



EMSL ANALYTICAL, INC.
 200 Route 130 North
 Cinnaminson, NJ 08077
 Telephone: (856)858-4800 FAX: (856)858-4571
to15lab@EMSL.com | <http://www.EMSL.com>

EMSL ORDER ID: 491800115
 EMSL CUSTOMER ID: EMSL50
 EMSL SAMPLE ID: 491800115-0001
 CUSTOMER SAMPLE ID: VOC-01

Attention: EMSL Analytical, Inc
 200 US Route 130 North
 Cinnaminson, NJ 08077

Customer PO:
EMSL Project ID:
Project Name: USEPA TO-15 Sample Report

Phone: 856-858-4800
Email: to15lab@EMSL.com

Collected: 10/22/2020 10:12
Received: 10/23/2020 8:32
Analyzed: See Results
Reported: 10/23/2020

Analysis Initial	Analysis Date	Analyst Init.	Lab File ID	Canister ID	Sample Vol.	Dil. Factor
Dilution1	10/22/2020	KW	K14736.D	HD4365	250 cc	1
	10/22/2020	KW	K14753.D	HD4365	50 cc	5

Pennsylvania DEP- Table 5. Indoor air Statewide health standard vapor intrusion screening values (SVIA)

Target Compounds	Tox. Basis	CAS#	MW	Result ppbv	Q	Result ug/m3	Residential ug/m3	>	Non-Res. ug/m3	>
Propylene	NC	115-07-1	42.08	ND		ND	N.E.		N.E.	
Freon 12(Dichlorodifluoromethane)	NC	75-71-8	120.90	ND		ND	100		440	
Freon 114(1,2-Dichlorotetrafluoroethan	--	76-14-2	170.90	ND		ND	N.E.		N.E.	
Chloromethane	NC	74-87-3	50.49	0.78		1.6	14.0		68.0	
n-Butane	--	106-97-8	58.12	65	D	160	N.E.		N.E.	
Vinyl chloride	C	75-01-4	62.50	ND		ND	0.790		14.0	
1,3-Butadiene	C	106-99-0	54.09	ND		ND	0.810		4.10	
Bromomethane	NC	74-83-9	94.94	ND		ND	5.20		22.0	
Chloroethane	NC	75-00-3	64.52	ND		ND	10000		44000	
Ethanol	--	64-17-5	46.07	450	DE	850	N.E.		N.E.	
Bromoethene(Vinyl bromide)	C	593-60-2	106.90	ND		ND	0.760		3.80	
Freon 11(Trichlorofluoromethane)	--	75-69-4	137.40	ND		ND	730		3100	
Isopropyl alcohol(2-Propanol)	NC	67-63-0	60.10	17		41	210		880	
Freon 113(1,1,2-Trichlorotrifluoroethan	NC	76-13-1	187.40	ND		ND	31000		130000	
Acetone	NC	67-64-1	58.08	48	D	120	32000		140000	
1,1-Dichloroethene	NC	75-35-4	96.94	ND		ND	210		880	
Acetonitrile	NC	75-05-8	41.00	ND		ND	63.0		260	
Tertiary butyl alcohol(TBA)	--	75-65-0	74.12	ND		ND	N.E.		N.E.	
Bromoethane(Ethyl bromide)	--	74-96-4	108.00	ND		ND	N.E.		N.E.	
3-Chloropropene(Allyl chloride)	C	107-05-1	76.53	ND		ND	1.00		4.40	
Carbon disulfide	NC	75-15-0	76.14	ND		ND	730		3100	
Methylene chloride	C	75-09-2	84.94	ND		ND	630		2600	
Acrylonitrile	C	107-13-1	53.00	ND		ND	0.360		1.80	
Methyl-tert-butyl ether(MTBE)	C	1634-04-4	88.15	ND		ND	94.0		470	
trans-1,2-Dichloroethene	--	156-60-5	96.94	ND		ND	63.0		260	
n-Hexane	NC	110-54-3	86.17	0.80		2.8	730		3100	
1,1-Dichloroethane	C	75-34-3	98.96	ND		ND	15.0		77.0	
Vinyl acetate	NC	108-05-4	86.00	ND		ND	210		880	
2-Butanone(MEK)	NC	78-93-3	72.10	1.5		4.4	5200		22000	
cis-1,2-Dichloroethene	--	156-59-2	96.94	ND		ND	N.E.		N.E.	
Ethyl acetate	NC	141-78-6	88.10	4.4		16	73.0		310	
Chloroform	C	67-66-3	119.40	1.0		5.1	1.10		5.30	
Tetrahydrofuran	NC	109-99-9	72.11	ND		ND	13.0		63.0	
1,1,1-Trichloroethane	NC	71-55-6	133.40	ND		ND	5200		22000	
Cyclohexane	NC	110-82-7	84.16	ND		ND	6300		26000	
2,2,4-Trimethylpentane(Isooctane)	--	540-84-1	114.20	0.85		4.0	N.E.		N.E.	
Carbon tetrachloride	C	56-23-5	153.80	ND		ND	4.10		20.0	
n-Heptane	NC	142-82-5	100.20	ND		ND	N.E.		N.E.	
1,2-Dichloroethane	C	107-06-2	98.96	ND		ND	0.940		4.70	
Benzene	C	71-43-2	78.11	1.7		5.4	3.10		16.0	
Trichloroethene	C	79-01-6	131.40	ND		ND	2.10		8.80	
1,2-Dichloropropane	C	78-87-5	113.00	ND		ND	2.40		12.0	
Methyl Methacrylate	NC	80-62-6	100.12	ND		ND	730		3100	
Bromodichloromethane	C	75-27-4	163.80	ND		ND	0.660		3.30	
1,4-Dioxane	C	123-91-1	88.12	ND		ND	3.20		16.0	
4-Methyl-2-pentanone(MIBK)	NC	108-10-1	100.20	ND		ND	3100		13000	
cis-1,3-Dichloropropene**	C	10061-01-5	111.00	ND		ND	N.E.		N.E.	



