

# Pennsylvania’s Land Recycling Program

## Vapor Intrusion Technical Guidance

### Statewide Health Standard Vapor Intrusion Screening Values and Screening Process Tables

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#### TABLE OF CONTENTS

##### List of Tables

Table 1.	Groundwater Statewide health standard vapor intrusion screening values ( $SV_{GW}$ ).....	2
Table 2.	Soil Statewide health standard vapor intrusion screening values ( $SV_{soil}$ ) .....	7
Table 3.	Near-source soil gas Statewide health standard vapor intrusion screening values ( $SV_{NS}$ ) .....	12
Table 4.	Sub-slab soil gas Statewide health standard vapor intrusion screening values ( $SV_{SS}$ ) .....	17
Table 5.	Indoor air Statewide health standard vapor intrusion screening values ( $SV_{IA}$ ).....	22
Table 6.	Collection of Data for Vapor Intrusion Screening.....	27
Table 7.	Application of Statewide Health Standard Vapor Intrusion Screening Criteria.....	28

**Table 1. Groundwater Statewide health standard vapor intrusion screening values (SV<sub>GW</sub>)**

Regulated Substance	CAS No.	Residential (µg/L)	Type	Nonresidential (µg/L)	Type	Converted Residential (µg/L)	Type
ACETALDEHYDE	75-07-0	4,800	SV	68,000	SV	20,000	SV
ACETONE	67-64-1	35,000,000	SV	490,000,000	SV	150,000,000	SV
ACETONITRILE	75-05-8	72,000	SV	1,000,000	SV	300,000	SV
ACROLEIN	107-02-8	6.4	SV	89	SV	27	SV
ACRYLAMIDE	79-06-1	3,700,000	SV	160,000,000	SV	47,000,000	SV
ACRYLIC ACID	79-10-7	170,000	SV	2,400,000	SV	730,000	SV
ACRYLONITRILE	107-13-1	110	SV	1,900	SV	560	SV
ALLYL ALCOHOL	107-18-6	1,100	SV	15,000	SV	4,500	SV
AMMONIA	7664-41-7	200,000	SV	2,800,000	SV	840,000	SV
ANILINE	62-53-3	29,000	SV	410,000	SV	120,000	SV
BENZENE	71-43-2	23	SV	380	SV	110	SV
BENZYL CHLORIDE	100-44-7	60	SV	1,000	SV	300	SV
BETA PROPIOLACTONE	57-57-8	0.012	MSC	0.063	MSC	0.063	MSC
BIPHENYL, 1,1-	92-52-4	91	MSC	1,200	SV	430	MSC
BIS(2-CHLOROETHYL)ETHER	111-44-4	270	SV	4,600	SV	1,400	SV
BIS(2-CHLORO-ISOPROPYL)ETHER	108-60-1	1,800	SV	31,000	SV	9,200	SV
BIS(CHLOROMETHYL)ETHER	542-88-1	0.0040	SV	0.067	SV	0.020	SV
BROMOCHLOROMETHANE	74-97-5	1,100	SV	16,000	SV	4,800	SV
BROMODICHLOROMETHANE	75-27-4	80	MSC	220	SV	80	MSC
BROMOMETHANE	74-83-9	23	SV	320	SV	97	SV
BUTADIENE, 1,3-	106-99-0	0.35	SV	5.8	SV	1.7	SV
CARBON DISULFIDE	75-15-0	1,800	SV	25,000	SV	7,600	SV
CARBON TETRACHLORIDE	56-23-5	5.8	SV	97	SV	29	SV
CHLORO-1,1-DIFLUOROETHANE, 1-	75-68-3	1,200,000	SV	1,400,000	Sol.	1,400,000	Sol.
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107-05-1	3.6	SV	50	SV	15	SV
CHLOROBENZENE	108-90-7	770	SV	11,000	SV	3,200	SV

**Table 1 Groundwater Statewide health standard vapor intrusion screening values (SV<sub>GW</sub>)**

Regulated Substance	CAS No.	Residential (µg/L)	Type	Nonresidential (µg/L)	Type	Converted Residential (µg/L)	Type
CHLORODIBROMOMETHANE	124-48-1	80	MSC	680	SV	200	SV
CHLORODIFLUOROMETHANE	75-45-6	110,000	MSC	520,000	SV	440,000	MSC
CHLOROETHANE	75-00-3	31,000	SV	440,000	SV	130,000	SV
CHLOROFORM	67-66-3	80	MSC	190	SV	80	MSC
CHLOROPRENE	126-99-8	0.16	MSC	1.0	MSC	0.83	MSC
CHLOROPROPANE, 2-	75-29-6	210	SV	3,000	SV	890	SV
CRESOL(S)	1319-77-3	20,000,000	Sol.	20,000,000	Sol.	20,000,000	Sol.
CUMENE (ISOPROPYL BENZENE)	98-82-8	2,100	SV	30,000	SV	8,900	SV
CYCLOHEXANE	110-82-7	13,000	MSC	53,000	MSC	53,000	MSC
CYCLOHEXANONE	108-94-1	4,300,000	SV	37,000,000	Sol.	18,000,000	SV
DIBROMO-3-CHLOROPROPANE, 1,2-	96-12-8	0.62	SV	27	SV	8.0	SV
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106-93-4	3.0	SV	50	SV	15	SV
DIBROMOMETHANE	74-95-3	220	SV	3,000	SV	910	SV
DICHLORO-2-BUTENE, 1,4-	764-41-0	0.44	SV	7.3	SV	2.2	SV
DICHLORO-2-BUTENE, TRANS-1,4-	110-57-6	0.45	SV	7.5	SV	2.2	SV
DICHLOROBENZENE, 1,2-	95-50-1	5,900	SV	82,000	SV	25,000	SV
DICHLOROBENZENE, P-	106-46-7	75	MSC	800	SV	240	SV
DICHLORODIFLUOROMETHANE (FREON 12)	75-71-8	1,000	MSC	1,000	MSC	1,000	MSC
DICHLOROETHANE, 1,1-	75-34-3	100	SV	1,700	SV	520	SV
DICHLOROETHANE, 1,2-	107-06-2	33	SV	550	SV	170	SV
DICHLOROETHYLENE, 1,1-	75-35-4	280	SV	3,900	SV	1,200	SV
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	570	SV	7,900	SV	2,400	SV
DICHLOROMETHANE (METHYLENE CHLORIDE)	75-09-2	7,000	SV	99,000	SV	30,000	SV
DICHLOROPROPANE, 1,2-	78-87-5	36	SV	610	SV	180	SV
DICHLOROPROPENE, 1,3-	542-75-6	75	SV	1,300	SV	380	SV
DICYCLOPENTADIENE	77-73-6	0.63	MSC	2.6	MSC	2.6	MSC
DIOXANE, 1,4-	123-91-1	31,000	SV	510,000	SV	150,000	SV

