United States Environmental Protection Agency

This document contains the tables from the EPA "OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance)," published in November 2002. The reference number is EPA 530-D-02-004. You can find the entire document at http://www.epa.gov/epaoswer/hazwaste/ca/eis/vapor.htm.

OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance)

Tables

November 2002

Table 1: Question 1 Summary Sheet.

CAS No.	Chemical	Is Chemical Sufficiently Toxic? [1]	Is Chemical Sufficiently Volatile? [2]	Check Here if Known or Reasonably Suspected To Be Present [3]
83329	Acenaphthene	YES	YES	
75070	Acetaldehyde	YES	YES	
67641	Acetone	YES	YES	
75058	Acetonitrile	YES	YES	
98862	Acetophenone	YES	YES	
107028	Acrolein	YES	YES	
107131	Acrylonitrile	YES	YES	
309002	Aldrin	YES	YES	
319846	alpha-HCH (alpha-BHC)	YES	YES	
62533	Aniline	YES	NO	NA
120127	Anthracene	NO	YES	NA
56553	Benz(a)anthracene	YES	NO	NA
100527	Benzaldehyde	YES	YES	
71432	Benzene	YES	YES	
50328	Benzo(a)pyrene	YES	NO	NA
205992	Benzo(b)fluoranthene	YES	YES	
207089	Benzo(k)fluoranthene	NO	NO	NA
65850	Benzoic Acid	NO	NO	NA
100516	Benzyl alcohol	YES	NO	NA
100447	Benzylchloride	YES	YES	
91587	beta-Chloronaphthalene	YES	YES	
319857	beta-HCH (beta-BHC)	YES	NO	NA
92524	Biphenyl	YES	YES	
111444	Bis(2-chloroethyl)ether	YES	YES	
108601	Bis(2-chloroisopropyl)ether	YES	YES	
117817	Bis(2-ethylhexyl)phthalate	NO	NO	NA
542881	Bis(chloromethyl)ether	YES	YES	
75274	Bromodichloromethane	YES	YES	
75252	Bromoform	YES	YES	
106990	1,3-Butadiene	YES	YES	
71363	Butanol	YES	NO	NA
85687	Butyl benzyl phthalate	NO	NO	NA
86748	Carbazole	YES	NO	NA
75150	Carbon disulfide	YES	YES	
56235	Carbon tetrachloride	YES	YES	
57749	Chlordane	YES	YES	
126998	2-Chloro-1,3-butadiene (chloroprene)	YES	YES	
108907	Chlorobenzene	YES	YES	
109693	1-Chlorobutane	YES	YES	
124481	Chlorodibromomethane	YES	YES	
75456	Chlorodifluoromethane	YES	YES	
75003	Chloroethane (ethyl chloride)	YES	YES	
67663	Chloroform	YES	YES	
95578	2-Chlorophenol	YES	YES	
75296	2-Chloropropane	YES	YES	
218019	Chrysene	YES	YES	
156592	cis-1,2-Dichloroethylene	YES	YES	
123739	Crotonaldehyde (2-butenal)	YES	YES	
98828	Cumene	YES	YES	
72548	DDD	YES	NO	NA
72559	DDE	YES	YES	
50293	DDT	YES	NO	NA
53703	Dibenz(a,h)anthracene	YES	NO	NA
132649	Dibenzofuran	YES	YES	
96128	1,2-Dibromo-3-chloropropane	YES	YES	
106934	1,2-Dibromoethane (ethylene dibromide)	YES	YES	
541731	1,3-Dichlorobenzene	YES	YES	
95501	1,2-Dichlorobenzene	YES	YES	
106467	1,4-Dichlorobenzene	YES	YES	
91941	3,3-Dichlorobenzidine	YES	NO	NA
75718	Dichlorodifluoromethane	YES	YES	

Table 1: Question 1 Summary Sheet.

CAS No.	Chemical	Is Chemical Sufficiently Toxic? [1]	Is Chemical Sufficiently Volatile? [2]	Check Here if Known or Reasonably Suspected To Be Present [3]
75343	1,1-Dichloroethane	YES	YES	
107062	1,2-Dichloroethane	YES	YES	
75354	1,1-Dichloroethylene	YES	YES	
120832	2,4-Dichlorophenol	YES	NO	NA
78875	1,2-Dichloropropane	YES	YES	
542756	1,3-Dichloropropene	YES	YES	
60571	Dieldrin	YES	YES	
84662	Diethylphthalate	YES	NO	NA
105679	2,4-Dimethylphenol	YES	NO	NA
131113	Dimethylphthalate	NA	NO	NA
84742	Di-n-butyl phthalate	NO	NO	NA
534521	4,6-Dinitro-2-methylphenol (4,6-dinitro-o-cresol)	YES	NO	NA
51285	2,4-Dinitrophenol	YES	NO	NA
121142	2,4-Dinitrotoluene	YES	NO	NA
606202	2,6-Dinitrotoluene	YES	NO	NA
117840	Di-n-octyl phthalate	NO	YES	NA
115297	Endosulfan	YES	YES	
72208	Endrin	YES	NO	NA
106898	Epichlorohydrin	YES	YES	
60297	Ethyl ether	YES	YES	
141786	Ethylacetate	YES	YES	
100414	Ethylbenzene	YES	YES	
75218	Ethylene oxide	YES	YES	
97632	Ethylmethacrylate	YES	YES	
206440	Fluoranthene	NO	YES	NA
86737	Fluorene	YES	YES	
110009	Furan	YES	YES	
58899	gamma-HCH (Lindane)	YES	YES	
76448	Heptachlor	YES	YES	
1024573	Heptachlor epoxide	YES	NO	NA
87683	Hexachloro-1,3-butadiene	YES	YES	
118741	Hexachlorobenzene	YES	YES	
77474	Hexachlorocyclopentadiene	YES	YES	
67721	Hexachloroethane	YES	YES	
110543	Hexane	YES	YES	
74908	Hydrogen cyanide	YES	YES	
193395	Indeno(1,2,3-cd)pyrene	NO	NO	NA
78831	Isobutanol	YES	YES	
78591	Isophorone	YES	NO	NA
7439976	Mercury (elemental)	YES	YES	
126987	Methacrylonitrile	YES	YES	
72435	Methoxychlor	YES	YES	
79209	Methyl acetate	YES	YES	
96333	Methyl acrylate	YES	YES	
74839	Methyl bromide	YES	YES	
74873	Methyl chloride (chloromethane)	YES	YES	
108872	Methylcyclohexane	YES	YES	
74953	Methylene bromide	YES	YES	
75092	Methylene chloride	YES	YES	
78933	Methylethylketone (2-butanone)	YES	YES	
108101	Methylisobutylketone	YES	YES	
80626	Methylmethacrylate	YES	YES	
91576	2-Methylnaphthalene	YES	YES	
108394	3-Methylphenol (m-cresol)	YES	NO	NA
95487	2-Methylphenol (o-cresol)	YES	NO	NA
106455	4-Methylphenol (p-cresol)	YES	NO	NA
99081	m-Nitrotoluene	YES	NO	NA
1634044	MTBE	YES	YES	
108383	m-Xylene	YES	YES	
91203	Naphthalene	YES	YES	
104518	n-Butylbenzene	YES	YES	

Table 1: Question 1 Summary Sheet.

CAS No.	Chemical	Is Chemical Sufficiently Toxic? [1]	Is Chemical Sufficiently Volatile? [2]	Check Here if Known or Reasonably Suspected To Be Present [3]
98953	Nitrobenzene	YES	YES	
100027	4-Nitrophenol	YES	NO	NA
79469	2-Nitropropane	YES	YES	
924163	N-Nitroso-di-n-butylamine	YES	YES	
621647	N-Nitrosodi-n-propylamine	YES	NO	NA
86306	N-Nitrosodiphenylamine	YES	NO	NA
103651	n-Propylbenzene	YES	YES	
88722	o-Nitrotoluene	YES	YES	
95476	o-Xylene	YES	YES	
106478	p-Chloroaniline	YES	NO	NA
87865	Pentachlorophenol	YES	NO	NA
108952	Phenol	YES	NO	NA
99990	p-Nitrotoluene	YES	NO	NA
106423	p-Xylene	YES	YES	
129000	Pyrene	YES	YES	
110861	Pyridine	YES	NO	NA
135988	sec-Butylbenzene	YES	YES	
100425	Styrene	YES	YES	
98066	tert-Butylbenzene	YES	YES	
630206	1,1,1,2-Tetrachloroethane	YES	YES	
79345	1,1,2,2-Tetrachloroethane	YES	YES	
127184	Tetrachloroethylene	YES	YES	
108883	Toluene	YES	YES	
8001352	Toxaphene	YES	NO	NA
156605	trans-1,2-Dichloroethylene	YES	YES	
76131	1,1,2-Trichloro-1,2,2-trifluoroethane	YES	YES	
120821	1,2,4-Trichlorobenzene	YES	YES	
79005	1,1,2-Trichloroethane	YES	YES	
71556	1,1,1-Trichloroethane	YES	YES	
79016	Trichloroethylene	YES	YES	
75694	Trichlorofluoromethane	YES	YES	
95954	2,4,5-Trichlorophenol	YES	NO	NA
88062	2,4,6-Trichlorophenol	YES	NO	NA
96184	1,2,3-Trichloropropane	YES	YES	
95636	1,2,4-Trimethylbenzene	YES	YES	
108678	1,3,5-Trimethylbenzene	YES	YES	
108054	Vinyl acetate	YES	YES	
75014	Vinyl chloride (chloroethene)	YES	YES	

[1] A chemical is considered sufficiently toxic if the vapor concentration of the pure component (see Appendix D) poses an incremental lifetime cancer risk greater than 10^{-6} or a non-cancer hazard index greater than 1.

[2] A chemical is considered sufficiently volatile if its Henry's Law Constant is 1 x 10^{-5} atm-m^3/mol or greater (US EPA, 1991).

[3] Users should check off compounds that meet the criteria for toxicity and volatility and are known or reasonably suspected to be present.

Table 2a: Question 4 Generic Screening Levels and Summary Sheet [1]

