EMSL Analytical, Inc.
200 Route 130 North, Cinnaminson, NJ 08077
Phone/Fax: (856)858-4800 / (856)858-4571
http://www.EMSL.com to15lab@EMSL.com

EMSL Order #: **491800000**
EMSL Sample #: **491800000-1**
Customer ID: **EMSL50**
Customer PO: **NA**

Attn: **Lance Romance**
EMSL Analytical-Air Toxics Lab
200 US Route 130N
Cinnaminson, NJ 08077

Phone: **800-220-3675**
Fax: **856-786-0327**
Date Collected: **Not Provided**
Date Received: **Not Provided**

Project: **Example Report for Clients**

Sample ID: Barb's Bird Room

Analysis	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Initial	02/13/2018	KW	K14736.D	HD4365	250 cc	1
Dilution1	02/14/2018	KW	K14753.D	HD4365	50 cc	5

Possible Background Sources of Contaminants

Target Compounds	CAS#	Result ppbv	Q	Result ug/m3	*Typical Indoor Air Data* % of Samples Detected	Min. Conc. (ppbv)	Max. Conc. (ppbv)	Use and Possible Sources
Chloromethane	74-87-3	**0.78**		**1.6**	77%	ND	0.81	Chloromethane is present at very low concentrations throughout the atmosphere. Naturally occurring chloromethane is continuously released into the atmosphere from oceans, rotting wood, forest fires, and volcanoes. Manmade sources of chloromethane include cigarette smoke, polystyrene insulation, aerosol propellants, home burning of wood, grass, coal, or certain plastics, chlorinated swimming pools, refrigerators over 30 years old. [2]
n-Butane	106-97-8	**65**	**D**	**160**	87%	ND	33	Butane is contained in natural gas. Its main uses are in the production of chemicals, as a refrigerant, as an aerosol propellant, as a constituent in liquefied petroleum gas, and as the main component of gas lighter refills. [13]
Ethanol	64-17-5	**450**	**DE**	**850**	100%	3.4	658	Ethanol is ubiquitous in air samples as it is found in many products: cleaners (home, auto,pets), disinfectants/sanitizers, laundry care products, pesticide sprays, mouthwash, deoderants, first aid sprays, paints, air fresheners, auto care products. Please see citation for an extensive list. [6] Ethanol is also contained in gasoline.
Isopropyl alcohol(2-Propanol)	67-63-0	**17**		**41**	97%	ND	268	IPA is very common in air samples. Multiple types of cleaners (home, auto, pet) and disinfecting/sanitizing/polishing wipes, ink cartridges, paints, personal care products: nail polish, nail polish remover, colognes, perfumes, rubbing alcohol, hair spray. Please see citation for an extensive list. [6]
Acetone	67-64-1	**48**	**D**	**120**	100%	2.6	45	Another very common VOC in air samples, found in home products such as glues, rubber cement and adhesives, nail polish remover, dry-erase markers, expanding foams/crack fillers, air fresheners, paint thinners and paint clean up products. Please see citation for an extensive list. [6]
n-Hexane	110-54-3	**0.80**		**2.8**	10%	ND	0.78	Solvents containing hexane are used as cleaning agents in the printing, textile, furniture, and shoemaking industries. Certain kinds of special glues used in the roofing and shoe and leather industries also contain n-hexane. Some consumer products contain n-hexane, such as gasoline, quick-drying glues used in various hobbies, and rubber cement. [2]
2-Butanone(MEK)	78-93-3	**1.5**		**4.4**	45%	ND	2.5	The primary use of MEK is as a solvent in processes involving gums, resins, cellulose acetate, and cellulose nitrate. MEK is also used in the synthetic rubber industry, in the production of paraffin wax, and in household products such as lacquer and varnishes, paint and paint remover, and glues. [1] MEK may be found in automobile exhaust, printing inks, cleaning agents and cigarette smoke and is used as a fragrance/flavoring agent in candy and perfume. [7]