**Table 1 Groundwater Statewide health standard vapor intrusion screening values (SV<sub>GW</sub>)**

Regulated Substance	CAS No.	Residential (µg/L)	Type	Nonresidential (µg/L)	Type	Converted Residential (µg/L)	Type
EPICHLOROHYDRIN	106-89-8	700	SV	9,800	SV	2,900	SV
ETHOXYETHANOL, 2- (EGEE)	110-80-5	24,000,000	SV	340,000,000	SV	100,000,000	SV
ETHYL ACETATE	141-78-6	23,000	SV	320,000	SV	96,000	SV
ETHYL ACRYLATE	140-88-5	1,100	SV	16,000	SV	4,700	SV
ETHYL BENZENE	100-41-4	700	SV	980	SV	700	SV
ETHYL METHACRYLATE	97-63-2	33,000	SV	460,000	SV	140,000	SV
ETHYLENE GLYCOL	107-21-1	510,000,000	SV	1,000,000,000	SoI.	1,000,000,000	SoI.
FLUOROTRICHLOROMETHANE (FREON 11)	75-69-4	2,000	MSC	3,600	SV	2,000	MSC
FORMALDEHYDE	50-00-0	170,000	SV	2,900,000	SV	870,000	SV
FORMIC ACID	64-18-6	63,000	SV	880,000	SV	260,000	SV
FURFURAL	98-01-1	750,000	SV	11,000,000	SV	3,200,000	SV
HEXACHLOROETHANE	67-72-1	34	SV	570	SV	170	SV
HEXANE	110-54-3	1,500	MSC	6,200	MSC	6,200	MSC
HYDRAZINE/HYDRAZINE SULFATE	302-01-2	450	SV	7,500	SV	2,300	SV
METHACRYLONITRILE	126-98-7	5,300	SV	74,000	SV	22,000	SV
METHANOL	67-56-1	41,000,000	SV	570,000,000	SV	170,000,000	SV
METHOXYETHANOL, 2-	109-86-4	3,100,000	SV	44,000,000	SV	13,000,000	SV
METHYL ACRYLATE	96-33-3	4,300	SV	61,000	SV	18,000	SV
METHYL CHLORIDE	74-87-3	46	SV	780	SV	230	SV
METHYL ETHYL KETONE	78-93-3	3,800,000	SV	53,000,000	SV	16,000,000	SV
METHYL HYDRAZINE	60-34-4	320	SV	4,500	SV	1,300	SV
METHYL ISOBUTYL KETONE	108-10-1	1,100,000	SV	15,000,000	SV	4,400,000	SV
METHYL ISOCYANATE	624-83-9	40	SV	560	SV	170	SV
METHYL METHACRYLATE	80-62-6	110,000	SV	1,500,000	SV	460,000	SV
METHYL N-BUTYL KETONE (2-HEXANONE)	591-78-6	16,000	SV	230,000	SV	68,000	SV
METHYL STYRENE (MIXED ISOMERS)	25013-15-4	1,100	SV	16,000	SV	4,800	SV
METHYL TERT-BUTYL ETHER (MTBE)	1634-04-4	6,000	SV	100,000	SV	30,000	SV
METHYLNAPHTHALENE, 2-	91-57-6	480	SV	6,700	SV	2,000	SV

**Table 1 Groundwater Statewide health standard vapor intrusion screening values (SV<sub>GW</sub>)**

Regulated Substance	CAS No.	Residential (µg/L)	Type	Nonresidential (µg/L)	Type	Converted Residential (µg/L)	Type
NAPHTHALENE	91-20-3	100	SV	1,600	SV	490	SV
NITROBENZENE	98-95-3	1,600	SV	26,000	SV	7,900	SV
NITROPROPANE, 2-	79-46-9	3.5	SV	59	SV	18	SV
NITROSODIETHYLAMINE, N-	55-18-5	3.6	SV	150	SV	46	SV
NITROSODIMETHYLAMINE, N-	62-75-9	20	SV	850	SV	250	SV
NITROSO-DI-N-BUTYLAMINE, N-	924-16-3	130	SV	2,200	SV	650	SV
PCB-1221 (AROCLOR)	11104-28-2	4.2	SV	71	SV	21	SV
PCB-1232 (AROCLOR)	11141-16-5	4.4	SV	74	SV	22	SV
PHENOL	108-95-2	39,000,000	SV	84,000,000	Sol.	84,000,000	Sol.
PROPANOL, 2- (ISOPROPYL ALCOHOL)	67-63-0	1,300,000	SV	19,000,000	SV	5,600,000	SV
PROPYLBENZENE, N-	103-65-1	5,200	SV	52,000	Sol.	22,000	SV
PROPYLENE OXIDE	75-56-9	3,400	SV	58,000	SV	17,000	SV
STYRENE	100-42-5	18,000	SV	260,000	SV	77,000	SV
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	70	MSC	1,200	SV	350	SV
TETRACHLOROETHANE, 1,1,2,2-	79-34-5	56	SV	940	SV	280	SV
TETRACHLOROETHYLENE (PCE)	127-18-4	110	SV	1,500	SV	450	SV
TETRAHYDROFURAN	109-99-9	26	MSC	130	MSC	130	MSC
TOLUENE	108-88-3	34,000	SV	480,000	SV	140,000	SV
TRIBROMOMETHANE (BROMOFORM)	75-25-2	2,100	SV	35,000	SV	10,000	SV
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-	76-13-1	63,000	MSC	170,000	MSC	170,000	MSC
TRICHLOROBENZENE, 1,2,4-	120-82-1	90	SV	1,300	SV	380	SV
TRICHLOROBENZENE, 1,3,5-	108-70-3	66	SV	930	SV	280	SV
TRICHLOROETHANE, 1,1,1-	71-55-6	12,000	SV	170,000	SV	50,000	SV
TRICHLOROETHANE, 1,1,2-	79-00-5	11	SV	160	SV	48	SV
TRICHLOROETHYLENE (TCE)	79-01-6	8.8	SV	120	SV	37	SV
TRICHLOROPROPANE, 1,2,3-	96-18-4	47	SV	650	SV	200	SV
TRICHLOROPROPENE, 1,2,3-	96-19-5	0.86	SV	12	SV	3.6	SV
TRIETHYLAMINE	121-44-8	2,200	SV	31,000	SV	9,200	SV

**Table 1 Groundwater Statewide health standard vapor intrusion screening values (SV<sub>GW</sub>)**

Regulated Substance	CAS No.	Residential (µg/L)	Type	Nonresidential (µg/L)	Type	Converted Residential (µg/L)	Type
TRIMETHYLBENZENE, 1,3,4- (TRIMETHYLBENZENE, 1,2,4-)	95-63-6	64	SV	890	SV	270	SV
TRIMETHYLBENZENE, 1,3,5-	108-67-8	420	MSC	1,200	MSC	1,200	MSC
VINYL ACETATE	108-05-4	17,000	SV	240,000	SV	72,000	SV
VINYL BROMIDE (BROMOETHENE)	593-60-2	2.0	SV	33	SV	10	SV
VINYL CHLORIDE	75-01-4	2.0	MSC	51	SV	15	SV
XYLENES (TOTAL)	1330-20-7	10,000	MSC	14,000	SV	10,000	MSC

**Type:** SV—calculated screening value

MSC—medium specific concentration (Title 25 Pa. Code Ch. 250, Appendix A, Table 1)

Sol.—aqueous solubility

**Table 2. Soil Statewide health standard vapor intrusion screening values (SV<sub>soil</sub>)**

Regulated Substance	CAS No.	Residential (mg/kg)	Type	Nonresidential (mg/kg)	Type	Converted Residential (mg/kg)	Type
ACETALDEHYDE	75-07-0	0.23	SGN	1.9	SV	0.96	SGN
ACETONE	67-64-1	570	SV	12,000	SV	2,400	SV
ACETONITRILE	75-05-8	1.5	SGN	25	SV	6.0	SGN
ACROLEIN	107-02-8	0.00047	SGN	0.0022	SV	0.0020	SGN
ACRYLAMIDE	79-06-1	110	SV	7,300	SV	1,500	SV
ACRYLIC ACID	79-10-7	5.8	SV	120	SV	24	SV
ACRYLONITRILE	107-13-1	0.01	SGN	0.063	SV	0.051	SGN
ALLYL ALCOHOL	107-18-6	0.019	SV	0.41	SV	0.081	SV
AMMONIA	7664-41-7	360	SGN	360	SGN	360	SGN
ANILINE	62-53-3	3.8	SV	79	SV	16	SV
BENZENE	71-43-2	0.13	SGN	0.13	SGN	0.13	SGN
BENZYL CHLORIDE	100-44-7	0.059	SGN	0.30	SGN	0.30	SGN
BETA PROIOLACTONE	57-57-8	0.00015	SGN	0.00076	SGN	0.00076	SGN
BIPHENYL, 1,1-	92-52-4	40	SGN	190	SGN	190	SGN
BIS(2-CHLOROETHYL)ETHER	111-44-4	0.017	SV	0.43	SV	0.085	SV
BIS(2-CHLORO-ISOPROPYL)ETHER	108-60-1	8.0	SGN	8.0	SGN	8.0	SGN
BIS(CHLOROMETHYL)ETHER	542-88-1	0.000012	SGN	0.000060	SGN	0.000060	SGN
BROMOCHLOROMETHANE	74-97-5	1.6	SGN	1.6	SGN	1.6	SGN
BROMODICHLOROMETHANE	75-27-4	2.7	SGN	2.7	SGN	2.7	SGN
BROMOMETHANE	74-83-9	0.54	SGN	0.54	SGN	0.54	SGN
BUTADIENE, 1,3-	106-99-0	0.0086	SGN	0.041	SGN	0.041	SGN
CARBON DISULFIDE	75-15-0	130	SGN	530	SGN	530	SGN
CARBON TETRACHLORIDE	56-23-5	0.26	SGN	0.26	SGN	0.26	SGN
CHLORO-1,1-DIFLUOROETHANE, 1-	75-68-3	1,800	SGN	7,300	SGN	7,300	SGN
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107-05-1	0.049	SGN	0.20	SGN	0.20	SGN
CHLOROBENZENE	108-90-7	6.1	SGN	6.1	SGN	6.1	SGN