Risk = 1 x 10^{-4}

CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	Target Indoor Air Concentration to Satisfy Both the Prescribed Risk Level and the Target Hazard Index [R=10^{-4}, HI=1] C_{target} (ug/m^3)	(ppbv)	Measured or Reasonably Estimated Indoor Air Concentration [if available] (specify units)	Target Shallow Soil Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.1 $C_{soil-gas}$ (ug/m^3)	(ppbv)	Measured or Reasonably Estimated Shallow Soil Gas Concentration [if available] (specify units)	Target Deep Soil Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.01 $C_{soil-gas}$ (ug/m^3)	(ppbv)	Measured or Reasonably Estimated Deep Soil Gas Concentration [if available] (specify units)	Target Groundwater Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor = 0.001 and Partitioning Across the Water Table Obeys Henry's Law C_{gw} (ug/L)	Measured or Reasonably Estimated Groundwater Concentration [if available] (specify units)
83329	Acenaphthene	X	NC	2.1E+02	3.3E+01		2.1E+03	3.3E+02		2.1E+04	3.3E+03		**	
75070	Acetaldehyde		NC	9.0E+00	5.0E+00		9.0E+01	5.0E+01		9.0E+02	5.0E+02		2.8E+03	
67641	Acetone	X	NC	3.5E+02	1.5E+02		3.5E+03	1.5E+03		3.5E+04	1.5E+04		2.2E+05	
75058	Acetonitrile		NC	6.0E+01	3.6E+01		6.0E+02	3.6E+02		6.0E+03	3.6E+03		4.2E+04	
98862	Acetophenone	X	NC	3.5E+02	7.1E+01		3.5E+03	7.1E+02		3.5E+04	7.1E+03		8.0E+05	
107028	Acrolein		NC	2.0E-02	8.7E-03		2.0E-01	8.7E-02		2.0E+00	8.7E-01		4.0E+00	
107131	Acrylonitrile		NC	2.0E+00	9.2E-01		2.0E+01	9.2E+00		2.0E+02	9.2E+01		4.7E+02	
309002	Aldrin		C	5.0E-02	3.3E-03		5.0E-01	3.3E-02		5.0E+00	3.3E-01		7.1E+00	
319846	alpha-HCH (alpha-BHC)		C	1.4E-01	1.1E-02		1.4E+00	1.1E-01		1.4E+01	1.1E+00		3.1E+02	
100527	Benzaldehyde	X	NC	3.5E+02	8.1E+01		3.5E+03	8.1E+02		3.5E+04	8.1E+03		3.6E+05	
71432	Benzene		C	3.1E+01	9.8E+00		3.1E+02	9.8E+01		3.1E+03	9.8E+02		1.4E+02	
205992	Benzo(b)fluoranthene	X	C	1.2E+00	1.1E-01		**	**		**	**		**	
100447	Benzylchloride	X	C	5.0E+00	9.7E-01		5.0E+01	9.7E+00		5.0E+02	9.7E+01		3.0E+02	
91587	beta-Chloronaphthalene	X	NC	2.8E+02	4.2E+01		2.8E+03	4.2E+02		2.8E+04	4.2E+03		**	
92524	Biphenyl	X	NC	1.8E+02	2.8E+01		1.8E+03	2.8E+02		1.8E+04	2.8E+03		**	
111444	Bis(2-chloroethyl)ether		C	7.4E-01	1.3E-01		7.4E+00	1.3E+00		7.4E+01	1.3E+01		1.0E+03	
108601	Bis(2-chloroisopropyl)ether		C	2.4E+01	3.5E+00		2.4E+02	3.5E+01		2.4E+03	3.5E+02		5.1E+03	
542881	Bis(chloromethyl)ether		C	3.9E-03	8.4E-04		3.9E-02	8.4E-03		3.9E-01	8.4E-02		4.5E-01	
75274	Bromodichloromethane	X	C	1.4E+01	2.1E+00		1.4E+02	2.1E+01		1.4E+03	2.1E+02		2.1E+02	
75252	Bromoform		C	2.2E+02	2.1E+01		2.2E+03	2.1E+02		2.2E+04	2.1E+03		8.3E-01	
106990	1,3-Butadiene		C	8.7E-01	3.9E-01		8.7E+00	3.9E+00		8.7E+01	3.9E+01		2.9E-01	
75150	Carbon disulfide		NC	7.0E+02	2.2E+02		7.0E+03	2.2E+03		7.0E+04	2.2E+04		5.6E+02	
56235	Carbon tetrachloride		C	1.6E+01	2.6E+00		1.6E+02	2.6E+01		1.6E+03	2.6E+02		1.3E+01	
57749	Chlordane		NC	7.0E-01	4.2E-02		7.0E+00	4.2E-01		7.0E+01	4.2E+00		**	
126998	2-Chloro-1,3-butadiene (chloroprene)		NC	7.0E+00	1.9E+00		7.0E+01	1.9E+01		7.0E+02	1.9E+02		1.4E+01	
108907	Chlorobenzene		NC	6.0E+01	1.3E+01		6.0E+02	1.3E+02		6.0E+03	1.3E+03		3.9E+02	
109693	1-Chlorobutane	X	NC	1.4E+03	3.7E+02		1.4E+04	3.7E+03		1.4E+05	3.7E+04		2.0E+03	
124481	Chlorodibromomethane	X	C	1.0E+01	1.2E+00		1.0E+02	1.2E+01		1.0E+03	1.2E+02		3.2E+02	
75456	Chlorodifluoromethane		NC	5.0E+04	1.4E+04		5.0E+05	1.4E+05		**	**		**	
75003	Chloroethane (ethyl chloride)		NC	1.0E+04	3.8E+03		1.0E+05	3.8E+04		1.0E+06	3.8E+05		2.8E+04	
67663	Chloroform		C	1.1E+01	2.2E+00		1.1E+02	2.2E+01		1.1E+03	2.2E+02		8.0E+01 †	
95578	2-Chlorophenol	X	NC	1.8E+01	3.3E+00		1.8E+02	3.3E+01		1.8E+03	3.3E+02		1.1E+03	
75296	2-Chloropropane		NC	1.0E+02	3.2E+01		1.0E+03	3.2E+02		1.0E+04	3.2E+03		1.7E+02	
218019	Chrysene	X	*	*	*		*	*		*	*		*	
156592	cis-1,2-Dichloroethylene	X	NC	3.5E+01	8.8E+00		3.5E+02	8.8E+01		3.5E+03	8.8E+02		2.1E+02	
123739	Crotonaldehyde (2-butenal)	X	C	4.5E-01	1.6E-01		4.5E+00	1.6E+00		4.5E+01	1.6E+01		5.6E+02	
98828	Cumene		NC	4.0E+02	8.1E+01		4.0E+03	8.1E+02		4.0E+04	8.1E+03		8.4E+00	

Table 2a: Question 4 Generic Screening Levels and Summary Sheet [1]

Risk = 1 x 10^{-4}

CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	Target Indoor Air Concentration to Satisfy Both the Prescribed Risk Level and the Target Hazard Index [R=10^{-4}, HI=1] C_{target} (ug/m^3)	(ppbv)	Measured or Reasonably Estimated Indoor Air Concentration [if available] (specify units)	Target Shallow Soil Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.1 $C_{soil-gas}$ (ug/m^3)	(ppbv)	Measured or Reasonably Estimated Shallow Soil Gas Concentration [if available] (specify units)	Target Deep Soil Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.01 $C_{soil-gas}$ (ug/m^3)	(ppbv)	Measured or Reasonably Estimated Deep Soil Gas Concentration [if available] (specify units)	Target Groundwater Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor = 0.001 and Partitioning Across the Water Table Obeys Henry's Law C_{gw} (ug/L)	Measured or Reasonably Estimated Groundwater Concentration [if available] (specify units)
72559	DDE	X	C	2.5E+00	1.9E-01		2.5E+01	1.9E+00		**	**		**	
132649	Dibenzofuran	X	NC	1.4E+01	2.0E+00		1.4E+02	2.0E+01		1.4E+03	2.0E+02		**	
96128	1,2-Dibromo-3-chloropropane		NC	2.0E-01	2.1E-02		2.0E+00	2.1E-01		2.0E+01	2.1E+00		3.3E+01	
106934	1,2-Dibromoethane (ethylene dibromide)		NC	2.0E-01	2.6E-02		2.0E+00	2.6E-01		2.0E+01	2.6E+00		6.6E+00	
541731	1,3-Dichlorobenzene	X	NC	1.1E+02	1.7E+01		1.1E+03	1.7E+02		1.1E+04	1.7E+03		8.3E+02	
95501	1,2-Dichlorobenzene		NC	2.0E+02	3.3E+01		2.0E+03	3.3E+02		2.0E+04	3.3E+03		2.6E+03	
106467	1,4-Dichlorobenzene		NC	8.0E+02	1.3E+02		8.0E+03	1.3E+03		8.0E+04	1.3E+04		8.2E+03	
75718	Dichlorodifluoromethane		NC	2.0E+02	4.0E+01		2.0E+03	4.0E+02		2.0E+04	4.0E+03		1.4E+01	
75343	1,1-Dichloroethane		NC	5.0E+02	1.2E+02		5.0E+03	1.2E+03		5.0E+04	1.2E+04		2.2E+03	
107062	1,2-Dichloroethane		C	9.4E+00	2.3E+00		9.4E+01	2.3E+01		9.4E+02	2.3E+02		2.3E+02	
75354	1,1-Dichloroethylene		NC	2.0E+02	5.0E+01		2.0E+03	5.0E+02		2.0E+04	5.0E+03		1.9E+02	
78875	1,2-Dichloropropane		NC	4.0E+00	8.7E-01		4.0E+01	8.7E+00		4.0E+02	8.7E+01		3.5E+01	
542756	1,3-Dichloropropene		NC	2.0E+01	4.4E+00		2.0E+02	4.4E+01		2.0E+03	4.4E+02		2.8E+01	
60571	Dieldrin		C	5.3E-02	3.4E-03		5.3E-01	3.4E-02		5.3E+00	3.4E-01		8.6E+01	
115297	Endosulfan	X	NC	2.1E+01	1.3E+00		2.1E+02	1.3E+01		**	**		**	
106898	Epichlorohydrin		NC	1.0E+00	2.6E-01		1.0E+01	2.6E+00		1.0E+02	2.6E+01		8.0E+02	
60297	Ethyl ether	X	NC	7.0E+02	2.3E+02		7.0E+03	2.3E+03		7.0E+04	2.3E+04		5.2E+02	
141786	Ethylacetate	X	NC	3.2E+03	8.7E+02		3.2E+04	8.7E+03		3.2E+05	8.7E+04		5.6E+05	
100414	Ethylbenzene		C	2.2E+02	5.1E+01		2.2E+03	5.1E+02		2.2E+04	5.1E+03		7.0E+02 †	
75218	Ethylene oxide		C	2.4E+00	1.4E+00		2.4E+01	1.4E+01		2.4E+02	1.4E+02		1.1E+02	
97632	Ethylmethacrylate	X	NC	3.2E+02	6.8E+01		3.2E+03	6.8E+02		3.2E+04	6.8E+03		9.1E+03	
86737	Fluorene	X	NC	1.4E+02	2.1E+01		1.4E+03	2.1E+02		**	**		**	
110009	Furan	X	NC	3.5E+00	1.3E+00		3.5E+01	1.3E+01		3.5E+02	1.3E+02		1.6E+01	
58899	gamma-HCH (Lindane)	X	C	6.6E-01	5.5E-02		6.6E+00	5.5E-01		6.6E+01	5.5E+00		1.1E+03	
76448	Heptachlor		C	1.9E-01	1.2E-02		1.9E+00	1.2E-01		1.9E+01	1.2E+00		4.0E-01 †	
87683	Hexachloro-1,3-butadiene		C	1.1E+01	1.0E+00		1.1E+02	1.0E+01		1.1E+03	1.0E+02		3.3E+01	
118741	Hexachlorobenzene		C	5.3E-01	4.5E-02		5.3E+00	4.5E-01		5.3E+01	4.5E+00		**	
77474	Hexachlorocyclopentadiene		NC	2.0E-01	1.8E-02		2.0E+00	1.8E-01		2.0E+01	1.8E+00		5.0E+01 †	
67721	Hexachloroethane		C	6.1E+01	6.3E+00		6.1E+02	6.3E+01		6.1E+03	6.3E+02		3.8E+02	
110543	Hexane		NC	2.0E+02	5.7E+01		2.0E+03	5.7E+02		2.0E+04	5.7E+03		2.9E+00	
74908	Hydrogen cyanide		NC	3.0E+00	2.7E+00		3.0E+01	2.7E+01		3.0E+02	2.7E+02		5.5E+02	
78831	Isobutanol	X	NC	1.1E+03	3.5E+02		1.1E+04	3.5E+03		1.1E+05	3.5E+04		2.2E+06	
7439976	Mercury (elemental)		NC	3.0E-01	3.7E-02		3.0E+00	3.7E-01		3.0E+01	3.7E+00		6.8E-01	
126987	Methacrylonitrile		NC	7.0E-01	2.6E-01		7.0E+00	2.6E+00		7.0E+01	2.6E+01		6.9E+01	
72435	Methoxychlor	X	NC	1.8E+01	1.2E+00		**	**		**	**		**	
79209	Methyl acetate	X	NC	3.5E+03	1.2E+03		3.5E+04	1.2E+04		3.5E+05	1.2E+05		7.2E+05	
96333	Methyl acrylate	X	NC	1.1E+02	3.0E+01		1.1E+03	3.0E+02		1.1E+04	3.0E+03		1.4E+04	

Table 2a: Question 4 Generic Screening Levels and Summary Sheet [1]