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Ethyl acetate	141-78-6	**4.4**		**16**	100%	0.53	34	Ethyl acetate is used as a solvent for varnishes, lacquers and dry cleaning. It is released during the manufacture of linoleum, and 'plastic' wood, dyes, artificial fruit flavorings and essences, and perfumes and fragrances. Ethyl acetate is used as a solvent in nail polish, nail polish remover, base coats and other manicuring products. Ethyl acetate is present in wines. [15]
Chloroform	67-66-3	**1.0**		**5.1**	*None Detected in Study*			Chloroform is released into the air from chlorinated waters including drinking water, municipal and industrial waste waters and swimming-pool and whirlpool-spa water. Increased release rates of chloroform in waters can be expected from chloroform-containing waters that are heated (e.g., water used for cooking, showers, swimming pools, and spas). [2]
2,2,4-Trimethylpentane(Isooctane)	540-84-1	**0.85**		**4.0**	13%	ND	4.9	Isooctane may be present in ink, toner, and colorant products, paints and coatings and fuels and related products such as gasoline additive for anti-knocking; will occur in auto exhaust. [12]
Benzene	71-43-2	**1.7**		**5.4**	*None Detected in Study*			The major sources of benzene exposure are tobacco smoke, automobile service stations, exhaust from motor vehicles, and industrial emissions. Vapors (or gases) from products that contain benzene, such as glues, paints, furniture wax, and detergents, can also be a source of exposure. Auto exhaust and industrial emissions account for about 20% of the total national exposure to benzene. About half of the exposure to benzene in the United States results from smoking tobacco or from exposure to tobacco smoke. [2,5]
Toluene	108-88-3	**3.7**		**14**	81%	ND	3.2	Toluene is added to gasoline and other fuels and may be found in gasoline exhaust. Toluene is found in paints, paint thinners, fingernail polish, lacquers, adhesives, synthetic fragrances, cigarette smoke and rubber and in some printing and leather tanning processes.[2,5]
Tetrachloroethene	127-18-4	**3.0**		**20**	*None Detected in Study*			Tetrachloroethylene is a chemical that is widely used for dry cleaning of fabrics and for metal-degreasing and is used in some consumer products. [2]
Ethylbenzene	100-41-4	**0.63**		**2.7**	6.5%	ND	0.79	Ethylbenzene is found in fuels, asphalt and naphtha. It is also found in manufactured products such as inks, insecticides, wood office furniture, scented candles and paints. Ethylbenzene is used primarily to make another chemical, styrene. [2,5,7]
Xylene (p,m)	1330-20-7	**1.9**		**8.3**	32%	ND	3.5	Mixed xylenes are present in petroleum and coal tar. Xylenes are used as solvents and in the printing, rubber, and leather industries, used as a thinner for paint, and in paints and varnishes. They are found in small amounts in airplane fuel and gasoline.[2] Also found in: Water sealer, automobile exhaust, markers, floor polish and cigarette smoke.[7]

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Xylene (Ortho)	95-47-6	**0.74**		**3.2**	6.5%	ND	1.0	Mixed xylenes are present in petroleum and coal tar. Xylenes are used as solvents and in the printing, rubber, and leather industries, used as a thinner for paint, and in paints and varnishes. They are found in small amounts in airplane fuel and gasoline.[2] Also found in: Water sealer, automobile exhaust, markers, floor polish and cigarette smoke.[7]
4-Ethyltoluene	622-96-8	**1.3**		**6.4**	3.2%	ND	1.1	4-Ethyltoluene is added to fuel to increase performance and may be present in vehicle exhaust fumes.[9] The most significant releases of 4-Ethyltoluene are likely to occur from petroleum refineries and gas stations. Trace amounts are present in cigarette smoke.
1,2,4-Trimethylbenzene	95-63-6	**1.7**		**8.2**	6.5%	ND	0.84	1,2,4-Trimethylbenzene is released to the environment as a component of gasoline and through automobile exhaust. It is used as a solvent to make dyes, perfumes, resins and pharmaceuticals.[10,5]

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*Based on EMSL in-house data collection 04/2019-06/2019

Qualifier Definitions
ND = Non Detect
B = Compound also found in method blank.
E= Estimated concentration exceeding upper calibration range.
D= Result reported from diluted analysis.

Sources References
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