**Table 2 Soil Statewide health standard vapor intrusion screening values (SV<sub>soil</sub>)**

Regulated Substance	CAS No.	Residential (mg/kg)	Type	Nonresidential (mg/kg)	Type	Converted Residential (mg/kg)	Type
CHLORODIBROMOMETHANE	124-48-1	2.5	SGN	2.5	SGN	2.5	SGN
CHLORODIFLUOROMETHANE	75-45-6	2,800	SGN	10,000	SGN	10,000	SGN
CHLOROETHANE	75-00-3	5.4	SGN	27	SV	26	SGN
CHLOROFORM	67-66-3	2.0	SGN	2.0	SGN	2.0	SGN
CHLOROPRENE	126-99-8	0.0038	SGN	0.020	SGN	0.020	SGN
CHLOROPROPANE, 2-	75-29-6	16	SGN	67	SGN	67	SGN
CRESOL(S)	1319-77-3	910	SV	19,000	SV	3,800	SV
CUMENE (ISOPROPYL BENZENE)	98-82-8	600	SGN	2,500	SGN	2,500	SGN
CYCLOHEXANE	110-82-7	1,700	SGN	6,900	SGN	6,900	SGN
CYCLOHEXANONE	108-94-1	240	SV	5,000	SV	1,000	SV
DIBROMO-3-CHLOROPROPANE, 1,2-	96-12-8	0.0092	SGN	0.0092	SGN	0.0092	SGN
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106-93-4	0.0012	SGN	0.0036	SV	0.0012	SGN
DIBROMOMETHANE	74-95-3	0.32	SGN	1.4	SGN	1.4	SGN
DICHLORO-2-BUTENE, 1,4-	764-41-0	0.00067	SGN	0.0034	SGN	0.0034	SGN
DICHLORO-2-BUTENE, TRANS-1,4-	110-57-6	0.00078	SGN	0.0039	SGN	0.0039	SGN
DICHLOROBENZENE, 1,2-	95-50-1	59	SGN	59	SGN	59	SGN
DICHLOROBENZENE, P-	106-46-7	10	SGN	10	SGN	10	SGN
DICHLORODIFLUOROMETHANE (FREON 12)	75-71-8	100	SGN	100	SGN	100	SGN
DICHLOROETHANE, 1,1-	75-34-3	0.75	SGN	3.9	SGN	3.9	SGN
DICHLOROETHANE, 1,2-	107-06-2	0.10	SGN	0.10	SGN	0.10	SGN
DICHLOROETHYLENE, 1,1-	75-35-4	0.19	SGN	0.32	SV	0.19	SGN
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	2.3	SGN	2.3	SGN	2.3	SGN
DICHLOROMETHANE (METHYLENE CHLORIDE)	75-09-2	0.18	SV	3.8	SV	0.76	SV
DICHLOROPROPANE, 1,2-	78-87-5	0.11	SGN	0.11	SGN	0.11	SGN
DICHLOROPROPENE, 1,3-	542-75-6	0.13	SGN	0.61	SGN	0.61	SGN
DICYCLOPENTADIENE	77-73-6	0.13	SGN	0.56	SGN	0.56	SGN
DIOXANE, 1,4-	123-91-1	0.63	SV	16	SV	3.2	SV



**Table 2 Soil Statewide health standard vapor intrusion screening values (SV<sub>soil</sub>)**

Regulated Substance	CAS No.	Residential (mg/kg)	Type	Nonresidential (mg/kg)	Type	Converted Residential (mg/kg)	Type
EPICHLOROHYDRIN	106-89-8	0.042	SGN	0.54	SV	0.17	SGN
ETHOXYETHANOL, 2- (EGEE)	110-80-5	560	SV	12,000	SV	2,400	SV
ETHYL ACETATE	141-78-6	3.9	SGN	25	SV	16	SGN
ETHYL ACRYLATE	140-88-5	0.58	SGN	2.7	SGN	2.7	SGN
ETHYL BENZENE	100-41-4	46	SGN	46	SGN	46	SGN
ETHYL METHACRYLATE	97-63-2	10	SGN	43	SGN	43	SGN
ETHYLENE GLYCOL	107-21-1	9,600	SV	200,000	SV	40,000	SV
FLUOROTRICHLOROMETHANE (FREON 11)	75-69-4	87	SGN	87	SGN	87	SGN
FORMALDEHYDE	50-00-0	12	SGN	79	SV	16	SV
FORMIC ACID	64-18-6	1.0	SV	21	SV	4.3	SV
FURFURAL	98-01-1	15	SV	310	SV	62	SV
HEXACHLOROETHANE	67-72-1	0.56	SGN	1.1	SV	0.56	SGN
HEXANE	110-54-3	1,400	SGN	5,600	SGN	5,600	SGN
HYDRAZINE/HYDRAZINE SULFATE	302-01-2	0.0072	SV	0.18	SV	0.036	SV
METHACRYLONITRILE	126-98-7	0.15	SV	3.2	SV	0.64	SV
METHANOL	67-56-1	720	SV	15,000	SV	3,000	SV
METHOXYETHANOL, 2-	109-86-4	50	SV	1,000	SV	210	SV
METHYL ACRYLATE	96-33-3	1.0	SGN	4.5	SGN	4.5	SGN
METHYL CHLORIDE	74-87-3	0.38	SGN	0.38	SGN	0.38	SGN
METHYL ETHYL KETONE	78-93-3	130	SV	2,800	SV	560	SV
METHYL HYDRAZINE	60-34-4	0.0053	SV	0.11	SV	0.022	SV
METHYL ISOBUTYL KETONE	108-10-1	51	SGN	580	SV	140	SGN
METHYL ISOCYANATE	624-83-9	0.029	SGN	0.12	SGN	0.12	SGN
METHYL METHACRYLATE	80-62-6	20	SGN	84	SGN	84	SGN
METHYL N-BUTYL KETONE (2-HEXANONE)	591-78-6	1.6	SGN	16	SV	6.4	SGN
METHYL STYRENE (MIXED ISOMERS)	25013-15-4	47	SGN	200	SGN	200	SGN
METHYL TERT-BUTYL ETHER (MTBE)	1634-04-4	0.28	SGN	3.5	SV	0.70	SV
METHYLNAPHTHALENE, 2-	91-57-6	680	SGN	1,900	SGN	1,900	SGN