Risk = 1 x 10^{-4}

CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	Target Indoor Air Concentration to Satisfy Both the Prescribed Risk Level and the Target Hazard Index [R=10^{-4}, HI=1] C_{target} (ug/m^3)	(ppbv)	Measured or Reasonably Estimated Indoor Air Concentration [if available] (specify units)	Target Shallow Soil Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.1 $C_{soil-gas}$ (ug/m^3)	(ppbv)	Measured or Reasonably Estimated Shallow Soil Gas Concentration [if available] (specify units)	Target Deep Soil Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.01 $C_{soil-gas}$ (ug/m^3)	(ppbv)	Measured or Reasonably Estimated Deep Soil Gas Concentration [if available] (specify units)	Target Groundwater Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor = 0.001 and Partitioning Across the Water Table Obeys Henry's Law C_{gw} (ug/L)	Measured or Reasonably Estimated Groundwater Concentration [if available] (specify units)
74839	Methyl bromide		NC	5.0E+00	1.3E+00		5.0E+01	1.3E+01		5.0E+02	1.3E+02		2.0E+01	
74873	Methyl chloride (chloromethane)		NC	9.0E+01	4.4E+01		9.0E+02	4.4E+02		9.0E+03	4.4E+03		2.5E+02	
108872	Methylcyclohexane		NC	3.0E+03	7.5E+02		3.0E+04	7.5E+03		3.0E+05	7.5E+04		7.1E+02	
74953	Methylene bromide	X	NC	3.5E+01	4.9E+00		3.5E+02	4.9E+01		3.5E+03	4.9E+02		9.9E+02	
75092	Methylene chloride		C	5.2E+02	1.5E+02		5.2E+03	1.5E+03		5.2E+04	1.5E+04		5.8E+03	
78933	Methylethylketone (2-butanone)		NC	1.0E+03	3.4E+02		1.0E+04	3.4E+03		1.0E+05	3.4E+04		4.4E+05	
108101	Methylisobutylketone		NC	8.0E+01	2.0E+01		8.0E+02	2.0E+02		8.0E+03	2.0E+03		1.4E+04	
80626	Methylmethacrylate		NC	7.0E+02	1.7E+02		7.0E+03	1.7E+03		7.0E+04	1.7E+04		5.1E+04	
91576	2-Methylnaphthalene	X	NC	7.0E+01	1.2E+01		7.0E+02	1.2E+02		7.0E+03	1.2E+03		3.3E+03	
1634044	MTBE		NC	3.0E+03	8.3E+02		3.0E+04	8.3E+03		3.0E+05	8.3E+04		1.2E+05	
108383	m-Xylene	X	NC	7.0E+03	1.6E+03		7.0E+04	1.6E+04		7.0E+05	1.6E+05		2.3E+04	
91203	Naphthalene		NC	3.0E+00	5.7E-01		3.0E+01	5.7E+00		3.0E+02	5.7E+01		1.5E+02	
104518	n-Butylbenzene	X	NC	1.4E+02	2.6E+01		1.4E+03	2.6E+02		1.4E+04	2.6E+03		2.6E+02	
98953	Nitrobenzene		NC	2.0E+00	4.0E-01		2.0E+01	4.0E+00		2.0E+02	4.0E+01		2.0E+03	
79469	2-Nitropropane		C	9.0E-02	2.5E-02		9.0E-01	2.5E-01		9.0E+00	2.5E+00		1.8E+01	
924163	N-Nitroso-di-n-butylamine		C	1.5E-01	2.4E-02		1.5E+00	2.4E-01		1.5E+01	2.4E+00		1.2E+01	
103651	n-Propylbenzene	X	NC	1.4E+02	2.8E+01		1.4E+03	2.8E+02		1.4E+04	2.8E+03		3.2E+02	
88722	o-Nitrotoluene	X	NC	3.5E+01	6.2E+00		3.5E+02	6.2E+01		3.5E+03	6.2E+02		6.8E+04	
95476	o-Xylene	X	NC	7.0E+03	1.6E+03		7.0E+04	1.6E+04		7.0E+05	1.6E+05		3.3E+04	
106423	p-Xylene	X	NC	7.0E+03	1.6E+03		7.0E+04	1.6E+04		7.0E+05	1.6E+05		2.2E+04	
129000	Pyrene	X	NC	1.1E+02	1.3E+01		**	**		**	**		**	
135988	sec-Butylbenzene	X	NC	1.4E+02	2.6E+01		1.4E+03	2.6E+02		1.4E+04	2.6E+03		2.5E+02	
100425	Styrene		NC	1.0E+03	2.3E+02		1.0E+04	2.3E+03		1.0E+05	2.3E+04		8.9E+03	
98066	tert-Butylbenzene	X	NC	1.4E+02	2.6E+01		1.4E+03	2.6E+02		1.4E+04	2.6E+03		2.9E+02	
630206	1,1,1,2-Tetrachloroethane		C	3.3E+01	4.8E+00		3.3E+02	4.8E+01		3.3E+03	4.8E+02		3.3E+02	
79345	1,1,2,2-Tetrachloroethane		C	4.2E+00	6.1E-01		4.2E+01	6.1E+00		4.2E+02	6.1E+01		3.0E+02	
127184	Tetrachloroethylene		C	8.1E+01	1.2E+01		8.1E+02	1.2E+02		8.1E+03	1.2E+03		1.1E+02	
108883	Toluene		NC	4.0E+02	1.1E+02		4.0E+03	1.1E+03		4.0E+04	1.1E+04		1.5E+03	
156605	trans-1,2-Dichloroethylene	X	NC	7.0E+01	1.8E+01		7.0E+02	1.8E+02		7.0E+03	1.8E+03		1.8E+02	
76131	1,1,2-Trichloro-1,2,2-trifluoroethane		NC	3.0E+04	3.9E+03		3.0E+05	3.9E+04		3.0E+06	3.9E+05		1.5E+03	
120821	1,2,4-Trichlorobenzene		NC	2.0E+02	2.7E+01		2.0E+03	2.7E+02		2.0E+04	2.7E+03		3.4E+03	
79005	1,1,2-Trichloroethane		C	1.5E+01	2.8E+00		1.5E+02	2.8E+01		1.5E+03	2.8E+02		4.1E+02	
71556	1,1,1-Trichloroethane		NC	2.2E+03	4.0E+02		2.2E+04	4.0E+03		2.2E+05	4.0E+04		3.1E+03	
79016	Trichloroethylene [††]	X	C	2.2E+00	4.1E-01		2.2E+01	4.1E+00		2.2E+02	4.1E+01		5.3E+00	
75694	Trichlorofluoromethane		NC	7.0E+02	1.2E+02		7.0E+03	1.2E+03		7.0E+04	1.2E+04		1.8E+02	
96184	1,2,3-Trichloropropane		NC	4.9E+00	8.1E-01		4.9E+01	8.1E+00		4.9E+02	8.1E+01		2.9E+02	
95636	1,2,4-Trimethylbenzene		NC	6.0E+00	1.2E+00		6.0E+01	1.2E+01		6.0E+02	1.2E+02		2.4E+01	

Table 2a: Question 4 Generic Screening Levels and Summary Sheet [1]

Risk = 1 x 10^{-4}

CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	Target Indoor Air Concentration to Satisfy Both the Prescribed Risk Level and the Target Hazard Index [$R=10^{-4}$, HI=1] C_{target} (ug/m^3)	(ppbv)	Measured or Reasonably Estimated Indoor Air Concentration [if available] (specify units)	Target Shallow Soil Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.1 $C_{soil-gas}$ (ug/m^3)	(ppbv)	Measured or Reasonably Estimated Shallow Soil Gas Concentration [if available] (specify units)	Target Deep Soil Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.01 $C_{soil-gas}$ (ug/m^3)	(ppbv)	Measured or Reasonably Estimated Deep Soil Gas Concentration [if available] (specify units)	Target Groundwater Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor = 0.001 and Partitioning Across the Water Table Obeys Henry's Law C_{gw} (ug/L)	Measured or Reasonably Estimated Groundwater Concentration [if available] (specify units)
108678	1,3,5-Trimethylbenzene		NC	6.0E+00	1.2E+00		6.0E+01	1.2E+01		6.0E+02	1.2E+02		2.5E+01	
108054	Vinyl acetate		NC	2.0E+02	5.7E+01		2.0E+03	5.7E+02		2.0E+04	5.7E+03		9.6E+03	
75014	Vinyl chloride (chloroethene)		C	2.8E+01	1.1E+01		2.8E+02	1.1E+02		2.8E+03	1.1E+03		2.5E+01	

[1] AF = 0.1 for Shallow Soil Gas Target Concentration
AF = 0.01 for Deep Soil Gas Target Concentration
AF = 0.001 for Groundwater Target Concentration

* Health-based target breathing concentration exceeds maximum possible chemical vapor concentration (pathway incomplete)

** Target soil gas concentration exceeds maximum possible vapor concentration (pathway incomplete)

† The target groundwater concentration is the MCL. (The MCL for chloroform is the MCL for total Trihalomethanes. The MCL listed for m-Xylene, o-Xylene, and p-Xylene is the MCL for total Xylenes.)

†† The target concentration for trichloroethylene is based on the upper bound cancer slope factor identified in EPA's draft risk assessment for trichloroethylene (US EPA, 2001). The slope factor is based on state-of-the-art methodology, however the TCE assessment is still undergoing review. As a result, the slope factor and the target concentration values for TCE may be revised further. (See Appendix D.)

Table 2b: Question 4 Generic Screening Levels and Summary Sheet [1]

Risk = 1 x 10^{-5}

CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	Target Indoor Air Concentration to Satisfy Both the Prescribed Risk Level and the Target Hazard Index [R=10^{-5}, HI=1) C_{target} (ug/m3)	(ppbv)	Measured or Reasonably Estimated Indoor Air Concentration [if available] (specify units)	Target Shallow Soil Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.1 $C_{soil-gas}$ (ug/m3)	(ppbv)	Measured or Reasonably Estimated Shallow Soil Gas Concentration [if available] (specify units)	Target Deep Soil Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.01 $C_{soil-gas}$ (ug/m3)	(ppbv)	Measured or Reasonably Estimated Deep Soil Gas Concentration [if available] (specify units)	Target Groundwater Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor = 0.001 and Partitioning Across the Water Table Obeys Henry's Law C_{gw} (ug/L)	Measured or Reasonably Estimated Groundwater Concentration [if available] (specify units)
83329	Acenaphthene	X	NC	2.1E+02	3.3E+01		2.1E+03	3.3E+02		2.1E+04	3.3E+03		**	
75070	Acetaldehyde		NC	9.0E+00	5.0E+00		9.0E+01	5.0E+01		9.0E+02	5.0E+02		2.8E+03	
67641	Acetone	X	NC	3.5E+02	1.5E+02		3.5E+03	1.5E+03		3.5E+04	1.5E+04		2.2E+05	
75058	Acetonitrile		NC	6.0E+01	3.6E+01		6.0E+02	3.6E+02		6.0E+03	3.6E+03		4.2E+04	
98862	Acetophenone	X	NC	3.5E+02	7.1E+01		3.5E+03	7.1E+02		3.5E+04	7.1E+03		8.0E+05	
107028	Acrolein		NC	2.0E-02	8.7E-03		2.0E-01	8.7E-02		2.0E+00	8.7E-01		4.0E+00	
107131	Acrylonitrile		C	3.6E-01	1.7E-01		3.6E+00	1.7E+00		3.6E+01	1.7E+01		8.5E+01	
309002	Aldrin		C	5.0E-03	3.3E-04		5.0E-02	3.3E-03		5.0E-01	3.3E-02		7.1E-01	
319846	alpha-HCH (alpha-BHC)		C	1.4E-02	1.1E-03		1.4E-01	1.1E-02		1.4E+00	1.1E-01		3.1E+01	
100527	Benzaldehyde	X	NC	3.5E+02	8.1E+01		3.5E+03	8.1E+02		3.5E+04	8.1E+03		3.6E+05	
71432	Benzene		C	3.1E+00	9.8E-01		3.1E+01	9.8E+00		3.1E+02	9.8E+01		1.4E+01	
205992	Benzo(b)fluoranthene	X	C	1.2E-01	1.1E-02		1.2E+00	1.1E-01		**	**		**	
100447	Benzylchloride	X	C	5.0E-01	9.7E-02		5.0E+00	9.7E-01		5.0E+01	9.7E+00		3.0E+01	
91587	beta-Chloronaphthalene	X	NC	2.8E+02	4.2E+01		2.8E+03	4.2E+02		2.8E+04	4.2E+03		**	
92524	Biphenyl	X	NC	1.8E+02	2.8E+01		1.8E+03	2.8E+02		1.8E+04	2.8E+03		**	
111444	Bis(2-chloroethyl)ether		C	7.4E-02	1.3E-02		7.4E-01	1.3E-01		7.4E+00	1.3E+00		1.0E+02	
108601	Bis(2-chloroisopropyl)ether		C	2.4E+00	3.5E-01		2.4E+01	3.5E+00		2.4E+02	3.5E+01		5.1E+02	
542881	Bis(chloromethyl)ether		C	3.9E-04	8.4E-05		3.9E-03	8.4E-04		3.9E-02	8.4E-03		4.5E-02	
75274	Bromodichloromethane	X	C	1.4E+00	2.1E-01		1.4E+01	2.1E+00		1.4E+02	2.1E+01		2.1E+01	
75252	Bromoform		C	2.2E+01	2.1E+00		2.2E+02	2.1E+01		2.2E+03	2.1E+02		8.3E-02	
106990	1,3-Butadiene		C	8.7E-02	3.9E-02		8.7E-01	3.9E-01		8.7E+00	3.9E+00		2.9E-02	
75150	Carbon disulfide		NC	7.0E+02	2.2E+02		7.0E+03	2.2E+03		7.0E+04	2.2E+04		5.6E+02	
56235	Carbon tetrachloride		C	1.6E+00	2.6E-01		1.6E+01	2.6E+00		1.6E+02	2.6E+01		5.0E+00 †	
57749	Chlordane		C	2.4E-01	1.5E-02		2.4E+00	1.5E-01		2.4E+01	1.5E+00		**	
126998	2-Chloro-1,3-butadiene (chloroprene)		NC	7.0E+00	1.9E+00		7.0E+01	1.9E+01		7.0E+02	1.9E+02		1.4E+01	
108907	Chlorobenzene		NC	6.0E+01	1.3E+01		6.0E+02	1.3E+02		6.0E+03	1.3E+03		3.9E+02	
109693	1-Chlorobutane	X	NC	1.4E+03	3.7E+02		1.4E+04	3.7E+03		1.4E+05	3.7E+04		2.0E+03	
124481	Chlorodibromomethane	X	C	1.0E+00	1.2E-01		1.0E+01	1.2E+00		1.0E+02	1.2E+01		3.2E+01	
75456	Chlorodifluoromethane		NC	5.0E+04	1.4E+04		5.0E+05	1.4E+05		**	**		**	
75003	Chloroethane (ethyl chloride)		NC	1.0E+04	3.8E+03		1.0E+05	3.8E+04		1.0E+06	3.8E+05		2.8E+04	
67663	Chloroform		C	1.1E+00	2.2E-01		1.1E+01	2.2E+00		1.1E+02	2.2E+01		8.0E+01 †	
95578	2-Chlorophenol	X	NC	1.8E+01	3.3E+00		1.8E+02	3.3E+01		1.8E+03	3.3E+02		1.1E+03	
75296	2-Chloropropane		NC	1.0E+02	3.2E+01		1.0E+03	3.2E+02		1.0E+04	3.2E+03		1.7E+02	
218019	Chrysene	X	C	1.2E+01	1.2E+00		**	**		**	**		**	
156592	cis-1,2-Dichloroethylene	X	NC	3.5E+01	8.8E+00		3.5E+02	8.8E+01		3.5E+03	8.8E+02		2.1E+02	
123739	Crotonaldehyde (2-butenal)	X	C	4.5E-02	1.6E-02		4.5E-01	1.6E-01		4.5E+00	1.6E+00		5.6E+01	
98828	Cumene		NC	4.0E+02	8.1E+01		4.0E+03	8.1E+02		4.0E+04	8.1E+03		8.4E+00	

