



EMSL ANALYTICAL, INC.
 200 Route 130 North
 Cinnaminson, NJ 08077
 Telephone: (856)858-4800 FAX: (856)858-4571
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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

North Carolina DEQ DWM- Residential Vapor Intrusion Screening Concentrations

Target Compounds	Tox. Basis	CAS#	MW	Result ppbv	Q	Result ug/m3	Sub Slab/ Ext. ug/m3	Indoor Air ug/m3
Propylene	NC	115-07-1	42.08	ND		ND	21000	630
Freon 12(Dichlorodifluoromethane)	NC	75-71-8	120.90	ND		ND	700	21.0
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	630	19.0
n-Butane	--	106-97-8	58.12	65	D	160	N.E.	N.E.
Vinyl chloride	C	75-01-4	62.50	ND		ND	56.0	0.170
1,3-Butadiene	C	106-99-0	54.09	ND		ND	14.0	0.0940
Bromomethane	NC	74-83-9	94.94	ND		ND	35.0	1.00
Chloroethane	NC	75-00-3	64.52	ND		ND	70000	2100
Ethanol	--	64-17-5	46.07	450	DE	850	N.E.	N.E.
Bromoethene(Vinyl bromide)	C	593-60-2	106.90	ND		ND	21.0	0.0880
Freon 11(Trichlorofluoromethane)	--	75-69-4	137.40	ND		ND	N.E.	N.E.
Isopropyl alcohol(2-Propanol)	NC	67-63-0	60.10	17		41	1400	42.0
Freon 113(1,1,2-Trichlorotrifluoroethan	NC	76-13-1	187.40	ND		ND	35000	1000
Acetone	NC	67-64-1	58.08	48	D	120	220000	6500
1,1-Dichloroethene	NC	75-35-4	96.94	ND		ND	1400	42.0
Acetonitrile	NC	75-05-8	41.00	ND		ND	420	13.0
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	35.0	1.00
3-Chloropropene(Allyl chloride)	C	107-05-1	76.53	ND		ND	7.00	0.210
Carbon disulfide	NC	75-15-0	76.14	ND		ND	4900	150
Methylene chloride	C	75-09-2	84.94	ND		ND	4200	100
Acrylonitrile	C	107-13-1	53.00	ND		ND	14.0	0.0410
Methyl-tert-butyl ether(MTBE)	C	1634-04-4	88.15	ND		ND	3600	11.0
trans-1,2-Dichloroethene	--	156-60-5	96.94	ND		ND	N.E.	N.E.
n-Hexane	NC	110-54-3	86.17	0.80		2.8	4900	150
1,1-Dichloroethane	C	75-34-3	98.96	ND		ND	580	1.80
Vinyl acetate	NC	108-05-4	86.00	ND		ND	1400	42.0
2-Butanone(MEK)	NC	78-93-3	72.10	1.5		4.4	35000	1000
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	490	15.0
Chloroform	C	67-66-3	119.40	1.0		5.1	41.0	0.120
Tetrahydrofuran	NC	109-99-9	72.11	ND		ND	14000	420
1,1,1-Trichloroethane	NC	71-55-6	133.40	ND		ND	35000	1000
Cyclohexane	NC	110-82-7	84.16	ND		ND	42000	1300
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	160	0.470
n-Heptane	NC	142-82-5	100.20	ND		ND	2800	83.0
1,2-Dichloroethane	C	107-06-2	98.96	ND		ND	36.0	0.110
Benzene	C	71-43-2	78.11	1.7		5.4	120	0.360
Trichloroethene	C	79-01-6	131.40	ND		ND	14.0	0.420
1,2-Dichloropropane	C	78-87-5	113.00	ND		ND	28.0	0.760
Methyl Methacrylate	NC	80-62-6	100.12	ND		ND	4900	150
Bromodichloromethane	C	75-27-4	163.80	ND		ND	25.0	0.0760
1,4-Dioxane	C	123-91-1	88.12	ND		ND	190	0.560
4-Methyl-2-pentanone(MIBK)	NC	108-10-1	100.20	ND		ND	21000	630
cis-1,3-Dichloropropene**	C	10061-01-5	111.00	ND		ND	140	0.700



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North Carolina DEQ DWM- Residential Vapor Intrusion Screening Concentrations

Target Compounds	Tox. Basis	CAS#	MW	Result ppbv	Q	Result ug/m3	Sub Slab/ Ext. ug/m3	Indoor Air ug/m3
Toluene	NC	108-88-3	92.14	3.7		14	35000	1000
trans-1,3-Dichloropropene**	C	10061-02-6	111.00	ND		ND	140	0.700
1,1,2-Trichloroethane	C	79-00-5	133.40	ND		ND	1.40	0.0420
2-Hexanone(MBK)	NC	591-78-6	100.10	ND		ND	210	6.30
Tetrachloroethene	C	127-18-4	165.80	3.0		20	280	8.30
Dibromochloromethane	--	124-48-1	208.30	ND		ND	N.E.	N.E.
1,2-Dibromoethane	C	106-93-4	187.80	ND		ND	1.60	0.00470
Chlorobenzene	NC	108-90-7	112.60	ND		ND	350	10.0
Ethylbenzene	C	100-41-4	106.20	0.63		2.7	370	1.10
Xylene (p,m)	NC	1330-20-7	106.20	1.9		8.3	700	21.0
Xylene (Ortho)	NC	95-47-6	106.20	0.74		3.2	700	21.0
Styrene	NC	100-42-5	104.10	ND		ND	7000	210
Isopropylbenzene (cumene)	NC	98-82-8	120.19	ND		ND	2800	83.0
Bromoform	C	75-25-2	252.80	ND		ND	850	2.60
1,1,2,2-Tetrachloroethane	C	79-34-5	167.90	ND		ND	16.0	0.0480
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	420	13.0
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	420	13.0
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	85.0	0.260
Benzyl chloride	C	100-44-7	126.00	ND		ND	7.00	0.0570
1,2-Dichlorobenzene	NC	95-50-1	147.00	ND		ND	1400	42.0
1,2,4-Trichlorobenzene	NC	120-82-1	181.50	ND		ND	14.0	0.420
Hexachloro-1,3-butadiene	C	87-68-3	260.80	ND		ND	43.0	0.130
Naphthalene	C	91-20-3	128.17	ND		ND	21.0	0.0830

**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

PEL= Permissible Exposure Limit

Compound Exposure Definitions

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

Agency Definitions

North Carolina Department of Environmental Quality

Reference

NC DEQ, Division of Waste Management Vapor Intrusion Screening Concentrations (February, 2018)

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.

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.

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.