone, 1-(1-methylethoxy)-*	15.4	3.3
108-88-3	Toluene (Methylbenzene)	14.6	3.9
141-32-2	Butyl acrylate (2-Propenoic Acid, butyl ester)	14.2	2.7
90-05-1	Phenol, 2-methoxy*	13.7	2.7
1072-82-8	3-Acetyl-1H-pyrroline*	13.4	3.0
71-43-2	Benzene†	13.3	4.2
1330-20-7	Xylenes (Total) †	12.5	2.9
673-32-5	1-Phenyl-1-propyne	10.7	2.3
98-83-9	a-Methylstyrene (iso-Propenylbenzene; (1-Methylethenyl)benzene)	10.4	2.2
930-30-3	2-Cyclopenten-1-one*	9.6	2.8
98-86-2	Acetophenone (Ethanone, 1-phenyl)*	9.5	1.9
100-41-4	Benzene, ethyl†	9.2	2.1
6124-79-4	4-Methyl-5H-furan-2-one*	9.2	2.3
93-51-6	Phenol, 2-methoxy-4-methyl*	9.2	1.6
300-57-2	Allylbenzene	8.8	1.8
106-44-5	Phenol, 4-methyl (p-Cresol)*	8.6	1.9
108-39-4	Phenol, 3-methyl*	8.6	1.9
15176-21-3	1,4-Dioxane, 2,5-dimethyl*	8.4	1.8
112-41-4	1-Dodecene	8.3	1.2
208-96-8	Acenaphthylene*	8.1	1.3
767-60-2	1H-Indene, 3-methyl*	7.9	1.5
100-47-0	Benzonitrile	7.4	1.8
71-41-0	1-Pentanol (N-Pentyl alcohol)	6.9	1.9
96-29-7	2-Butanone, oxime*	6.9	1.9
100-52-7	Benzaldehyde	6.8	1.6
1703-52-2	Furan, 2-ethyl-5-methyl-*	6.4	1.4
142-96-1	n-Butyl ether	6.0	1.1
271-89-6	Benzofuran*	5.7	1.2
106-21-8	1-Octanol, 3,7-dimethyl	5.4	0.8

Date Issued: November 11, 2020
Product #: 1001053392-3387944
Report #: 1001053392-3387944R2

Supersedes Report #: 1001053392-3387944R1

UL ID:	SV2TFD
Sample Date:	October 10, 2020
Volume (L):	17.8

CAS Number	Compound	Concentration	
		µg/m³	ppb
627-08-7	Propane, 1-(1-methylethoxy)*	5.3	1.3
123-86-4	Acetate, butyl	5.1	1.1
4265-25-2	Benzofuran, 2-methyl*	5.1	0.9
508-32-7	Tricyclo[2.2.1.0(2,6)]heptane, 1,7,7-trimethyl-	5.1	0.9
56599-62-3	1,3-Dioxolane, 2,2-dimethyl-4-[[(1-methylhexadecyl)oxy]methyl]-*	4.9	0.3
769-78-8	Vinyl benzoate*	4.8	0.8
621-58-9	Phenol, 5-ethenyl-2-methoxy-*	4.8	0.8
5989-27-5	D-Limonene*	4.6	0.8
71-36-3	1-Butanol (N-Butyl alcohol)	4.5	1.5
13429-07-7	2-Propanol, 1-(2-methoxypropoxy)-*	4.0	0.7
5077-67-8	1-Hydroxy-2-butanone*	4.0	1.1
1120-73-6	2-Cyclopenten-1-one, 2-methyl*	4.0	1.0
92-52-4	1,1'-Biphenyl*	3.9	0.6
109-08-0	Pyrazine, methyl*	3.8	1.0
95-65-8	Phenol, 3,4-dimethyl-*	3.8	0.8
22690-38-6	2-Norbornanol, 1,2-dimethyl-*	3.6	0.6
16327-40-5	4,7-Methano-1H-inden-1-ol, 3a,4,7,7a-tetrahydro-, acetate*	3.5	0.9
1000446-79-5	Acetamide, 2-phenyl-N-benzyl-N-isobutyl-*	3.5	0.3
80-62-6	Methyl methacrylate (2-Propenoic acid, 2-methyl-, methyl ester)	3.4	0.8
85763-57-1	11-Methyldodecanol*	3.3	0.4
2785-89-9	Phenol, 4-ethyl-2-methoxy*	3.2	0.5
4359-46-0	1,3-Dioxolane, 2-ethyl-4-methyl*	3.2	0.7
3777-69-3	Furan, 2-pentyl	3.2	0.6
19784-98-6	Phenol, 2-methoxy-5-(1-propenyl)-, (E)-*	3.2	1.2
63819-79-4	Benzene, (3-nitrobutyl)-*	3.1	0.4
57-55-6	1,2-Propanediol (Propylene glycol)	3.0	1.0
96-35-5	Acetic acid, hydroxy-, methyl ester*	3.0	0.8
629-73-2	1-Hexadecene*	2.9	0.3
1196-67-4	Cinnamaldehyde, .beta.-methyl-*	2.8	0.5
91-57-6	Naphthalene, 2-methyl	2.6	0.5
109-97-7	Pyrrole*	2.6	1.0
930-27-8	Furan, 3-methyl*	2.6	0.8
1678-97-3	Cyclohexane, 1,2,3-trimethyl	2.6	0.5
78-93-3	2-Butanone (Methyl ethyl ketone, MEK)	2.5	0.8
110-62-3	Pentanal	2.5	0.7
7379-12-6	3-Hexanone, 2-methyl*	2.4	0.5
20600-54-8	Benzene, 1-isocyano-3-methyl-*	2.4	0.5
1000282-61-0	Cyclobutanecarboxylic acid, 2-ethylcyclohexyl ester*	2.4	0.3
24199-46-0	6-Methyl-5-octen-2-one*	2.3	0.4
563-80-4	2-Butanone, 3-methyl*	2.3	0.6
54063-18-2	Ethene, (2-ethoxy-1-methoxyethoxy)-*	2.0	0.3