**Table 2 Soil Statewide health standard vapor intrusion screening values (SV<sub>soil</sub>)**

Regulated Substance	CAS No.	Residential (mg/kg)	Type	Nonresidential (mg/kg)	Type	Converted Residential (mg/kg)	Type
NAPHTHALENE	91-20-3	25	SGN	25	SGN	25	SGN
NITROBENZENE	98-95-3	3.6	SGN	10	SGN	10	SGN
NITROPROPANE, 2-	79-46-9	0.00029	SGN	0.0025	SV	0.0015	SGN
NITROSODIETHYLAMINE, N-	55-18-5	0.00011	SV	0.0073	SV	0.0015	SV
NITROSODIMETHYLAMINE, N-	62-75-9	0.00042	SV	0.027	SV	0.0054	SV
NITROSO-DI-N-BUTYLAMINE, N-	924-16-3	0.037	SV	0.93	SV	0.19	SV
PCB-1221 (AROCLOR)	11104-28-2	0.18	SGN	0.83	SGN	0.83	SGN
PCB-1232 (AROCLOR)	11141-16-5	0.14	SGN	0.66	SGN	0.66	SGN
PHENOL	108-95-2	1,100	SV	24,000	SV	4,800	SV
PROPANOL, 2- (ISOPROPYL ALCOHOL)	67-63-0	41	SV	860	SV	170	SV
PROPYLBENZENE, N-	103-65-1	400	SGN	1,700	SGN	1,700	SGN
PROPYLENE OXIDE	75-56-9	0.11	SV	2.7	SV	0.54	SV
STYRENE	100-42-5	24	SGN	220	SV	44	SV
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	18	SGN	18	SGN	18	SGN
TETRACHLOROETHANE, 1,1,2,2-	79-34-5	0.026	SGN	0.13	SGN	0.13	SGN
TETRACHLOROETHYLENE (PCE)	127-18-4	0.43	SGN	0.44	SV	0.43	SGN
TETRAHYDROFURAN	109-99-9	0.57	SGN	2.8	SGN	2.8	SGN
TOLUENE	108-88-3	44	SGN	68	SV	44	SGN
TRIBROMOMETHANE (BROMOFORM)	75-25-2	3.5	SGN	4.9	SV	3.5	SGN
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-	76-13-1	10,000	SGN	10,000	SGN	10,000	SGN
TRICHLOROBENZENE, 1,2,4-	120-82-1	27	SGN	27	SGN	27	SGN
TRICHLOROBENZENE, 1,3,5-	108-70-3	31	SGN	31	SGN	31	SGN
TRICHLOROETHANE, 1,1,1-	71-55-6	7.2	SGN	19	SV	7.2	SGN
TRICHLOROETHANE, 1,1,2-	79-00-5	0.15	SGN	0.15	SGN	0.15	SGN
TRICHLOROETHYLENE (TCE)	79-01-6	0.17	SGN	0.17	SGN	0.17	SGN
TRICHLOROPROPANE, 1,2,3-	96-18-4	3.2	SGN	3.2	SGN	3.2	SGN
TRICHLOROPROPENE, 1,2,3-	96-19-5	0.037	SGN	0.15	SGN	0.15	SGN
TRIETHYLAMINE	121-44-8	0.36	SGN	2.1	SV	1.5	SGN

**Table 2 Soil Statewide health standard vapor intrusion screening values ( $SV_{soil}$ )**

Regulated Substance	CAS No.	Residential (mg/kg)	Type	Nonresidential (mg/kg)	Type	Converted Residential (mg/kg)	Type
TRIMETHYLBENZENE, 1,3,4- (TRIMETHYLBENZENE, 1,2,4-)	95-63-6	8.4	SGN	35	SGN	35	SGN
TRIMETHYLBENZENE, 1,3,5-	108-67-8	74	SGN	210	SGN	210	SGN
VINYL ACETATE	108-05-4	5.0	SGN	21	SGN	21	SGN
VINYL BROMIDE (BROMOETHENE)	593-60-2	0.073	SGN	0.38	SGN	0.38	SGN
VINYL CHLORIDE	75-01-4	0.027	SGN	0.027	SGN	0.027	SGN
XYLENES (TOTAL)	1330-20-7	990	SGN	990	SGN	990	SGN

**Type:** SV—calculated screening value

SGN—generic soil-to-groundwater numeric value (Title 25 Pa. Code Ch. 250, Appendix A, Table 3B)

**Table 3. Near-source soil gas Statewide health standard vapor intrusion screening values (SV<sub>NS</sub>)**

<b>Regulated Substance</b>	<b>CAS No.</b>	<b>Residential (µg/m<sup>3</sup>)</b>	<b>Nonresidential (µg/m<sup>3</sup>)</b>	<b>Converted Residential (µg/m<sup>3</sup>)</b>
ACETALDEHYDE	75-07-0	1,900	39,000	7,900
ACETONE	67-64-1	6,500,000	140,000,000	27,000,000
ACETONITRILE	75-05-8	13,000	260,000	53,000
ACROLEIN	107-02-8	4.2	88	18
ACRYLAMIDE	79-06-1	19	1,200	250
ACRYLIC ACID	79-10-7	210	4,400	880
ACRYLONITRILE	107-13-1	72	1,800	360
ALLYL ALCOHOL	107-18-6	21	440	88
AMMONIA	7664-41-7	21,000	440,000	88,000
ANILINE	62-53-3	210	4,400	880
BENZENE	71-43-2	620	16,000	3,100
BENZYL CHLORIDE	100-44-7	99	2,500	500
BETA PROPIOLACTONE	57-57-8	1.2	31	6.1
BIPHENYL, 1,1-	92-52-4	83	1,800	350
BIS(2-CHLOROETHYL)ETHER	111-44-4	15	370	74
BIS(2-CHLORO-ISOPROPYL)ETHER	108-60-1	490	12,000	2,500
BIS(CHLOROMETHYL)ETHER	542-88-1	0.079	2.0	0.40
BROMOCHLOROMETHANE	74-97-5	8,300	180,000	35,000
BROMODICHLOROMETHANE	75-27-4	130	3,300	660
BROMOMETHANE	74-83-9	1,000	22,000	4,400
BUTADIENE, 1,3-	106-99-0	160	4,100	820
CARBON DISULFIDE	75-15-0	150,000	3,100,000	610,000
CARBON TETRACHLORIDE	56-23-5	810	20,000	4,100
CHLORO-1,1-DIFLUOROETHANE, 1-	75-68-3	10,000,000	220,000,000	44,000,000
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107-05-1	210	4,400	880
CHLOROBENZENE	108-90-7	10,000	220,000	44,000

**Table 3 Near-source soil gas Statewide health standard vapor intrusion screening values (SV<sub>NS</sub>)**

Regulated Substance	CAS No.	Residential (µg/m <sup>3</sup> )	Nonresidential (µg/m <sup>3</sup> )	Converted Residential (µg/m <sup>3</sup> )
CHLORODIBROMOMETHANE	124-48-1	180	4,500	910
CHLORODIFLUOROMETHANE	75-45-6	10,000,000	220,000,000	44,000,000
CHLOROETHANE	75-00-3	2,100,000	44,000,000	8,800,000
CHLOROFORM	67-66-3	210	5,300	1,100
CHLOROPRENE	126-99-8	16	410	82
CHLOROPROPANE, 2-	75-29-6	21,000	440,000	88,000
CRESOL(S)	1319-77-3	130,000	2,600,000	530,000
CUMENE (ISOPROPYL BENZENE)	98-82-8	83,000	1,800,000	350,000
CYCLOHEXANE	110-82-7	1,300,000	26,000,000	5,300,000
CYCLOHEXANONE	108-94-1	150,000	3,100,000	610,000
DIBROMO-3-CHLOROPROPANE, 1,2-	96-12-8	0.32	20	4.1
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106-93-4	8.1	200	41
DIBROMOMETHANE	74-95-3	830	18,000	3,500
DICHLORO-2-BUTENE, 1,4-	764-41-0	1.2	29	5.8
DICHLORO-2-BUTENE, TRANS-1,4-	110-57-6	1.2	29	5.8
DICHLOROBENZENE, 1,2-	95-50-1	42,000	880,000	180,000
DICHLOROBENZENE, P-	106-46-7	440	11,000	2,200
DICHLORODIFLUOROMETHANE (FREON 12)	75-71-8	21,000	440,000	88,000
DICHLOROETHANE, 1,1-	75-34-3	3,000	77,000	15,000
DICHLOROETHANE, 1,2-	107-06-2	190	4,700	940
DICHLOROETHYLENE, 1,1-	75-35-4	42,000	880,000	180,000
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	13,000	260,000	53,000
DICHLOROMETHANE (METHYLENE CHLORIDE)	75-09-2	130,000	2,600,000	530,000
DICHLOROPROPANE, 1,2-	78-87-5	490	12,000	2,500
DICHLOROPROPENE, 1,3-	542-75-6	1,200	31,000	6,100
DICYCLOPENTADIENE	77-73-6	63	1,300	260
DIOXANE, 1,4-	123-91-1	630	16,000	3,200
EPICHLOROHYDRIN	106-89-8	210	4,400	880