Table 2b: Question 4 Generic Screening Levels and Summary Sheet [1]

Risk = 1 x 10^{-5}

CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	Target Indoor Air Concentration to Satisfy Both the Prescribed Risk Level and the Target Hazard Index [R=10^{-5}, HI=1] C_{target} (ug/m3)	(ppbv)	Measured or Reasonably Estimated Indoor Air Concentration [if available] (specify units)	Target Shallow Soil Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.1 $C_{soil-gas}$ (ug/m3)	(ppbv)	Measured or Reasonably Estimated Shallow Soil Gas Concentration [if available] (specify units)	Target Deep Soil Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.01 $C_{soil-gas}$ (ug/m3)	(ppbv)	Measured or Reasonably Estimated Deep Soil Gas Concentration [if available] (specify units)	Target Groundwater Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor = 0.001 and Partitioning Across the Water Table Obeys Henry's Law C_{gw} (ug/L)	Measured or Reasonably Estimated Groundwater Concentration [if available] (specify units)
72559	DDE	X	C	2.5E-01	1.9E-02		2.5E+00	1.9E-01		2.5E+01	1.9E+00		**	
132649	Dibenzofuran	X	NC	1.4E+01	2.0E+00		1.4E+02	2.0E+01		1.4E+03	2.0E+02		**	
96128	1,2-Dibromo-3-chloropropane		NC	2.0E-01	2.1E-02		2.0E+00	2.1E-01		2.0E+01	2.1E+00		3.3E+01	
106934	1,2-Dibromoethane (ethylene dibromide)		C	1.1E-01	1.4E-02		1.1E+00	1.4E-01		1.1E+01	1.4E+00		3.6E+00	
541731	1,3-Dichlorobenzene	X	NC	1.1E+02	1.7E+01		1.1E+03	1.7E+02		1.1E+04	1.7E+03		8.3E+02	
95501	1,2-Dichlorobenzene		NC	2.0E+02	3.3E+01		2.0E+03	3.3E+02		2.0E+04	3.3E+03		2.6E+03	
106467	1,4-Dichlorobenzene		NC	8.0E+02	1.3E+02		8.0E+03	1.3E+03		8.0E+04	1.3E+04		8.2E+03	
75718	Dichlorodifluoromethane		NC	2.0E+02	4.0E+01		2.0E+03	4.0E+02		2.0E+04	4.0E+03		1.4E+01	
75343	1,1-Dichloroethane		NC	5.0E+02	1.2E+02		5.0E+03	1.2E+03		5.0E+04	1.2E+04		2.2E+03	
107062	1,2-Dichloroethane		C	9.4E-01	2.3E-01		9.4E+00	2.3E+00		9.4E+01	2.3E+01		2.3E+01	
75354	1,1-Dichloroethylene		NC	2.0E+02	5.0E+01		2.0E+03	5.0E+02		2.0E+04	5.0E+03		1.9E+02	
78875	1,2-Dichloropropane		NC	4.0E+00	8.7E-01		4.0E+01	8.7E+00		4.0E+02	8.7E+01		3.5E+01	
542756	1,3-Dichloropropene		C	6.1E+00	1.3E+00		6.1E+01	1.3E+01		6.1E+02	1.3E+02		8.4E+00	
60571	Dieldrin		C	5.3E-03	3.4E-04		5.3E-02	3.4E-03		5.3E-01	3.4E-02		8.6E+00	
115297	Endosulfan	X	NC	2.1E+01	1.3E+00		2.1E+02	1.3E+01		**	**		**	
106898	Epichlorohydrin		NC	1.0E+00	2.6E-01		1.0E+01	2.6E+00		1.0E+02	2.6E+01		8.0E+02	
60297	Ethyl ether	X	NC	7.0E+02	2.3E+02		7.0E+03	2.3E+03		7.0E+04	2.3E+04		5.2E+02	
141786	Ethylacetate	X	NC	3.2E+03	8.7E+02		3.2E+04	8.7E+03		3.2E+05	8.7E+04		5.6E+05	
100414	Ethylbenzene		C	2.2E+01	5.1E+00		2.2E+02	5.1E+01		2.2E+03	5.1E+02		7.0E+02 †	
75218	Ethylene oxide		C	2.4E-01	1.4E-01		2.4E+00	1.4E+00		2.4E+01	1.4E+01		1.1E+01	
97632	Ethylmethacrylate	X	NC	3.2E+02	6.8E+01		3.2E+03	6.8E+02		3.2E+04	6.8E+03		9.1E+03	
86737	Fluorene	X	NC	1.4E+02	2.1E+01		1.4E+03	2.1E+02		**	**		**	
110009	Furan	X	NC	3.5E+00	1.3E+00		3.5E+01	1.3E+01		3.5E+02	1.3E+02		1.6E+01	
58899	gamma-HCH (Lindane)	X	C	6.6E-02	5.5E-03		6.6E-01	5.5E-02		6.6E+00	5.5E-01		1.1E+02	
76448	Heptachlor		C	1.9E-02	1.2E-03		1.9E-01	1.2E-02		1.9E+00	1.2E-01		4.0E-01 †	
87683	Hexachloro-1,3-butadiene		C	1.1E+00	1.0E-01		1.1E+01	1.0E+00		1.1E+02	1.0E+01		3.3E+00	
118741	Hexachlorobenzene		C	5.3E-02	4.5E-03		5.3E-01	4.5E-02		5.3E+00	4.5E-01		1.0E+00 †	
77474	Hexachlorocyclopentadiene		NC	2.0E-01	1.8E-02		2.0E+00	1.8E-01		2.0E+01	1.8E+00		5.0E+01 †	
67721	Hexachloroethane		C	6.1E+00	6.3E-01		6.1E+01	6.3E+00		6.1E+02	6.3E+01		3.8E+01	
110543	Hexane		NC	2.0E+02	5.7E+01		2.0E+03	5.7E+02		2.0E+04	5.7E+03		2.9E+00	
74908	Hydrogen cyanide		NC	3.0E+00	2.7E+00		3.0E+01	2.7E+01		3.0E+02	2.7E+02		5.5E+02	
78831	Isobutanol	X	NC	1.1E+03	3.5E+02		1.1E+04	3.5E+03		1.1E+05	3.5E+04		2.2E+06	
7439976	Mercury (elemental)		NC	3.0E-01	3.7E-02		3.0E+00	3.7E-01		3.0E+01	3.7E+00		6.8E-01	
126987	Methacrylonitrile		NC	7.0E-01	2.6E-01		7.0E+00	2.6E+00		7.0E+01	2.6E+01		6.9E+01	
72435	Methoxychlor	X	NC	1.8E+01	1.2E+00		**	**		**	**		**	
79209	Methyl acetate	X	NC	3.5E+03	1.2E+03		3.5E+04	1.2E+04		3.5E+05	1.2E+05		7.2E+05	
96333	Methyl acrylate	X	NC	1.1E+02	3.0E+01		1.1E+03	3.0E+02		1.1E+04	3.0E+03		1.4E+04	

Table 2b: Question 4 Generic Screening Levels and Summary Sheet [1]