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Pennsylvania DEP- Table 5. Indoor air Statewide health standard vapor intrusion screening values (SVIA)

Target Compounds	Tox. Basis	CAS#	MW	Result ppbv	Q	Result ug/m3	Residential ug/m3	>	Non-Res. ug/m3	>
Toluene	NC	108-88-3	92.14	3.7		14	5200		22000	
trans-1,3-Dichloropropene**	C	10061-02-6	111.00	ND		ND	N.E.		N.E.	
1,1,2-Trichloroethane	C	79-00-5	133.40	ND		ND	0.210		0.880	
2-Hexanone(MBK)	NC	591-78-6	100.10	ND		ND	31.0		130	
Tetrachloroethene	C	127-18-4	165.80	3.0		20	42.0		180	
Dibromochloromethane	--	124-48-1	208.30	ND		ND	0.900		4.50	
1,2-Dibromoethane	C	106-93-4	187.80	ND		ND	0.0410		0.200	
Chlorobenzene	NC	108-90-7	112.60	ND		ND	52.0		220	
Ethylbenzene	C	100-41-4	106.20	0.63		2.7	9.70		49.0	
Xylene (p,m)	NC	1330-20-7	106.20	1.9		8.3	100		440	
Xylene (Ortho)	NC	95-47-6	106.20	0.74		3.2	100		440	
Styrene	NC	100-42-5	104.10	ND		ND	1000		4400	
Isopropylbenzene (cumene)	NC	98-82-8	120.19	ND		ND	420		1800	
Bromoform	C	75-25-2	252.80	ND		ND	22.0		110	
1,1,2,2-Tetrachloroethane	C	79-34-5	167.90	ND		ND	0.420		2.10	
4-Ethyltoluene	--	622-96-8	120.20	1.3		6.4	N.E.		N.E.	
1,3,5-Trimethylbenzene	NC	108-67-8	120.20	ND		ND	7.30		31.0	
2-Chlorotoluene	--	95-49-8	126.60	ND		ND	N.E.		N.E.	
1,2,4-Trimethylbenzene	NC	95-63-6	120.20	1.7		8.2	7.30		31.0	
1,3-Dichlorobenzene	--	541-73-1	147.00	ND		ND	N.E.		N.E.	
1,4-Dichlorobenzene	C	106-46-7	147.00	ND		ND	2.20		11.0	
Benzyl chloride	C	100-44-7	126.00	ND		ND	0.500		2.50	
1,2-Dichlorobenzene	NC	95-50-1	147.00	ND		ND	210		880	
1,2,4-Trichlorobenzene	NC	120-82-1	181.50	ND		ND	2.10		8.80	
Hexachloro-1,3-butadiene	C	87-68-3	260.80	ND		ND	N.E.		N.E.	
Naphthalene	C	91-20-3	128.17	ND		ND	0.720		3.60	

**The concentrations of each isomer should be added if multiple isomers are present and compared to the total screening level.

The > column is used to flag exceedances as marked

Exposure Limit Definitions

Screening Values-IA

Compound Exposure Definitions

NE= No Limit Established NS= No Screening Value
 LFC= Lowest Feasible Concentration

Agency Definitions

PADEP= Pennsylvania Department of Environmental Protection

Reference

Land Recycling Program Technical Guidance Manual for Vapor Intrusion into Buildings from Groundwater and Soil under Act 2 (Doc# 261-0300-101), Nov.19, 2016

Carcinogenic (C) Exceedance

Value exceeds the theoretical risk that 1 additional case of cancer will occur in a population of 1 million than statistically expected.

Thus is a theoretical risk and not an actual epidemiological one.

Qualifier Definitions

B = Compound also found in method blank. ND = Non Detect
 E= Estimated concentration exceeding upper calibration range.
 D= Result reported from diluted analysis.
 J= Concentration estimated between Reporting Limit and MDL.

NonCarcinogenic (NC) Exceedance

Value exceeds the theoretical risk that 1 in a population of 100,000 will experience deleterious health effects.

Thus is a theoretical risk and not an actual epidemiological one.