**Table 3 Near-source soil gas Statewide health standard vapor intrusion screening values (SV<sub>NS</sub>)**

<b>Regulated Substance</b>	<b>CAS No.</b>	<b>Residential (µg/m<sup>3</sup>)</b>	<b>Nonresidential (µg/m<sup>3</sup>)</b>	<b>Converted Residential (µg/m<sup>3</sup>)</b>
ETHOXYETHANOL, 2- (EGEE)	110-80-5	42,000	880,000	180,000
ETHYL ACETATE	141-78-6	15,000	310,000	61,000
ETHYL ACRYLATE	140-88-5	1,700	35,000	7,000
ETHYL BENZENE	100-41-4	1,900	49,000	9,800
ETHYL METHACRYLATE	97-63-2	63,000	1,300,000	260,000
ETHYLENE GLYCOL	107-21-1	83,000	1,800,000	350,000
FLUOROTRICHLOROMETHANE (FREON 11)	75-69-4	150,000	3,100,000	610,000
FORMALDEHYDE	50-00-0	370	9,400	1,900
FORMIC ACID	64-18-6	63	1,300	260
FURFURAL	98-01-1	10,000	220,000	44,000
HEXACHLOROETHANE	67-72-1	490	12,000	2,500
HEXANE	110-54-3	150,000	3,100,000	610,000
HYDRAZINE/HYDRAZINE SULFATE	302-01-2	1.0	25	5.0
METHACRYLONITRILE	126-98-7	6,300	130,000	26,000
METHANOL	67-56-1	830,000	18,000,000	3,500,000
METHOXYETHANOL, 2-	109-86-4	4,200	88,000	18,000
METHYL ACRYLATE	96-33-3	4,200	88,000	18,000
METHYL CHLORIDE	74-87-3	2,700	68,000	14,000
METHYL ETHYL KETONE	78-93-3	1,000,000	22,000,000	4,400,000
METHYL HYDRAZINE	60-34-4	4.2	88	18
METHYL ISOBUTYL KETONE	108-10-1	630,000	13,000,000	2,600,000
METHYL ISOCYANATE	624-83-9	210	4,400	880
METHYL METHACRYLATE	80-62-6	150,000	3,100,000	610,000
METHYL N-BUTYL KETONE (2-HEXANONE)	591-78-6	6,300	130,000	26,000
METHYL STYRENE (MIXED ISOMERS)	25013-15-4	8,300	180,000	35,000
METHYL TERT-BUTYL ETHER (MTBE)	1634-04-4	19,000	470,000	94,000
METHYLNAPHTHALENE, 2-	91-57-6	630	13,000	2,600
NAPHTHALENE	91-20-3	140	3,600	720

**Table 3 Near-source soil gas Statewide health standard vapor intrusion screening values (SV<sub>NS</sub>)**

<b>Regulated Substance</b>	<b>CAS No.</b>	<b>Residential (µg/m<sup>3</sup>)</b>	<b>Nonresidential (µg/m<sup>3</sup>)</b>	<b>Converted Residential (µg/m<sup>3</sup>)</b>
NITROBENZENE	98-95-3	120	3,100	610
NITROPROPANE, 2-	79-46-9	1.8	45	9.1
NITROSODIETHYLAMINE, N-	55-18-5	0.045	2.9	0.57
NITROSODIMETHYLAMINE, N-	62-75-9	0.14	8.8	1.8
NITROSO-DI-N-BUTYLAMINE, N-	924-16-3	3.0	77	15
PCB-1221 (AROCLOR)	11104-28-2	8.5	220	43
PCB-1232 (AROCLOR)	11141-16-5	8.5	220	43
PHENOL	108-95-2	42,000	880,000	180,000
PROPANOL, 2- (ISOPROPYL ALCOHOL)	67-63-0	42,000	880,000	180,000
PROPYLBENZENE, N-	103-65-1	210,000	4,400,000	880,000
PROPYLENE OXIDE	75-56-9	1,300	33,000	6,600
STYRENE	100-42-5	210,000	4,400,000	880,000
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	660	17,000	3,300
TETRACHLOROETHANE, 1,1,2,2-	79-34-5	84	2,100	420
TETRACHLOROETHYLENE (PCE)	127-18-4	8,300	180,000	35,000
TETRAHYDROFURAN	109-99-9	2,500	63,000	13,000
TOLUENE	108-88-3	1,000,000	22,000,000	4,400,000
TRIBROMOMETHANE (BROMOFORM)	75-25-2	4,400	110,000	22,000
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-	76-13-1	6,300,000	130,000,000	26,000,000
TRICHLOROBENZENE, 1,2,4-	120-82-1	420	8,800	1,800
TRICHLOROBENZENE, 1,3,5-	108-70-3	420	8,800	1,800
TRICHLOROETHANE, 1,1,1-	71-55-6	1,000,000	22,000,000	4,400,000
TRICHLOROETHANE, 1,1,2-	79-00-5	42	880	180
TRICHLOROETHYLENE (TCE)	79-01-6	420	8,800	1,800
TRICHLOROPROPANE, 1,2,3-	96-18-4	63	1,300	260
TRICHLOROPROPENE, 1,2,3-	96-19-5	63	1,300	260
TRIETHYLAMINE	121-44-8	1,500	31,000	6,100
TRIMETHYLBENZENE, 1,3,4- (TRIMETHYLBENZENE, 1,2,4-)	95-63-6	1,500	31,000	6,100

**Table 3 Near-source soil gas Statewide health standard vapor intrusion screening values (SV<sub>NS</sub>)**

<b>Regulated Substance</b>	<b>CAS No.</b>	<b>Residential (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Nonresidential (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Converted Residential (<math>\mu\text{g}/\text{m}^3</math>)</b>
TRIMETHYLBENZENE, 1,3,5-	108-67-8	1,500	31,000	6,100
VINYL ACETATE	108-05-4	42,000	880,000	180,000
VINYL BROMIDE (BROMOETHENE)	593-60-2	150	3,800	770
VINYL CHLORIDE	75-01-4	160	14,000	2,700
XYLENES (TOTAL)	1330-20-7	21,000	440,000	88,000



**Table 4. Sub-slab soil gas Statewide health standard vapor intrusion screening values (SV<sub>SS</sub>)**

Regulated Substance	CAS No.	Residential (µg/m <sup>3</sup> )	Nonresidential (µg/m <sup>3</sup> )	Converted Residential (µg/m <sup>3</sup> )
ACETALDEHYDE	75-07-0	360	5,100	1,500
ACETONE	67-64-1	1,200,000	17,000,000	5,200,000
ACETONITRILE	75-05-8	2,400	34,000	10,000
ACROLEIN	107-02-8	0.80	11	3.4
ACRYLAMIDE	79-06-1	3.7	160	47
ACRYLIC ACID	79-10-7	40	560	170
ACRYLONITRILE	107-13-1	14	230	69
ALLYL ALCOHOL	107-18-6	4.0	56	17
AMMONIA	7664-41-7	4,000	56,000	17,000
ANILINE	62-53-3	40	560	170
BENZENE	71-43-2	120	2,000	610
BENZYL CHLORIDE	100-44-7	19	320	96
BETA PROPIOLACTONE	57-57-8	0.23	3.9	1.2
BIPHENYL, 1,1-	92-52-4	16	220	67
BIS(2-CHLOROETHYL)ETHER	111-44-4	2.8	48	14
BIS(2-CHLORO-ISOPROPYL)ETHER	108-60-1	94	1,600	470
BIS(CHLOROMETHYL)ETHER	542-88-1	0.015	0.25	0.076
BROMOCHLOROMETHANE	74-97-5	1,600	22,000	6,700
BROMODICHLOROMETHANE	75-27-4	25	430	130
BROMOMETHANE	74-83-9	200	2,800	840
BUTADIENE, 1,3-	106-99-0	31	520	160
CARBON DISULFIDE	75-15-0	28,000	390,000	120,000
CARBON TETRACHLORIDE	56-23-5	160	2,600	790
CHLORO-1,1-DIFLUOROETHANE, 1-	75-68-3	2,000,000	28,000,000	8,400,000
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107-05-1	40	560	170
CHLOROBENZENE	108-90-7	2,000	28,000	8,400