Risk = 1 x 10^{-5}

CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	Target Indoor Air Concentration to Satisfy Both the Prescribed Risk Level and the Target Hazard Index [R=10^{-5}, HI=1) C_{target} (ug/m3)	(ppbv)	Measured or Reasonably Estimated Indoor Air Concentration [if available] (specify units)	Target Shallow Soil Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.1 $C_{soil-gas}$ (ug/m3)	(ppbv)	Measured or Reasonably Estimated Shallow Soil Gas Concentration [if available] (specify units)	Target Deep Soil Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.01 $C_{soil-gas}$ (ug/m3)	(ppbv)	Measured or Reasonably Estimated Deep Soil Gas Concentration [if available] (specify units)	Target Groundwater Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor = 0.001 and Partitioning Across the Water Table Obeys Henry's Law C_{gw} (ug/L)	Measured or Reasonably Estimated Groundwater Concentration [if available] (specify units)
74839	Methyl bromide		NC	5.0E+00	1.3E+00		5.0E+01	1.3E+01		5.0E+02	1.3E+02		2.0E+01	
74873	Methyl chloride (chloromethane)		C	2.4E+01	1.2E+01		2.4E+02	1.2E+02		2.4E+03	1.2E+03		6.7E+01	
108872	Methylcyclohexane		NC	3.0E+03	7.5E+02		3.0E+04	7.5E+03		3.0E+05	7.5E+04		7.1E+02	
74953	Methylene bromide	X	NC	3.5E+01	4.9E+00		3.5E+02	4.9E+01		3.5E+03	4.9E+02		9.9E+02	
75092	Methylene chloride		C	5.2E+01	1.5E+01		5.2E+02	1.5E+02		5.2E+03	1.5E+03		5.8E+02	
78933	Methylethylketone (2-butanone)		NC	1.0E+03	3.4E+02		1.0E+04	3.4E+03		1.0E+05	3.4E+04		4.4E+05	
108101	Methylisobutylketone		NC	8.0E+01	2.0E+01		8.0E+02	2.0E+02		8.0E+03	2.0E+03		1.4E+04	
80626	Methylmethacrylate		NC	7.0E+02	1.7E+02		7.0E+03	1.7E+03		7.0E+04	1.7E+04		5.1E+04	
91576	2-Methylnaphthalene	X	NC	7.0E+01	1.2E+01		7.0E+02	1.2E+02		7.0E+03	1.2E+03		3.3E+03	
1634044	MTBE		NC	3.0E+03	8.3E+02		3.0E+04	8.3E+03		3.0E+05	8.3E+04		1.2E+05	
108383	m-Xylene	X	NC	7.0E+03	1.6E+03		7.0E+04	1.6E+04		7.0E+05	1.6E+05		2.3E+04	
91203	Naphthalene		NC	3.0E+00	5.7E-01		3.0E+01	5.7E+00		3.0E+02	5.7E+01		1.5E+02	
104518	n-Butylbenzene	X	NC	1.4E+02	2.6E+01		1.4E+03	2.6E+02		1.4E+04	2.6E+03		2.6E+02	
98953	Nitrobenzene		NC	2.0E+00	4.0E-01		2.0E+01	4.0E+00		2.0E+02	4.0E+01		2.0E+03	
79469	2-Nitropropane		C	9.0E-03	2.5E-03		9.0E-02	2.5E-02		9.0E-01	2.5E-01		1.8E+00	
924163	N-Nitroso-di-n-butylamine		C	1.5E-02	2.4E-03		1.5E-01	2.4E-02		1.5E+00	2.4E-01		1.2E+00	
103651	n-Propylbenzene	X	NC	1.4E+02	2.8E+01		1.4E+03	2.8E+02		1.4E+04	2.8E+03		3.2E+02	
88722	o-Nitrotoluene	X	NC	3.5E+01	6.2E+00		3.5E+02	6.2E+01		3.5E+03	6.2E+02		6.8E+04	
95476	o-Xylene	X	NC	7.0E+03	1.6E+03		7.0E+04	1.6E+04		7.0E+05	1.6E+05		3.3E+04	
106423	p-Xylene	X	NC	7.0E+03	1.6E+03		7.0E+04	1.6E+04		7.0E+05	1.6E+05		2.2E+04	
129000	Pyrene	X	NC	1.1E+02	1.3E+01		**	**		**	**		**	
135988	sec-Butylbenzene	X	NC	1.4E+02	2.6E+01		1.4E+03	2.6E+02		1.4E+04	2.6E+03		2.5E+02	
100425	Styrene		NC	1.0E+03	2.3E+02		1.0E+04	2.3E+03		1.0E+05	2.3E+04		8.9E+03	
98066	tert-Butylbenzene	X	NC	1.4E+02	2.6E+01		1.4E+03	2.6E+02		1.4E+04	2.6E+03		2.9E+02	
630206	1,1,1,2-Tetrachloroethane		C	3.3E+00	4.8E-01		3.3E+01	4.8E+00		3.3E+02	4.8E+01		3.3E+01	
79345	1,1,2,2-Tetrachloroethane		C	4.2E-01	6.1E-02		4.2E+00	6.1E-01		4.2E+01	6.1E+00		3.0E+01	
127184	Tetrachloroethylene		C	8.1E+00	1.2E+00		8.1E+01	1.2E+01		8.1E+02	1.2E+02		1.1E+01	
108883	Toluene		NC	4.0E+02	1.1E+02		4.0E+03	1.1E+03		4.0E+04	1.1E+04		1.5E+03	
156605	trans-1,2-Dichloroethylene	X	NC	7.0E+01	1.8E+01		7.0E+02	1.8E+02		7.0E+03	1.8E+03		1.8E+02	
76131	1,1,2-Trichloro-1,2,2-trifluoroethane		NC	3.0E+04	3.9E+03		3.0E+05	3.9E+04		3.0E+06	3.9E+05		1.5E+03	
120821	1,2,4-Trichlorobenzene		NC	2.0E+02	2.7E+01		2.0E+03	2.7E+02		2.0E+04	2.7E+03		3.4E+03	
79005	1,1,2-Trichloroethane		C	1.5E+00	2.8E-01		1.5E+01	2.8E+00		1.5E+02	2.8E+01		4.1E+01	
71556	1,1,1-Trichloroethane		NC	2.2E+03	4.0E+02		2.2E+04	4.0E+03		2.2E+05	4.0E+04		3.1E+03	
79016	Trichloroethylene ††	X	C	2.2E-01	4.1E-02		2.2E+00	4.1E-01		2.2E+01	4.1E+00		5.0E+00 †	
75694	Trichlorofluoromethane		NC	7.0E+02	1.2E+02		7.0E+03	1.2E+03		7.0E+04	1.2E+04		1.8E+02	
96184	1,2,3-Trichloropropane		NC	4.9E+00	8.1E-01		4.9E+01	8.1E+00		4.9E+02	8.1E+01		2.9E+02	
95636	1,2,4-Trimethylbenzene		NC	6.0E+00	1.2E+00		6.0E+01	1.2E+01		6.0E+02	1.2E+02		2.4E+01	

Table 2b: Question 4 Generic Screening Levels and Summary Sheet [1]

Risk = 1 x 10^{-5}

CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	Target Indoor Air Concentration to Satisfy Both the Prescribed Risk Level and the Target Hazard Index [$R=10^{-5}$, HI=1) C_{target} (ug/m3)	(ppbv)	Measured or Reasonably Estimated Indoor Air Concentration [if available] (specify units)	Target Shallow Soil Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.1 $C_{soil-gas}$ (ug/m3)	(ppbv)	Measured or Reasonably Estimated Shallow Soil Gas Concentration [if available] (specify units)	Target Deep Soil Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.01 $C_{soil-gas}$ (ug/m3)	(ppbv)	Measured or Reasonably Estimated Deep Soil Gas Concentration [if available] (specify units)	Target Groundwater Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor = 0.001 and Partitioning Across the Water Table Obeys Henry's Law C_{gw} (ug/L)	Measured or Reasonably Estimated Groundwater Concentration [if available] (specify units)
108678	1,3,5-Trimethylbenzene		NC	6.0E+00	1.2E+00		6.0E+01	1.2E+01		6.0E+02	1.2E+02		2.5E+01	
108054	Vinyl acetate		NC	2.0E+02	5.7E+01		2.0E+03	5.7E+02		2.0E+04	5.7E+03		9.6E+03	
75014	Vinyl chloride (chloroethene)		C	2.8E+00	1.1E+00		2.8E+01	1.1E+01		2.8E+02	1.1E+02		2.5E+00	

[1] AF = 0.1 for Shallow Soil Gas Target Concentration
AF = 0.01 for Deep Soil Gas Target Concentration
AF = 0.001 for Groundwater Target Concentration

* Health-based target breathing concentration exceeds maximum possible chemical vapor concentration (pathway incomplete)

** Target soil gas concentration exceeds maximum possible vapor concentration (pathway incomplete)

† The target groundwater concentration is the MCL. (The MCL for chloroform is the MCL for total Trihalomethanes. The MCL listed for m-Xylene, o-Xylene, and p-Xylene is the MCL for total Xylenes.)

†† The target concentration for trichloroethylene is based on the upper bound cancer slope factor identified in EPA's draft risk assessment for trichloroethylene (US EPA, 2001). The slope factor is based on state-of-the-art methodology, however the TCE assessment is still undergoing review. As a result, the slope factor and the target concentration values for TCE may be revised further. (See Appendix D.)

Table 2c: Question 4 Generic Screening Levels and Summary Sheet [1]

Risk = 1 x 10^{-6}

CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	Target Indoor Air Concentration to Satisfy Both the Prescribed Risk Level and the Target Hazard Index [R=10^{-6}, HI=1) C_{target} (ug/m3)	C_{target} (ppbv)	Measured or Reasonably Estimated Indoor Air Concentration [if available] (specify units)	Target Shallow Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.1 $C_{soil-gas}$ (ug/m3)	$C_{soil-gas}$ (ppbv)	Measured or Reasonably Estimated Shallow Soil Gas Concentration [if available] (specify units)	Target Deep Soil Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.01 $C_{soil-gas}$ (ug/m3)	$C_{soil-gas}$ (ppbv)	Measured or Reasonably Estimated Deep Soil Gas Concentration [if available] (specify units)	Target Groundwater Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor = 0.001 and Partitioning Across the Water Table Obeys Henry's Law C_{gw} (ug/L)	Measured or Reasonably Estimated Groundwater Concentration [if available] (specify units)
83329	Acenaphthene	X	NC	2.1E+02	3.3E+01		2.1E+03	3.3E+02		2.1E+04	3.3E+03		**	
75070	Acetaldehyde		C	1.1E+00	6.1E-01		1.1E+01	6.1E+00		1.1E+02	6.1E+01		3.4E+02	
67641	Acetone	X	NC	3.5E+02	1.5E+02		3.5E+03	1.5E+03		3.5E+04	1.5E+04		2.2E+05	
75058	Acetonitrile		NC	6.0E+01	3.6E+01		6.0E+02	3.6E+02		6.0E+03	3.6E+03		4.2E+04	
98862	Acetophenone	X	NC	3.5E+02	7.1E+01		3.5E+03	7.1E+02		3.5E+04	7.1E+03		8.0E+05	
107028	Acrolein		NC	2.0E-02	8.7E-03		2.0E-01	8.7E-02		2.0E+00	8.7E-01		4.0E+00	
107131	Acrylonitrile		C	3.6E-02	1.7E-02		3.6E-01	1.7E-01		3.6E+00	1.7E+00		8.5E+00	
309002	Aldrin		C	5.0E-04	3.3E-05		5.0E-03	3.3E-04		5.0E-02	3.3E-03		7.1E-02	
319846	alpha-HCH (alpha-BHC)		C	1.4E-03	1.1E-04		1.4E-02	1.1E-03		1.4E-01	1.1E-02		3.1E+00	
100527	Benzaldehyde	X	NC	3.5E+02	8.1E+01		3.5E+03	8.1E+02		3.5E+04	8.1E+03		3.6E+05	
71432	Benzene		C	3.1E-01	9.8E-02		3.1E+00	9.8E-01		3.1E+01	9.8E+00		5.0E+00 †	
205992	Benzo(b)fluoranthene	X	C	1.2E-02	1.1E-03		1.2E-01	1.1E-02		1.2E+00	1.1E-01		**	
100447	Benzylchloride	X	C	5.0E-02	9.7E-03		5.0E-01	9.7E-02		5.0E+00	9.7E-01		3.0E+00	
91587	beta-Chloronaphthalene	X	NC	2.8E+02	4.2E+01		2.8E+03	4.2E+02		2.8E+04	4.2E+03		**	
92524	Biphenyl	X	NC	1.8E+02	2.8E+01		1.8E+03	2.8E+02		1.8E+04	2.8E+03		**	
111444	Bis(2-chloroethyl)ether		C	7.4E-03	1.3E-03		7.4E-02	1.3E-02		7.4E-01	1.3E-01		1.0E+01	
108601	Bis(2-chloroisopropyl)ether		C	2.4E-01	3.5E-02		2.4E+00	3.5E-01		2.4E+01	3.5E+00		5.1E+01	
542881	Bis(chloromethyl)ether		C	3.9E-05	8.4E-06		3.9E-04	8.4E-05		3.9E-03	8.4E-04		4.5E-03	
75274	Bromodichloromethane	X	C	1.4E-01	2.1E-02		1.4E+00	2.1E-01		1.4E+01	2.1E+00		2.1E+00	
75252	Bromoform		C	2.2E+00	2.1E-01		2.2E+01	2.1E+00		2.2E+02	2.1E+01		8.3E-03	
106990	1,3-Butadiene		C	8.7E-03	3.9E-03		8.7E-02	3.9E-02		8.7E-01	3.9E-01		2.9E-03	
75150	Carbon disulfide		NC	7.0E+02	2.2E+02		7.0E+03	2.2E+03		7.0E+04	2.2E+04		5.6E+02	
56235	Carbon tetrachloride		C	1.6E-01	2.6E-02		1.6E+00	2.6E-01		1.6E+01	2.6E+00		5.0E+00 †	
57749	Chlordane		C	2.4E-02	1.5E-03		2.4E-01	1.5E-02		2.4E+00	1.5E-01		1.2E+01	
126998	2-Chloro-1,3-butadiene (chloroprene)		NC	7.0E+00	1.9E+00		7.0E+01	1.9E+01		7.0E+02	1.9E+02		1.4E+01	
108907	Chlorobenzene		NC	6.0E+01	1.3E+01		6.0E+02	1.3E+02		6.0E+03	1.3E+03		3.9E+02	
109693	1-Chlorobutane	X	NC	1.4E+03	3.7E+02		1.4E+04	3.7E+03		1.4E+05	3.7E+04		2.0E+03	
124481	Chlorodibromomethane	X	C	1.0E-01	1.2E-02		1.0E+00	1.2E-01		1.0E+01	1.2E+00		3.2E+00	
75456	Chlorodifluoromethane		NC	5.0E+04	1.4E+04		5.0E+05	1.4E+05		**	**		**	
75003	Chloroethane (ethyl chloride)		NC	1.0E+04	3.8E+03		1.0E+05	3.8E+04		1.0E+06	3.8E+05		2.8E+04	
67663	Chloroform		C	1.1E-01	2.2E-02		1.1E+00	2.2E-01		1.1E+01	2.2E+00		8.0E+01 †	
95578	2-Chlorophenol	X	NC	1.8E+01	3.3E+00		1.8E+02	3.3E+01		1.8E+03	3.3E+02		1.1E+03	
75296	2-Chloropropane		NC	1.0E+02	3.2E+01		1.0E+03	3.2E+02		1.0E+04	3.2E+03		1.7E+02	
218019	Chrysene	X	C	1.2E+00	1.2E-01		1.2E+01	1.2E+00		**	**		**	
156592	cis-1,2-Dichloroethylene	X	NC	3.5E+01	8.8E+00		3.5E+02	8.8E+01		3.5E+03	8.8E+02		2.1E+02	
123739	Crotonaldehyde (2-butenal)	X	C	4.5E-03	1.6E-03		4.5E-02	1.6E-02		4.5E-01	1.6E-01		5.6E+00	
98828	Cumene		NC	4.0E+02	8.1E+01		4.0E+03	8.1E+02		4.0E+04	8.1E+03		8.4E+00	