UL ID:	SV2TFD
Sample Date:	October 10, 2020
Volume (L):	17.8

CAS Number	Compound	Concentration	
		µg/m³	ppb
98-82-8	Benzene, 1-methylethyl (Cumene)	2.0	0.4
91337-07-4	2-Isopropyl-5-methyl-1-heptanol*	2.0	0.3

UL ID:	SV3TFD
Sample Date:	October 10, 2020
Volume (L):	17.7

CONCENTRATIONS OF TOTAL AND INDIVIDUAL VOLATILE ORGANIC COMPOUNDS

Sample Location/Description	BURN_05_BR_04_1Day_60 min
Total Volatile Organic Compounds	550 µg/m³

CAS Number	Compound	Concentration	
		µg/m³	ppb
64-19-7	Acetic acid	69.4	28.2
100-42-5	Styrene†	65.1	15.3
25265-77-4	2,2,4-Trimethyl-1,3-pentanediol monoisobutyrate	41.2	4.7
91-20-3	Naphthalene†	30.6	5.8
98-56-6	Benzene, 1-chloro-4-(trifluoromethyl)-*	28.2	3.8
116-09-6	2-Propanone, 1-hydroxy	26.3	8.7
98-01-1	Furfural (2-Furaldehyde)	20.0	5.1
108-95-2	Phenol†	19.5	5.1
120-92-3	Cyclopentanone	14.9	4.3
123-91-1	1,4-Dioxane†	14.8	4.1
42781-12-4	2-Propanone, 1-(1-methylethoxy)-*	14.6	3.1
66-25-1	Hexanal	12.8	3.1
90-05-1	Phenol, 2-methoxy*	11.6	2.3
767-60-2	1H-Indene, 3-methyl*	9.8	1.8
80-62-6	Methyl methacrylate (2-Propenoic acid, 2-methyl-, methyl ester)	9.6	2.3
95-13-6	Indene*	9.4	2.0
71-43-2	Benzene†	8.8	2.7
108-88-3	Toluene (Methylbenzene)	8.4	2.2
98-86-2	Acetophenone (Ethanone, 1-phenyl)*	8.3	1.7
1330-20-7	Xylenes (Total) †	8.2	1.9
141-32-2	Butyl acrylate (2-Propenoic Acid, butyl ester)	7.9	1.5
208-96-8	Acenaphthylene*	7.5	1.2
93-51-6	Phenol, 2-methoxy-4-methyl*	7.2	1.3
98-83-9	a-Methylstyrene (iso-Propenylbenzene; (1-Methylethenyl)benzene)	6.7	1.4
106-44-5	Phenol, 4-methyl (p-Cresol)*	6.5	1.5
100-47-0	Benzonitrile	6.3	1.5
80-71-7	2-Cyclopenten-1-one, 2-hydroxy-3-methyl-*	6.2	1.4
100-41-4	Benzene, ethyl†	5.9	1.3
930-30-3	2-Cyclopenten-1-one*	5.8	1.7
1000127-04-3	Monobenzylidene-d-glucose*	5.3	0.5
71-41-0	1-Pentanol (N-Pentyl alcohol)	5.0	1.4
5989-27-5	D-Limonene*	4.8	0.9
15176-21-3	1,4-Dioxane, 2,5-dimethyl*	4.8	1.0
96-29-7	2-Butanone, oxime*	4.7	1.3
100-52-7	Benzaldehyde	4.7	1.1
769-78-8	Vinyl benzoate*	4.6	0.8

Date Issued: November 11, 2020
Product #: 1001053392-3387944
Report #: 1001053392-3387944R2