**Table 4 Sub-slab soil gas Statewide health standard vapor intrusion screening values (SV<sub>SS</sub>)**

<b>Regulated Substance</b>	<b>CAS No.</b>	<b>Residential (µg/m<sup>3</sup>)</b>	<b>Nonresidential (µg/m<sup>3</sup>)</b>	<b>Converted Residential (µg/m<sup>3</sup>)</b>
CHLORODIBROMOMETHANE	124-48-1	35	580	170
CHLORODIFLUOROMETHANE	75-45-6	2,000,000	28,000,000	8,400,000
CHLOROETHANE	75-00-3	400,000	5,600,000	1,700,000
CHLOROFORM	67-66-3	41	680	210
CHLOROPRENE	126-99-8	3.1	52	16
CHLOROPROPANE, 2-	75-29-6	4,000	56,000	17,000
CRESOL(S)	1319-77-3	24,000	340,000	100,000
CUMENE (ISOPROPYL BENZENE)	98-82-8	16,000	220,000	67,000
CYCLOHEXANE	110-82-7	240,000	3,400,000	1,000,000
CYCLOHEXANONE	108-94-1	28,000	390,000	120,000
DIBROMO-3-CHLOROPROPANE, 1,2-	96-12-8	0.062	2.6	0.79
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106-93-4	1.6	26	7.9
DIBROMOMETHANE	74-95-3	160	2,200	670
DICHLORO-2-BUTENE, 1,4-	764-41-0	0.22	3.7	1.1
DICHLORO-2-BUTENE, TRANS-1,4-	110-57-6	0.22	3.7	1.1
DICHLOROBENZENE, 1,2-	95-50-1	8,000	110,000	34,000
DICHLOROBENZENE, P-	106-46-7	85	1,400	430
DICHLORODIFLUOROMETHANE (FREON 12)	75-71-8	4,000	56,000	17,000
DICHLOROETHANE, 1,1-	75-34-3	590	9,800	3,000
DICHLOROETHANE, 1,2-	107-06-2	36	610	180
DICHLOROETHYLENE, 1,1-	75-35-4	8,000	110,000	34,000
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	2,400	34,000	10,000
DICHLOROMETHANE (METHYLENE CHLORIDE)	75-09-2	24,000	340,000	100,000
DICHLOROPROPANE, 1,2-	78-87-5	94	1,600	470
DICHLOROPROPENE, 1,3-	542-75-6	230	3,900	1,200
DICYCLOPENTADIENE	77-73-6	12	170	51
DIOXANE, 1,4-	123-91-1	120	2,000	610
EPICHLOROHYDRIN	106-89-8	40	560	170

**Table 4 Sub-slab soil gas Statewide health standard vapor intrusion screening values (SV<sub>SS</sub>)**

<b>Regulated Substance</b>	<b>CAS No.</b>	<b>Residential (µg/m<sup>3</sup>)</b>	<b>Nonresidential (µg/m<sup>3</sup>)</b>	<b>Converted Residential (µg/m<sup>3</sup>)</b>
ETHOXYETHANOL, 2- (EGEE)	110-80-5	8,000	110,000	34,000
ETHYL ACETATE	141-78-6	2,800	39,000	12,000
ETHYL ACRYLATE	140-88-5	320	4,500	1,300
ETHYL BENZENE	100-41-4	370	6,300	1,900
ETHYL METHACRYLATE	97-63-2	12,000	170,000	51,000
ETHYLENE GLYCOL	107-21-1	16,000	220,000	67,000
FLUOROTRICHLOROMETHANE (FREON 11)	75-69-4	28,000	390,000	120,000
FORMALDEHYDE	50-00-0	72	1,200	360
FORMIC ACID	64-18-6	12	170	51
FURFURAL	98-01-1	2,000	28,000	8,400
HEXACHLOROETHANE	67-72-1	94	1,600	470
HEXANE	110-54-3	28,000	390,000	120,000
HYDRAZINE/HYDRAZINE SULFATE	302-01-2	0.19	3.2	1.0
METHACRYLONITRILE	126-98-7	1,200	17,000	5,100
METHANOL	67-56-1	160,000	2,200,000	670,000
METHOXYETHANOL, 2-	109-86-4	800	11,000	3,400
METHYL ACRYLATE	96-33-3	800	11,000	3,400
METHYL CHLORIDE	74-87-3	520	8,700	2,600
METHYL ETHYL KETONE	78-93-3	200,000	2,800,000	840,000
METHYL HYDRAZINE	60-34-4	0.80	11	3.4
METHYL ISOBUTYL KETONE	108-10-1	120,000	1,700,000	510,000
METHYL ISOCYANATE	624-83-9	40	560	170
METHYL METHACRYLATE	80-62-6	28,000	390,000	120,000
METHYL N-BUTYL KETONE (2-HEXANONE)	591-78-6	1,200	17,000	5,100
METHYL STYRENE (MIXED ISOMERS)	25013-15-4	1,600	22,000	6,700
METHYL TERT-BUTYL ETHER (MTBE)	1634-04-4	3,600	61,000	18,000
METHYLNAPHTHALENE, 2-	91-57-6	120	1,700	510
NAPHTHALENE	91-20-3	28	460	140

**Table 4 Sub-slab soil gas Statewide health standard vapor intrusion screening values (SV<sub>SS</sub>)**

<b>Regulated Substance</b>	<b>CAS No.</b>	<b>Residential (µg/m<sup>3</sup>)</b>	<b>Nonresidential (µg/m<sup>3</sup>)</b>	<b>Converted Residential (µg/m<sup>3</sup>)</b>
NITROBENZENE	98-95-3	23	390	120
NITROPROPANE, 2-	79-46-9	0.35	5.8	1.7
NITROSODIETHYLAMINE, N-	55-18-5	0.0086	0.37	0.11
NITROSODIMETHYLAMINE, N-	62-75-9	0.026	1.1	0.34
NITROSO-DI-N-BUTYLAMINE, N-	924-16-3	0.59	10	3.0
PCB-1221 (AROCLOR)	11104-28-2	1.6	28	8.3
PCB-1232 (AROCLOR)	11141-16-5	1.6	28	8.3
PHENOL	108-95-2	8,000	110,000	34,000
PROPANOL, 2- (ISOPROPYL ALCOHOL)	67-63-0	8,000	110,000	34,000
PROPYLBENZENE, N-	103-65-1	40,000	560,000	170,000
PROPYLENE OXIDE	75-56-9	250	4,300	1,300
STYRENE	100-42-5	40,000	560,000	170,000
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	130	2,100	640
TETRACHLOROETHANE, 1,1,2,2-	79-34-5	16	270	81
TETRACHLOROETHYLENE (PCE)	127-18-4	1,600	22,000	6,700
TETRAHYDROFURAN	109-99-9	480	8,100	2,400
TOLUENE	108-88-3	200,000	2,800,000	840,000
TRIBROMOMETHANE (BROMOFORM)	75-25-2	850	14,000	4,300
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-	76-13-1	1,200,000	17,000,000	5,100,000
TRICHLOROBENZENE, 1,2,4-	120-82-1	80	1,100	340
TRICHLOROBENZENE, 1,3,5-	108-70-3	80	1,100	340
TRICHLOROETHANE, 1,1,1-	71-55-6	200,000	2,800,000	840,000
TRICHLOROETHANE, 1,1,2-	79-00-5	8.0	110	34
TRICHLOROETHYLENE (TCE)	79-01-6	80	1,100	340
TRICHLOROPROPANE, 1,2,3-	96-18-4	12	170	51
TRICHLOROPROPENE, 1,2,3-	96-19-5	12	170	51
TRIETHYLAMINE	121-44-8	280	3,900	1,200
TRIMETHYLBENZENE, 1,3,4- (TRIMETHYLBENZENE, 1,2,4-)	95-63-6	280	3,900	1,200

**Table 4 Sub-slab soil gas Statewide health standard vapor intrusion screening values (SV<sub>SS</sub>)**

<b>Regulated Substance</b>	<b>CAS No.</b>	<b>Residential (µg/m<sup>3</sup>)</b>	<b>Nonresidential (µg/m<sup>3</sup>)</b>	<b>Converted Residential (µg/m<sup>3</sup>)</b>
TRIMETHYLBENZENE, 1,3,5-	108-67-8	280	3,900	1,200
VINYL ACETATE	108-05-4	8,000	110,000	34,000
VINYL BROMIDE (BROMOETHENE)	593-60-2	29	490	150
VINYL CHLORIDE	75-01-4	30	1,700	520
XYLENES (TOTAL)	1330-20-7	4,000	56,000	17,000