Table 2c: Question 4 Generic Screening Levels and Summary Sheet [1]

Risk = 1 x 10^{-6}

CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	Target Indoor Air Concentration to Satisfy Both the Prescribed Risk Level and the Target Hazard Index [R=10^{-6}, HI=1) C_{target} (ug/m3)	C_{target} (ppbv)	Measured or Reasonably Estimated Indoor Air Concentration [if available] (specify units)	Target Shallow Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.1 $C_{soil-gas}$ (ug/m3)	$C_{soil-gas}$ (ppbv)	Measured or Reasonably Estimated Shallow Soil Gas Concentration [if available] (specify units)	Target Deep Soil Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.01 $C_{soil-gas}$ (ug/m3)	$C_{soil-gas}$ (ppbv)	Measured or Reasonably Estimated Deep Soil Gas Concentration [if available] (specify units)	Target Groundwater Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor = 0.001 and Partitioning Across the Water Table Obeys Henry's Law C_{gw} (ug/L)	Measured or Reasonably Estimated Groundwater Concentration [if available] (specify units)
72559	DDE	X	C	2.5E-02	1.9E-03		2.5E-01	1.9E-02		2.5E+00	1.9E-01		2.9E+01	
132649	Dibenzofuran	X	NC	1.4E+01	2.0E+00		1.4E+02	2.0E+01		1.4E+03	2.0E+02		**	
96128	1,2-Dibromo-3-chloropropane		NC	2.0E-01	2.1E-02		2.0E+00	2.1E-01		2.0E+01	2.1E+00		3.3E+01	
106934	1,2-Dibromoethane (ethylene dibromide)		C	1.1E-02	1.4E-03		1.1E-01	1.4E-02		1.1E+00	1.4E-01		3.6E-01	
541731	1,3-Dichlorobenzene	X	NC	1.1E+02	1.7E+01		1.1E+03	1.7E+02		1.1E+04	1.7E+03		8.3E+02	
95501	1,2-Dichlorobenzene		NC	2.0E+02	3.3E+01		2.0E+03	3.3E+02		2.0E+04	3.3E+03		2.6E+03	
106467	1,4-Dichlorobenzene		NC	8.0E+02	1.3E+02		8.0E+03	1.3E+03		8.0E+04	1.3E+04		8.2E+03	
75718	Dichlorodifluoromethane		NC	2.0E+02	4.0E+01		2.0E+03	4.0E+02		2.0E+04	4.0E+03		1.4E+01	
75343	1,1-Dichloroethane		NC	5.0E+02	1.2E+02		5.0E+03	1.2E+03		5.0E+04	1.2E+04		2.2E+03	
107062	1,2-Dichloroethane		C	9.4E-02	2.3E-02		9.4E-01	2.3E-01		9.4E+00	2.3E+00		5.0E+00 †	
75354	1,1-Dichloroethylene		NC	2.0E+02	5.0E+01		2.0E+03	5.0E+02		2.0E+04	5.0E+03		1.9E+02	
78875	1,2-Dichloropropane		NC	4.0E+00	8.7E-01		4.0E+01	8.7E+00		4.0E+02	8.7E+01		3.5E+01	
542756	1,3-Dichloropropene		C	6.1E-01	1.3E-01		6.1E+00	1.3E+00		6.1E+01	1.3E+01		8.4E-01	
60571	Dieldrin		C	5.3E-04	3.4E-05		5.3E-03	3.4E-04		5.3E-02	3.4E-03		8.6E-01	
115297	Endosulfan	X	NC	2.1E+01	1.3E+00		2.1E+02	1.3E+01		**	**		**	
106898	Epichlorohydrin		NC	1.0E+00	2.6E-01		1.0E+01	2.6E+00		1.0E+02	2.6E+01		8.0E+02	
60297	Ethyl ether	X	NC	7.0E+02	2.3E+02		7.0E+03	2.3E+03		7.0E+04	2.3E+04		5.2E+02	
141786	Ethylacetate	X	NC	3.2E+03	8.7E+02		3.2E+04	8.7E+03		3.2E+05	8.7E+04		5.6E+05	
100414	Ethylbenzene		C	2.2E+00	5.1E-01		2.2E+01	5.1E+00		2.2E+02	5.1E+01		7.0E+02 †	
75218	Ethylene oxide		C	2.4E-02	1.4E-02		2.4E-01	1.4E-01		2.4E+00	1.4E+00		1.1E+00	
97632	Ethylmethacrylate	X	NC	3.2E+02	6.8E+01		3.2E+03	6.8E+02		3.2E+04	6.8E+03		9.1E+03	
86737	Fluorene	X	NC	1.4E+02	2.1E+01		1.4E+03	2.1E+02		**	**		**	
110009	Furan	X	NC	3.5E+00	1.3E+00		3.5E+01	1.3E+01		3.5E+02	1.3E+02		1.6E+01	
58899	gamma-HCH (Lindane)	X	C	6.6E-03	5.5E-04		6.6E-02	5.5E-03		6.6E-01	5.5E-02		1.1E+01	
76448	Heptachlor		C	1.9E-03	1.2E-04		1.9E-02	1.2E-03		1.9E-01	1.2E-02		4.0E-01 †	
87683	Hexachloro-1,3-butadiene		C	1.1E-01	1.0E-02		1.1E+00	1.0E-01		1.1E+01	1.0E+00		3.3E-01	
118741	Hexachlorobenzene		C	5.3E-03	4.5E-04		5.3E-02	4.5E-03		5.3E-01	4.5E-02		1.0E+00 †	
77474	Hexachlorocyclopentadiene		NC	2.0E-01	1.8E-02		2.0E+00	1.8E-01		2.0E+01	1.8E+00		5.0E+01 †	
67721	Hexachloroethane		C	6.1E-01	6.3E-02		6.1E+00	6.3E-01		6.1E+01	6.3E+00		3.8E+00	
110543	Hexane		NC	2.0E+02	5.7E+01		2.0E+03	5.7E+02		2.0E+04	5.7E+03		2.9E+00	
74908	Hydrogen cyanide		NC	3.0E+00	2.7E+00		3.0E+01	2.7E+01		3.0E+02	2.7E+02		5.5E+02	
78831	Isobutanol	X	NC	1.1E+03	3.5E+02		1.1E+04	3.5E+03		1.1E+05	3.5E+04		2.2E+06	
7439976	Mercury (elemental)		NC	3.0E-01	3.7E-02		3.0E+00	3.7E-01		3.0E+01	3.7E+00		6.8E-01	
126987	Methacrylonitrile		NC	7.0E-01	2.6E-01		7.0E+00	2.6E+00		7.0E+01	2.6E+01		6.9E+01	
72435	Methoxychlor	X	NC	1.8E+01	1.2E+00		**	**		**	**		**	
79209	Methyl acetate	X	NC	3.5E+03	1.2E+03		3.5E+04	1.2E+04		3.5E+05	1.2E+05		7.2E+05	
96333	Methyl acrylate	X	NC	1.1E+02	3.0E+01		1.1E+03	3.0E+02		1.1E+04	3.0E+03		1.4E+04	

Table 2c: Question 4 Generic Screening Levels and Summary Sheet [1]

Risk = 1 x 10^{-6}

CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	Target Indoor Air Concentration to Satisfy Both the Prescribed Risk Level and the Target Hazard Index [R=10^{-6}, HI=1) C_{target} (ug/m3)	C_{target} (ppbv)	Measured or Reasonably Estimated Indoor Air Concentration [if available] (specify units)	Target Shallow Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.1 $C_{soil-gas}$ (ug/m3)	$C_{soil-gas}$ (ppbv)	Measured or Reasonably Estimated Shallow Soil Gas Concentration [if available] (specify units)	Target Deep Soil Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.01 $C_{soil-gas}$ (ug/m3)	$C_{soil-gas}$ (ppbv)	Measured or Reasonably Estimated Deep Soil Gas Concentration [if available] (specify units)	Target Groundwater Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor = 0.001 and Partitioning Across the Water Table Obeys Henry's Law C_{gw} (ug/L)	Measured or Reasonably Estimated Groundwater Concentration [if available] (specify units)
74839	Methyl bromide		NC	5.0E+00	1.3E+00		5.0E+01	1.3E+01		5.0E+02	1.3E+02		2.0E+01	
74873	Methyl chloride (chloromethane)		C	2.4E+00	1.2E+00		2.4E+01	1.2E+01		2.4E+02	1.2E+02		6.7E+00	
108872	Methylcyclohexane		NC	3.0E+03	7.5E+02		3.0E+04	7.5E+03		3.0E+05	7.5E+04		7.1E+02	
74953	Methylene bromide	X	NC	3.5E+01	4.9E+00		3.5E+02	4.9E+01		3.5E+03	4.9E+02		9.9E+02	
75092	Methylene chloride		C	5.2E+00	1.5E+00		5.2E+01	1.5E+01		5.2E+02	1.5E+02		5.8E+01	
78933	Methylethylketone (2-butanone)		NC	1.0E+03	3.4E+02		1.0E+04	3.4E+03		1.0E+05	3.4E+04		4.4E+05	
108101	Methylisobutylketone		NC	8.0E+01	2.0E+01		8.0E+02	2.0E+02		8.0E+03	2.0E+03		1.4E+04	
80626	Methylmethacrylate		NC	7.0E+02	1.7E+02		7.0E+03	1.7E+03		7.0E+04	1.7E+04		5.1E+04	
91576	2-Methylnaphthalene	X	NC	7.0E+01	1.2E+01		7.0E+02	1.2E+02		7.0E+03	1.2E+03		3.3E+03	
1634044	MTBE		NC	3.0E+03	8.3E+02		3.0E+04	8.3E+03		3.0E+05	8.3E+04		1.2E+05	
108383	m-Xylene	X	NC	7.0E+03	1.6E+03		7.0E+04	1.6E+04		7.0E+05	1.6E+05		2.3E+04	
91203	Naphthalene		NC	3.0E+00	5.7E-01		3.0E+01	5.7E+00		3.0E+02	5.7E+01		1.5E+02	
104518	n-Butylbenzene	X	NC	1.4E+02	2.6E+01		1.4E+03	2.6E+02		1.4E+04	2.6E+03		2.6E+02	
98953	Nitrobenzene		NC	2.0E+00	4.0E-01		2.0E+01	4.0E+00		2.0E+02	4.0E+01		2.0E+03	
79469	2-Nitropropane		C	9.0E-04	2.5E-04		9.0E-03	2.5E-03		9.0E-02	2.5E-02		1.8E-01	
924163	N-Nitroso-di-n-butylamine		C	1.5E-03	2.4E-04		1.5E-02	2.4E-03		1.5E-01	2.4E-02		1.2E-01	
103651	n-Propylbenzene	X	NC	1.4E+02	2.8E+01		1.4E+03	2.8E+02		1.4E+04	2.8E+03		3.2E+02	
88722	o-Nitrotoluene	X	NC	3.5E+01	6.2E+00		3.5E+02	6.2E+01		3.5E+03	6.2E+02		6.8E+04	
95476	o-Xylene	X	NC	7.0E+03	1.6E+03		7.0E+04	1.6E+04		7.0E+05	1.6E+05		3.3E+04	
106423	p-Xylene	X	NC	7.0E+03	1.6E+03		7.0E+04	1.6E+04		7.0E+05	1.6E+05		2.2E+04	
129000	Pyrene	X	NC	1.1E+02	1.3E+01		**	**		**	**		**	
135988	sec-Butylbenzene	X	NC	1.4E+02	2.6E+01		1.4E+03	2.6E+02		1.4E+04	2.6E+03		2.5E+02	
100425	Styrene		NC	1.0E+03	2.3E+02		1.0E+04	2.3E+03		1.0E+05	2.3E+04		8.9E+03	
98066	tert-Butylbenzene	X	NC	1.4E+02	2.6E+01		1.4E+03	2.6E+02		1.4E+04	2.6E+03		2.9E+02	
630206	1,1,1,2-Tetrachloroethane		C	3.3E-01	4.8E-02		3.3E+00	4.8E-01		3.3E+01	4.8E+00		3.3E+00	
79345	1,1,2,2-Tetrachloroethane		C	4.2E-02	6.1E-03		4.2E-01	6.1E-02		4.2E+00	6.1E-01		3.0E+00	
127184	Tetrachloroethylene		C	8.1E-01	1.2E-01		8.1E+00	1.2E+00		8.1E+01	1.2E+01		5.0E+00 †	
108883	Toluene		NC	4.0E+02	1.1E+02		4.0E+03	1.1E+03		4.0E+04	1.1E+04		1.5E+03	
156605	trans-1,2-Dichloroethylene	X	NC	7.0E+01	1.8E+01		7.0E+02	1.8E+02		7.0E+03	1.8E+03		1.8E+02	
76131	1,1,2-Trichloro-1,2,2-trifluoroethane		NC	3.0E+04	3.9E+03		3.0E+05	3.9E+04		3.0E+06	3.9E+05		1.5E+03	
120821	1,2,4-Trichlorobenzene		NC	2.0E+02	2.7E+01		2.0E+03	2.7E+02		2.0E+04	2.7E+03		3.4E+03	
79005	1,1,2-Trichloroethane		C	1.5E-01	2.8E-02		1.5E+00	2.8E-01		1.5E+01	2.8E+00		5.0E+00 †	
71556	1,1,1-Trichloroethane		NC	2.2E+03	4.0E+02		2.2E+04	4.0E+03		2.2E+05	4.0E+04		3.1E+03	
79016	Trichloroethylene ††	X	C	2.2E-02	4.1E-03		2.2E-01	4.1E-02		2.2E+00	4.1E-01		5.0E+00 †	
75694	Trichlorofluoromethane		NC	7.0E+02	1.2E+02		7.0E+03	1.2E+03		7.0E+04	1.2E+04		1.8E+02	
96184	1,2,3-Trichloropropane		NC	4.9E+00	8.1E-01		4.9E+01	8.1E+00		4.9E+02	8.1E+01		2.9E+02	
95636	1,2,4-Trimethylbenzene		NC	6.0E+00	1.2E+00		6.0E+01	1.2E+01		6.0E+02	1.2E+02		2.4E+01	