Supersedes Report #: 1001053392-3387944R1

UL ID:	SV3TFD
Sample Date:	October 10, 2020
Volume (L):	17.7

CAS Number	Compound	Concentration	
		µg/m³	ppb
110-86-1	Pyridine	4.5	1.4
271-89-6	Benzofuran*	4.4	0.9
123-86-4	Acetate, butyl	4.4	0.9
3944-37-4	1-Propanol, 2-(1-methylethoxy)-*	4.2	0.9
621-58-9	Phenol, 5-ethenyl-2-methoxy-*	4.2	0.7
1068-82-2	2-Hydroxy-2,6-dimethyl-hept-6-en-3-one*	4.1	0.6
92-52-4	1,1'-Biphenyl*	3.9	0.6
19780-63-3	2-Pentanol, 3-ethyl-2-methyl-*	3.8	0.7
7289-40-9	Ether, heptyl hexyl*	3.8	0.5
1192-62-7	Ethanone, 1-(2-furanyl)*	3.7	0.8
3073-92-5	Butane, 1-propoxy*	3.6	0.8
637-50-3	Benzene, 1-propenyl-*	3.6	0.7
95-48-7	Phenol, 2-methyl*	3.5	0.8
5077-67-8	1-Hydroxy-2-butanone*	3.2	0.9
53448-07-0	2-Undecenal, E-*	3.1	0.4
294-62-2	Cyclododecane	3.0	0.4
109-06-8	Pyridine,2-methyl (2-Picoline)*	3.0	0.8
3777-69-3	Furan, 2-pentyl	3.0	0.5
1000351-63-4	Piperidine, 2-(phenylmethyl)-*	3.0	0.4
39986-37-3	2,4-Dimethyl-2-oxazoline-4-methanol*	2.9	0.5
936-48-1	1H-Pyrazole, 4,5-dihydro-3-phenyl-*	2.8	0.5
95-65-8	Phenol, 3,4-dimethyl-*	2.8	0.6
71-36-3	1-Butanol (N-Butyl alcohol)	2.7	0.9
54410-98-9	1-Nonene, 4,6,8-trimethyl-*	2.7	0.4
109-97-7	Pyrrole*	2.7	1.0
5076-20-0	Oxirane, tetramethyl-*	2.6	0.6
2785-89-9	Phenol, 4-ethyl-2-methoxy*	2.6	0.4
85763-57-1	11-Methyldodecanol*	2.6	0.3
91-57-6	Naphthalene, 2-methyl	2.5	0.4
21835-01-8	2-Cyclopenten-1-one, 3-ethyl-2-hydroxy-*	2.5	0.5
103-65-1	Benzene, propyl	2.5	0.5
1120-73-6	2-Cyclopenten-1-one, 2-methyl*	2.5	0.6
1121-05-7	2-Cyclopenten-1-one, 2,3-dimethyl-*	2.4	0.5
61142-68-5	Cyclopentane, 1-hexyl-3-methyl*	2.4	0.3
74630-42-5	1-Undecene, 7-methyl*	2.4	0.3
19784-98-6	Phenol, 2-methoxy-5-(1-propenyl)-, (E)-*	2.2	0.8
13547-06-3	Cyclohexene, 1-chloro-4-(1-chloroethenyl)	2.1	0.3
108-10-1	2-Pentanone, 4-methyl (Methyl isobutyl ketone, MIBK)	2.1	0.5

UL ID:	SV3TFD
Sample Date:	October 10, 2020
Volume (L):	17.7

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 # 2009049NY

1001053392-3387944

ACTIVE CHEMICAL SAMPLING CHAIN OF CUSTODY

Company: ULVS (Healthy Buildings)	Contact: CARESULTS@UL.COM	Project/P.O./Job Number: 2009049NY
Address: 3251 Old Lee Highway #100 Fairfax, VA 22030	Phone: 571.655.7919 Fax: 703.323.4440	Sample Date: 10OCT2020 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:

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	2009049NY-05D/ s/n B26582	Burn_05_BR_04_1Day_AM	09:30	13:30	240	2018	0.074 L	17.84 L
V02	2009049NY-05E/ s/n B26892	Burn_05_BR_04_1Day_PM	13:45	17:45	240	2018	0.074 L	17.84 L
V03	2009049NY-05F/ s/n B26514	Burn_05_BR_04_1Day_60 min	14:31	15:31	240	2018	0.295 L	17.71 L
V01F	2009049NY-05G/ s/n B26102	Burn_05_BR_04_1Day_ Field Blank						n/a

Released By: SAM.HORNER (Print/Sign)	Date/Time: 12OCT2020	Method of Shipment: UPS Next Day A 1Z23X3040198642573
Received By:	Date/Time: 10/13/20 10:30AM	Sample Condition: Acceptable

3387944

3387944

Description 2009049NY

Customer: UL Environment Inc.

Received Date: 2020-OCT-14 09:05:17 AM

Aurora Project No.: 1001053392
Order No.:
Oracle Project No.:

2 of 4

Date Issued: November 11, 2020
Product #: 1001053392-3387944
Report #: 1001053392-3387944R2

Supersedes Report #: 1001053392-3387944R1