**Table 5. Indoor air Statewide health standard vapor intrusion screening values (SV<sub>IA</sub>)**

Regulated Substance	CAS No.	Residential ( $\mu\text{g}/\text{m}^3$ )	Nonresidential ( $\mu\text{g}/\text{m}^3$ )
ACETALDEHYDE	75-07-0	9.4	39
ACETONE	67-64-1	32,000	140,000
ACETONITRILE	75-05-8	63	260
ACROLEIN	107-02-8	0.021	0.088
ACRYLAMIDE	79-06-1	0.096	1.2
ACRYLIC ACID	79-10-7	1.0	4.4
ACRYLONITRILE	107-13-1	0.36	1.8
ALLYL ALCOHOL	107-18-6	0.10	0.44
AMMONIA	7664-41-7	100	440
ANILINE	62-53-3	1.0	4.4
BENZENE	71-43-2	3.1	16
BENZYL CHLORIDE	100-44-7	0.50	2.5
BETA PROPIOLACTONE	57-57-8	0.0061	0.031
BIPHENYL, 1,1-	92-52-4	0.42	1.8
BIS(2-CHLOROETHYL)ETHER	111-44-4	0.074	0.37
BIS(2-CHLORO-ISOPROPYL)ETHER	108-60-1	2.4	12
BIS(CHLOROMETHYL)ETHER	542-88-1	0.00039	0.0020
BROMOCHLOROMETHANE	74-97-5	42	180
BROMODICHLOROMETHANE	75-27-4	0.66	3.3
BROMOMETHANE	74-83-9	5.2	22
BUTADIENE, 1,3-	106-99-0	0.81	4.1
CARBON DISULFIDE	75-15-0	730	3,100
CARBON TETRACHLORIDE	56-23-5	4.1	20
CHLORO-1,1-DIFLUOROETHANE, 1-	75-68-3	52,000	220,000
CHLORO-1-PROPENE, 3- (ALLYL CHLORIDE)	107-05-1	1.0	4.4
CHLOROBENZENE	108-90-7	52	220
CHLORODIBROMOMETHANE	124-48-1	0.90	4.5

**Table 5 Indoor air Statewide health standard vapor intrusion screening values (SV<sub>IA</sub>)**

<b>Regulated Substance</b>	<b>CAS No.</b>	<b>Residential (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Nonresidential (<math>\mu\text{g}/\text{m}^3</math>)</b>
CHLORODIFLUOROMETHANE	75-45-6	52,000	220,000
CHLOROETHANE	75-00-3	10,000	44,000
CHLOROFORM	67-66-3	1.1	5.3
CHLOROPRENE	126-99-8	0.081	0.41
CHLOROPROPANE, 2-	75-29-6	100	440
CRESOL(S)	1319-77-3	630	2,600
CUMENE (ISOPROPYL BENZENE)	98-82-8	420	1,800
CYCLOHEXANE	110-82-7	6,300	26,000
CYCLOHEXANONE	108-94-1	730	3,100
DIBROMO-3-CHLOROPROPANE, 1,2-	96-12-8	0.0016	0.020
DIBROMOETHANE, 1,2- (ETHYLENE DIBROMIDE)	106-93-4	0.041	0.20
DIBROMOMETHANE	74-95-3	4.2	18
DICHLORO-2-BUTENE, 1,4-	764-41-0	0.0058	0.029
DICHLORO-2-BUTENE, TRANS-1,4-	110-57-6	0.0058	0.029
DICHLOROBENZENE, 1,2-	95-50-1	210	880
DICHLOROBENZENE, P-	106-46-7	2.2	11
DICHLORODIFLUOROMETHANE (FREON 12)	75-71-8	100	440
DICHLOROETHANE, 1,1-	75-34-3	15	77
DICHLOROETHANE, 1,2-	107-06-2	0.94	4.7
DICHLOROETHYLENE, 1,1-	75-35-4	210	880
DICHLOROETHYLENE, TRANS-1,2-	156-60-5	63	260
DICHLOROMETHANE (METHYLENE CHLORIDE)	75-09-2	630	2,600
DICHLOROPROPANE, 1,2-	78-87-5	2.4	12
DICHLOROPROPENE, 1,3-	542-75-6	6.1	31
DICYCLOPENTADIENE	77-73-6	0.31	1.3
DIOXANE, 1,4-	123-91-1	3.2	16
EPICHLOROHYDRIN	106-89-8	1.0	4.4
ETHOXYETHANOL, 2- (EGEE)	110-80-5	210	880
ETHYL ACETATE	141-78-6	73	310

**Table 5 Indoor air Statewide health standard vapor intrusion screening values (SV<sub>IA</sub>)**

<b>Regulated Substance</b>	<b>CAS No.</b>	<b>Residential (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Nonresidential (<math>\mu\text{g}/\text{m}^3</math>)</b>
ETHYL ACRYLATE	140-88-5	8.3	35
ETHYL BENZENE	100-41-4	9.7	49
ETHYL METHACRYLATE	97-63-2	310	1,300
ETHYLENE GLYCOL	107-21-1	420	1,800
FLUOROTRICHLOROMETHANE (FREON 11)	75-69-4	730	3,100
FORMALDEHYDE	50-00-0	1.9	9.4
FORMIC ACID	64-18-6	0.31	1.3
FURFURAL	98-01-1	52	220
HEXACHLOROETHANE	67-72-1	2.4	12
HEXANE	110-54-3	730	3,100
HYDRAZINE/HYDRAZINE SULFATE	302-01-2	0.0050	0.025
METHACRYLONITRILE	126-98-7	31	130
METHANOL	67-56-1	4,200	18,000
METHOXYETHANOL, 2-	109-86-4	21	88
METHYL ACRYLATE	96-33-3	21	88
METHYL CHLORIDE	74-87-3	14	68
METHYL ETHYL KETONE	78-93-3	5,200	22,000
METHYL HYDRAZINE	60-34-4	0.021	0.088
METHYL ISOBUTYL KETONE	108-10-1	3,100	13,000
METHYL ISOCYANATE	624-83-9	1.0	4.4
METHYL METHACRYLATE	80-62-6	730	3,100
METHYL N-BUTYL KETONE (2-HEXANONE)	591-78-6	31	130
METHYL STYRENE (MIXED ISOMERS)	25013-15-4	42	180
METHYL TERT-BUTYL ETHER (MTBE)	1634-04-4	94	470
METHYLNAPHTHALENE, 2-	91-57-6	3.1	13
NAPHTHALENE	91-20-3	0.72	3.6
NITROBENZENE	98-95-3	0.61	3.1
NITROPROPANE, 2-	79-46-9	0.0090	0.045
NITROSODIETHYLAMINE, N-	55-18-5	0.00022	0.0029



**Table 5 Indoor air Statewide health standard vapor intrusion screening values (SV<sub>IA</sub>)**

<b>Regulated Substance</b>	<b>CAS No.</b>	<b>Residential (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Nonresidential (<math>\mu\text{g}/\text{m}^3</math>)</b>
NITROSODIMETHYLAMINE, N-	62-75-9	0.00069	0.0088
NITROSO-DI-N-BUTYLAMINE, N-	924-16-3	0.015	0.077
PCB-1221 (AROCLOR)	11104-28-2	0.043	0.22
PCB-1232 (AROCLOR)	11141-16-5	0.043	0.22
PHENOL	108-95-2	210	880
PROPANOL, 2- (ISOPROPYL ALCOHOL)	67-63-0	210	880
PROPYLBENZENE, N-	103-65-1	1,000	4,400
PROPYLENE OXIDE	75-56-9	6.6	33
STYRENE	100-42-5	1,000	4,400
TETRACHLOROETHANE, 1,1,1,2-	630-20-6	3.3	17
TETRACHLOROETHANE, 1,1,2,2-	79-34-5	0.42	2.1
TETRACHLOROETHYLENE (PCE)	127-18-4	42	180
TETRAHYDROFURAN	109-99-9	13	63
TOLUENE	108-88-3	5,200	22,000
TRIBROMOMETHANE (BROMOFORM)	75-25-2	22	110
TRICHLORO-1,2,2-TRIFLUOROETHANE, 1,1,2-	76-13-1	31,000	130,000
TRICHLOROBENZENE, 1,2,4-	120-82-1	2.1	8.8
TRICHLOROBENZENE, 1,3,5-	108-70-3	2.1	8.8
TRICHLOROETHANE, 1,1,1-	71-55-6	5,200	22,000
TRICHLOROETHANE, 1,1,2-	79-00-5	0.21	0.88
TRICHLOROETHYLENE (TCE)	79-01-6	2.1	8.8
TRICHLOROPROPANE, 1,2,3-	96-18-4	0.31	1.3
TRICHLOROPROPENE, 1,2,3-	96-19-5	0.31	1.3
TRIETHYLAMINE	121-44-8	7.3	31
TRIMETHYLBENZENE, 1,3,4- (TRIMETHYLBENZENE, 1,2,4-)	95-63-6	7.3	31
TRIMETHYLBENZENE, 1,3,5-	108-67-8	7.3	31
VINYL ACETATE	108-05-4	210	880
VINYL BROMIDE (BROMOETHENE)	593-60-2	0.76	3.8
VINYL CHLORIDE	75-01-4	0.79	14