Table 2c: Question 4 Generic Screening Levels and Summary Sheet [1]

Risk = 1 x 10^{-6}

CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	Target Indoor Air Concentration to Satisfy Both the Prescribed Risk Level and the Target Hazard Index [R=10^{-6}, HI=1) C_{target} (ug/m3)	C_{target} (ppbv)	Measured or Reasonably Estimated Indoor Air Concentration [if available] (specify units)	Target Shallow Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.1 $C_{soil-gas}$ (ug/m3)	$C_{soil-gas}$ (ppbv)	Measured or Reasonably Estimated Shallow Soil Gas Concentration [if available] (specify units)	Target Deep Soil Gas Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor=0.01 $C_{soil-gas}$ (ug/m3)	$C_{soil-gas}$ (ppbv)	Measured or Reasonably Estimated Deep Soil Gas Concentration [if available] (specify units)	Target Groundwater Concentration Corresponding to Target Indoor Air Concentration Where the Soil Gas to Indoor Air Attenuation Factor = 0.001 and Partitioning Across the Water Table Obeys Henry's Law C_{gw} (ug/L)	Measured or Reasonably Estimated Groundwater Concentration [if available] (specify units)
108678	1,3,5-Trimethylbenzene		NC	6.0E+00	1.2E+00		6.0E+01	1.2E+01		6.0E+02	1.2E+02		2.5E+01	
108054	Vinyl acetate		NC	2.0E+02	5.7E+01		2.0E+03	5.7E+02		2.0E+04	5.7E+03		9.6E+03	
75014	Vinyl chloride (chloroethene)		C	2.8E-01	1.1E-01		2.8E+00	1.1E+00		2.8E+01	1.1E+01		2.0E+00 †	

† AF = 0.1 for Shallow Soil Gas Target Concentration
AF = 0.01 for Deep Soil Gas Target Concentration
AF = 0.001 for Groundwater Target Concentration

* Health-based target breathing concentration exceeds maximum possible chemical vapor concentration (pathway incomplete)

** Target soil gas concentration exceeds maximum possible vapor concentration (pathway incomplete)

† The target groundwater concentration is the MCL. (The MCL for chloroform is the MCL for total Trihalomethanes. The MCL listed for m-Xylene, o-Xylene, and p-Xylene is the MCL for total Xylenes.)

†† The target concentration for trichloroethylene is based on the upper bound cancer slope factor identified in EPA's draft risk assessment for trichloroethylene (US EPA, 2001). The slope factor is based on state-of-the-art methodology, however the TCE assessment is still undergoing review. As a result, the slope factor and the target concentration values for TCE may be revised further. (See Appendix D.)

Table 3a-SG: Question 5 Soil Gas Screening Levels for Scenario-Specific Vapor Attenuation Factors (α) **DRAFT**

Risk = 1 x 10^{-4}

				Target Soil Gas Concentrations for Different Attenuation Factors									
		Compounds with Provisional Toxicity Data Extrapolated	Basis of Target Concentration C=cancer risk	$\alpha = 2x10^{-3}$ $C_{soil-gas}$		$\alpha = 1x10^{-3}$ $C_{soil-gas}$		$\alpha = 7x10^{-4}$ $C_{soil-gas}$		$\alpha = 4x10^{-4}$ $C_{soil-gas}$		$\alpha = 2x10^{-4}$ $C_{soil-gas}$	
CAS No.	Chemical	From Oral Sources	NC=noncancer risk	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)
83329	Acenaphthene	X	NC	**	**	**	**	**	**	**	**	**	**
75070	Acetaldehyde		NC	4.5E+03	2.5E+03	9.0E+03	5.0E+03	1.3E+04	7.1E+03	2.2E+04	1.2E+04	4.5E+04	2.5E+04
67641	Acetone	X	NC	1.8E+05	7.4E+04	3.5E+05	1.5E+05	5.0E+05	2.1E+05	8.8E+05	3.7E+05	1.8E+06	7.4E+05
75058	Acetonitrile		NC	3.0E+04	1.8E+04	6.0E+04	3.6E+04	8.6E+04	5.1E+04	1.5E+05	8.9E+04	3.0E+05	1.8E+05
98862	Acetophenone	X	NC	1.8E+05	3.6E+04	3.5E+05	7.1E+04	5.0E+05	1.0E+05	8.8E+05	1.8E+05	1.8E+06	3.6E+05
107028	Acrolein		NC	1.0E+01	4.4E+00	2.0E+01	8.7E+00	2.9E+01	1.2E+01	5.0E+01	2.2E+01	1.0E+02	4.4E+01
107131	Acrylonitrile		NC	1.0E+03	4.6E+02	2.0E+03	9.2E+02	2.9E+03	1.3E+03	5.0E+03	2.3E+03	1.0E+04	4.6E+03
309002	Aldrin		C	2.5E+01	1.7E+00	5.0E+01	3.3E+00	7.1E+01	4.8E+00	**	**	**	**
319846	alpha-HCH (alpha-BHC)		C	6.8E+01	5.7E+00	1.4E+02	1.1E+01	1.9E+02	1.6E+01	3.4E+02	2.8E+01	6.8E+02	5.7E+01
100527	Benzaldehyde	X	NC	1.8E+05	4.0E+04	3.5E+05	8.1E+04	5.0E+05	1.2E+05	8.8E+05	2.0E+05	1.8E+06	4.0E+05
71432	Benzene		C	1.6E+04	4.9E+03	3.1E+04	9.8E+03	4.5E+04	1.4E+04	7.8E+04	2.4E+04	1.6E+05	4.9E+04
205992	Benzo(b)fluoranthene	X	C	**	**	**	**	**	**	**	**	**	**
100447	Benzylchloride	X	C	2.5E+03	4.8E+02	5.0E+03	9.7E+02	7.2E+03	1.4E+03	1.3E+04	2.4E+03	2.5E+04	4.8E+03
91587	beta-Chloronaphthalene	X	NC	1.4E+05	2.1E+04	**	**	**	**	**	**	**	**
92524	Biphenyl	X	NC	8.8E+04	1.4E+04	**	**	**	**	**	**	**	**
111444	Bis(2-chloroethyl)ether		C	3.7E+02	6.3E+01	7.4E+02	1.3E+02	1.1E+03	1.8E+02	1.8E+03	3.2E+02	3.7E+03	6.3E+02
108601	Bis(2-chloroisopropyl)ether		C	1.2E+04	1.7E+03	2.4E+04	3.5E+03	3.5E+04	5.0E+03	6.1E+04	8.7E+03	1.2E+05	1.7E+04
542881	Bis(chloromethyl)ether		C	2.0E+00	4.2E-01	3.9E+00	8.4E-01	5.6E+00	1.2E+00	9.8E+00	2.1E+00	2.0E+01	4.2E+00
75274	Bromodichloromethane	X	C	6.9E+03	1.0E+03	1.4E+04	2.1E+03	2.0E+04	2.9E+03	3.4E+04	5.1E+03	6.9E+04	1.0E+04
75252	Bromoform		C	1.1E+05	1.1E+04	2.2E+05	2.1E+04	3.2E+05	3.1E+04	5.5E+05	5.4E+04	1.1E+06	1.1E+05
106990	1,3-Butadiene		C	4.3E+02	2.0E+02	8.7E+02	3.9E+02	1.2E+03	5.6E+02	2.2E+03	9.8E+02	4.3E+03	2.0E+03
75150	Carbon disulfide		NC	3.5E+05	1.1E+05	7.0E+05	2.2E+05	1.0E+06	3.2E+05	1.8E+06	5.6E+05	3.5E+06	1.1E+06
56235	Carbon tetrachloride		C	8.1E+03	1.3E+03	1.6E+04	2.6E+03	2.3E+04	3.7E+03	4.1E+04	6.5E+03	8.1E+04	1.3E+04
57749	Chlordane		NC	**	**	**	**	**	**	**	**	**	**
126998	2-Chloro-1,3-butadiene (chloroprene)		NC	3.5E+03	9.7E+02	7.0E+03	1.9E+03	1.0E+04	2.8E+03	1.8E+04	4.8E+03	3.5E+04	9.7E+03
108907	Chlorobenzene		NC	3.0E+04	6.5E+03	6.0E+04	1.3E+04	8.5E+04	1.8E+04	1.5E+05	3.2E+04	3.0E+05	6.5E+04
109693	1-Chlorobutane	X	NC	7.0E+05	1.8E+05	1.4E+06	3.7E+05	2.0E+06	5.3E+05	3.5E+06	9.2E+05	7.0E+06	1.8E+06
124481	Chlorodibromomethane	X	C	5.1E+03	6.0E+02	1.0E+04	1.2E+03	1.4E+04	1.7E+03	2.5E+04	3.0E+03	5.1E+04	6.0E+03
75456	Chlorodifluoromethane		NC	**	**	**	**	**	**	**	**	**	**
75003	Chloroethane (ethyl chloride)		NC	5.0E+06	1.9E+06	1.0E+07	3.8E+06	1.4E+07	5.4E+06	2.5E+07	9.5E+06	5.0E+07	1.9E+07
67663	Chloroform		C	5.3E+03	1.1E+03	1.1E+04	2.2E+03	1.5E+04	3.1E+03	2.6E+04	5.4E+03	5.3E+04	1.1E+04
95578	2-Chlorophenol	X	NC	8.8E+03	1.7E+03	1.8E+04	3.3E+03	2.5E+04	4.8E+03	4.4E+04	8.3E+03	8.8E+04	1.7E+04
75296	2-Chloropropane		NC	5.1E+04	1.6E+04	1.0E+05	3.2E+04	1.5E+05	4.5E+04	2.5E+05	7.9E+04	5.1E+05	1.6E+05
218019	Chrysene	X	*	*	*	*	*	*	*	*	*	*	*
156592	cis-1,2-Dichloroethylene	X	NC	1.8E+04	4.4E+03	3.5E+04	8.8E+03	5.0E+04	1.3E+04	8.8E+04	2.2E+04	1.8E+05	4.4E+04
123739	Crotonaldehyde (2-butenal)	X	C	2.2E+02	7.8E+01	4.5E+02	1.6E+02	6.4E+02	2.2E+02	1.1E+03	3.9E+02	2.2E+03	7.8E+02
98828	Cumene		NC	2.0E+05	4.1E+04	4.0E+05	8.1E+04	5.7E+05	1.2E+05	1.0E+06	2.0E+05	2.0E+06	4.1E+05
72559	DDE	X	C	**	**	**	**	**	**	**	**	**	**
132649	Dibenzofuran	X	NC	**	**	**	**	**	**	**	**	**	**
96128	1,2-Dibromo-3-chloropropane		NC	1.0E+02	1.0E+01	2.0E+02	2.1E+01	2.9E+02	3.0E+01	5.0E+02	5.2E+01	1.0E+03	1.0E+02
106934	1,2-Dibromoethane (ethylene dibromide)		NC	1.0E+02	1.3E+01	2.0E+02	2.6E+01	2.9E+02	3.7E+01	5.0E+02	6.5E+01	1.0E+03	1.3E+02
541731	1,3-Dichlorobenzene	X	NC	5.3E+04	8.7E+03	1.1E+05	1.7E+04	1.5E+05	2.5E+04	2.6E+05	4.4E+04	5.3E+05	8.7E+04