**Table 5 Indoor air Statewide health standard vapor intrusion screening values (SV<sub>IA</sub>)**

<b>Regulated Substance</b>	<b>CAS No.</b>	<b>Residential (<math>\mu\text{g}/\text{m}^3</math>)</b>	<b>Nonresidential (<math>\mu\text{g}/\text{m}^3</math>)</b>
XYLENES (TOTAL)	1330-20-7	100	440

**Table 6** Collection of Data for Vapor Intrusion Screening

**Table 6. Collection of Data for Vapor Intrusion Screening**

Sample	Data Collection Conditions
Soil	<ul style="list-style-type: none"> <li>• Collect an appropriate number of samples to characterize the source(s) and/or demonstrate attainment.</li> <li>• The samples are from unsaturated soil.</li> <li>• Contaminated soil cannot be in contact with the building foundation.</li> <li>• At least a 5-foot vertical section of acceptable soil or soil-like material exists between the contamination and the building foundation.</li> <li>• No separate phase liquid (NAPL) is present.</li> </ul>
Groundwater	<ul style="list-style-type: none"> <li>• Install an appropriate number of monitoring wells to characterize the source(s) and/or demonstrate attainment.</li> <li>• Sample from properly constructed monitoring wells.</li> <li>• Monitoring well screens cross the water table.</li> <li>• The wetted length of the well screen should be no more than 10 feet. (Alternative methods such as using a packer to sample across the water table in a deeper bedrock well may be acceptable.)</li> <li>• Contaminated groundwater cannot be in contact with the building foundation.</li> <li>• At least a 5-foot vertical section of acceptable soil or soil-like material exists between the groundwater and the building foundation.</li> <li>• No separate phase liquid (NAPL) is present.</li> </ul>
Near-Source Soil Gas	<ul style="list-style-type: none"> <li>• Account for potential spatial variability in the sampling design based on the soil and groundwater data.</li> <li>• Collect at least two rounds of samples from at least two locations.</li> <li>• Locate sample points where they will be most representative of soil gas in Potential VI Sources and preferential pathways (if applicable).</li> <li>• The sample depth is within about 1 foot of the top of the capillary zone for groundwater sources, considering the effects of water table fluctuations.</li> <li>• Sample above bedrock when the water table is within bedrock.</li> <li>• Sample within or no more than 1 foot above vadose zone soil sources.</li> <li>• Sample at least 5 feet beneath the bottom of the building foundation.</li> <li>• At least a 5-foot vertical section of acceptable soil or soil-like material exists between the source and the building foundation.</li> <li>• Refer to Appendix Z.</li> </ul>
Sub-Slab Soil Gas	<ul style="list-style-type: none"> <li>• Account for potential spatial variability in the sampling design.</li> <li>• Collect at least two rounds of samples from at least two locations.</li> <li>• Bias sample points towards areas of greatest expected impact.</li> <li>• Refer to Appendix Z.</li> </ul>
Indoor Air	<ul style="list-style-type: none"> <li>• Account for potential spatial variability in the sampling design.</li> <li>• Collect at least two rounds of samples from at least two locations.</li> <li>• Sample in the lowest occupied floor (basement and/or first floor).</li> <li>• Sample when the daily average outdoor temperature is at least 15°F below the minimum indoor temperature of the occupied space.</li> <li>• Refer to Appendix Z.</li> </ul>

**Table 7** Application of Statewide Health Standard Vapor Intrusion Screening Criteria

**Table 7. Application of Statewide Health Standard Vapor Intrusion Screening Criteria**

Characterization Data	Vapor Intrusion Screening Conditions
Soil Characterization	<ul style="list-style-type: none"> <li>• Soil attains the Statewide health standard on the basis of the characterization data without remediation.</li> <li>• Use all applicable soil characterization data for vapor intrusion screening.</li> <li>• If there are no exceedences of vapor intrusion soil screening values (<math>SV_{SOIL}</math>), then the VI evaluation is complete.</li> </ul>
Groundwater Characterization	<ul style="list-style-type: none"> <li>• Groundwater attains the Statewide health standard on the basis of the characterization data without remediation.</li> <li>• Use all applicable groundwater characterization data for vapor intrusion screening.</li> <li>• Collect at least two rounds of data.</li> <li>• If there are no exceedences of vapor intrusion groundwater screening values (<math>SV_{GW}</math>), then the VI evaluation is complete.</li> </ul>
Near-Source Soil Gas, Sub-Slab Soil Gas, or Indoor Air Characterization	<ul style="list-style-type: none"> <li>• The remediator may characterize and screen soil gas or indoor air with a limited number of sampling rounds.</li> <li>• Sample at least two locations and perform a minimum of two sampling events.</li> <li>• Collect samples at least 45 days apart.</li> <li>• If there are no exceedences of vapor intrusion screening values (<math>SV_{NS}</math>, <math>SV_{SS}</math>, <math>SV_{IA}</math>) then the VI evaluation is complete.</li> </ul>

**Table 7** Application of Statewide Health Standard Vapor Intrusion Screening Criteria

Attainment Data	Vapor Intrusion Screening Conditions
Soil Attainment	<ul style="list-style-type: none"> <li>• Use all applicable soil attainment data.</li> <li>• The attainment requirements for soil in Sections 250.702, 250.703, and 250.707(b)(1) may be utilized for vapor intrusion soil screening (e.g., 75%/10x rule).</li> </ul>
Groundwater Attainment	<ul style="list-style-type: none"> <li>• Use all applicable groundwater attainment data.</li> <li>• When eight or more consecutive quarters of data are available then the attainment requirements for groundwater in Sections 250.702, 250.704, and 250.707(b)(2)(i) may be utilized for vapor intrusion groundwater screening (e.g., 75%/10x rule).</li> <li>• Fewer than eight rounds of data may be screened with Department approval pursuant to Section 250.704(d). The VI evaluation is complete if all concentrations are less than or equal to the groundwater screening values (<math>SV_{GW}</math>).</li> <li>• The alternate groundwater attainment statistical method of Section 250.707(b)(2)(ii) may be applied to vapor intrusion screening when the minimum number of samples specified by the documentation of the method have been collected.</li> </ul>
VI Monitoring Data	Vapor Intrusion Screening Conditions
Near-Source Soil Gas, Sub-Slab Soil Gas, or Indoor Air Monitoring	<ul style="list-style-type: none"> <li>• Soil gas and indoor air monitoring is performed on a quarterly basis or twice per quarter with samples collected at least 45 days apart.</li> <li>• The Department may approve alternative sampling frequencies.</li> <li>• Near-source and sub-slab soil gas samples are collected from all of the same probes in each event.</li> <li>• Indoor air samples are collected at all of the same locations in each event.</li> <li>• There are a minimum of two sampling rounds.</li> <li>• Statistical tests for screening are applied to the collective data from all near-source soil gas, sub-slab soil gas, or indoor air locations and rounds at each building or portion of a building with a potential VI impact.</li> <li>• The following statistical test may be applied when screening VI data: Seventy-five percent of all samples are equal to or less than the applicable screening value with no individual sample exceeding ten times the screening value (75%/10x rule) when there is a combination of at least eight sample locations and sampling rounds at each current or potential future building.</li> <li>• An alternative statistical method may be applied to vapor intrusion screening when the minimum number of samples (a combination of at least eight locations and rounds) specified by the documentation of the method have been collected: As applied in accordance with EPA approved statistical methods, the 95% UCL of the arithmetic mean is at or below the applicable screening value.</li> </ul>