Table 3a-SG: Question 5 Soil Gas Screening Levels for Scenario-Specific Vapor Attenuation Factors (α) **DRAFT**

Risk = 1 x 10^{-4}

				Target Soil Gas Concentrations for Different Attenuation Factors									
		Compounds with Provisional Toxicity Data Extrapolated	Basis of Target Concentration C=cancer risk	α = 2x10^{-3} $C_{soil-gas}$		α = 1x10^{-3} $C_{soil-gas}$		α = 7x10^{-4} $C_{soil-gas}$		α = 4x10^{-4} $C_{soil-gas}$		α = 2x10^{-4} $C_{soil-gas}$	
CAS No.	Chemical	From Oral Sources	NC=noncancer risk	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)
95501	1,2-Dichlorobenzene		NC	1.0E+05	1.7E+04	2.0E+05	3.3E+04	2.9E+05	4.8E+04	5.0E+05	8.3E+04	1.0E+06	1.7E+05
106467	1,4-Dichlorobenzene		NC	4.0E+05	6.7E+04	8.0E+05	1.3E+05	1.1E+06	1.9E+05	2.0E+06	3.3E+05	4.0E+06	6.7E+05
75718	Dichlorodifluoromethane		NC	1.0E+05	2.0E+04	2.0E+05	4.0E+04	2.9E+05	5.8E+04	5.0E+05	1.0E+05	1.0E+06	2.0E+05
75343	1,1-Dichloroethane		NC	2.5E+05	6.2E+04	5.0E+05	1.2E+05	7.1E+05	1.8E+05	1.3E+06	3.1E+05	2.5E+06	6.2E+05
107062	1,2-Dichloroethane		C	4.7E+03	1.2E+03	9.4E+03	2.3E+03	1.3E+04	3.3E+03	2.3E+04	5.8E+03	4.7E+04	1.2E+04
75354	1,1-Dichloroethylene		NC	1.0E+05	2.5E+04	2.0E+05	5.0E+04	2.9E+05	7.2E+04	5.0E+05	1.3E+05	1.0E+06	2.5E+05
78875	1,2-Dichloropropane		NC	2.0E+03	4.3E+02	4.0E+03	8.7E+02	5.7E+03	1.2E+03	1.0E+04	2.2E+03	2.0E+04	4.3E+03
542756	1,3-Dichloropropene		NC	1.0E+04	2.2E+03	2.0E+04	4.4E+03	2.9E+04	6.3E+03	5.0E+04	1.1E+04	1.0E+05	2.2E+04
60571	Dieldrin		C	2.6E+01	1.7E+00	5.3E+01	3.4E+00	7.6E+01	4.9E+00	**	**	**	**
115297	Endosulfan	X	NC	**	**	**	**	**	**	**	**	**	**
106898	Epichlorohydrin		NC	5.0E+02	1.3E+02	1.0E+03	2.6E+02	1.4E+03	3.8E+02	2.5E+03	6.6E+02	5.0E+03	1.3E+03
60297	Ethyl ether	X	NC	3.5E+05	1.2E+05	7.0E+05	2.3E+05	1.0E+06	3.3E+05	1.8E+06	5.8E+05	3.5E+06	1.2E+06
141786	Ethylacetate	X	NC	1.6E+06	4.4E+05	3.2E+06	8.7E+05	4.5E+06	1.2E+06	7.9E+06	2.2E+06	1.6E+07	4.4E+06
100414	Ethylbenzene		C	1.1E+05	2.5E+04	2.2E+05	5.1E+04	3.2E+05	7.3E+04	5.5E+05	1.3E+05	1.1E+06	2.5E+05
75218	Ethylene oxide		C	1.2E+03	6.8E+02	2.4E+03	1.4E+03	3.5E+03	1.9E+03	6.1E+03	3.4E+03	1.2E+04	6.8E+03
97632	Ethylmethacrylate	X	NC	1.6E+05	3.4E+04	3.2E+05	6.8E+04	4.5E+05	9.6E+04	7.9E+05	1.7E+05	1.6E+06	3.4E+05
86737	Fluorene	X	NC	**	**	**	**	**	**	**	**	**	**
110009	Furan	X	NC	1.8E+03	6.3E+02	3.5E+03	1.3E+03	5.0E+03	1.8E+03	8.8E+03	3.1E+03	1.8E+04	6.3E+03
58899	gamma-HCH (Lindane)	X	C	3.3E+02	2.8E+01	6.6E+02	5.5E+01	9.4E+02	7.9E+01	1.6E+03	1.4E+02	3.3E+03	2.8E+02
76448	Heptachlor		C	9.4E+01	6.1E+00	1.9E+02	1.2E+01	2.7E+02	1.8E+01	4.7E+02	3.1E+01	9.4E+02	6.1E+01
87683	Hexachloro-1,3-butadiene		C	5.5E+03	5.2E+02	1.1E+04	1.0E+03	1.6E+04	1.5E+03	2.8E+04	2.6E+03	5.5E+04	5.2E+03
118741	Hexachlorobenzene		C	2.6E+02	2.3E+01	**	**	**	**	**	**	**	**
77474	Hexachlorocyclopentadiene		NC	1.0E+02	9.0E+00	2.0E+02	1.8E+01	2.9E+02	2.6E+01	5.0E+02	4.5E+01	1.0E+03	9.0E+01
67721	Hexachloroethane		C	3.0E+04	3.1E+03	6.1E+04	6.3E+03	8.7E+04	9.0E+03	1.5E+05	1.6E+04	3.0E+05	3.1E+04
110543	Hexane		NC	1.0E+05	2.8E+04	2.0E+05	5.7E+04	2.9E+05	8.1E+04	5.0E+05	1.4E+05	1.0E+06	2.8E+05
74908	Hydrogen cyanide		NC	1.5E+03	1.4E+03	3.0E+03	2.7E+03	4.3E+03	3.9E+03	7.5E+03	6.8E+03	1.5E+04	1.4E+04
78831	Isobutanol	X	NC	5.3E+05	1.7E+05	1.1E+06	3.5E+05	1.5E+06	5.0E+05	2.6E+06	8.7E+05	5.3E+06	1.7E+06
7439976	Mercury (elemental)		NC	1.5E+02	1.8E+01	3.0E+02	3.7E+01	4.3E+02	5.2E+01	7.5E+02	9.1E+01	1.5E+03	1.8E+02
126987	Methacrylonitrile		NC	3.5E+02	1.3E+02	7.0E+02	2.6E+02	1.0E+03	3.6E+02	1.8E+03	6.4E+02	3.5E+03	1.3E+03
72435	Methoxychlor	X	NC	**	**	**	**	**	**	**	**	**	**
79209	Methyl acetate	X	NC	1.8E+06	5.8E+05	3.5E+06	1.2E+06	5.0E+06	1.7E+06	8.8E+06	2.9E+06	**	**
96333	Methyl acrylate	X	NC	5.3E+04	1.5E+04	1.1E+05	3.0E+04	1.5E+05	4.3E+04	2.6E+05	7.5E+04	5.3E+05	1.5E+05
74839	Methyl bromide		NC	2.5E+03	6.4E+02	5.0E+03	1.3E+03	7.1E+03	1.8E+03	1.3E+04	3.2E+03	2.5E+04	6.4E+03
74873	Methyl chloride (chloromethane)		NC	4.5E+04	2.2E+04	9.0E+04	4.4E+04	1.3E+05	6.2E+04	2.3E+05	1.1E+05	4.5E+05	2.2E+05
108872	Methylcyclohexane		NC	1.5E+06	3.7E+05	3.0E+06	7.5E+05	4.3E+06	1.1E+06	7.5E+06	1.9E+06	1.5E+07	3.7E+06
74953	Methylene bromide	X	NC	1.8E+04	2.5E+03	3.5E+04	4.9E+03	5.0E+04	7.0E+03	8.8E+04	1.2E+04	1.8E+05	2.5E+04
75092	Methylene chloride		C	2.6E+05	7.5E+04	5.2E+05	1.5E+05	7.4E+05	2.1E+05	1.3E+06	3.7E+05	2.6E+06	7.5E+05
78933	Methylethylketone (2-butanone)		NC	5.0E+05	1.7E+05	1.0E+06	3.4E+05	1.4E+06	4.8E+05	2.5E+06	8.5E+05	5.0E+06	1.7E+06
108101	Methylisobutylketone		NC	4.0E+04	9.8E+03	8.0E+04	2.0E+04	1.1E+05	2.8E+04	2.0E+05	4.9E+04	4.0E+05	9.8E+04
80626	Methylmethacrylate		NC	3.5E+05	8.6E+04	7.0E+05	1.7E+05	1.0E+06	2.4E+05	1.8E+06	4.3E+05	3.5E+06	8.6E+05
91576	2-Methylnaphthalene	X	NC	3.5E+04	6.0E+03	7.0E+04	1.2E+04	1.0E+05	1.7E+04	1.8E+05	3.0E+04	3.5E+05	6.0E+04
1634044	MTBE		NC	1.5E+06	4.2E+05	3.0E+06	8.3E+05	4.3E+06	1.2E+06	7.5E+06	2.1E+06	1.5E+07	4.2E+06

Table 3a-SG: Question 5 Soil Gas Screening Levels for Scenario-Specific Vapor Attenuation Factors (α) **DRAFT**

Risk = 1 x 10^{-4}

				Target Soil Gas Concentrations for Different Attenuation Factors									
		Compounds with Provisional Toxicity Data Extrapolated	Basis of Target Concentration C=cancer risk	α = $2x10^{-3}$ $C_{soil-gas}$		α = $1x10^{-3}$ $C_{soil-gas}$		α = $7x10^{-4}$ $C_{soil-gas}$		α = $4x10^{-4}$ $C_{soil-gas}$		α = $2x10^{-4}$ $C_{soil-gas}$	
CAS No.	Chemical	From Oral Sources	NC=noncancer risk	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)
108383	m-Xylene	X	NC	3.5E+06	8.1E+05	7.0E+06	1.6E+06	1.0E+07	2.3E+06	1.8E+07	4.0E+06	3.5E+07	8.1E+06
91203	Naphthalene		NC	1.5E+03	2.9E+02	3.0E+03	5.7E+02	4.3E+03	8.2E+02	7.5E+03	1.4E+03	1.5E+04	2.9E+03
104518	n-Butylbenzene	X	NC	7.0E+04	1.3E+04	1.4E+05	2.6E+04	2.0E+05	3.6E+04	3.5E+05	6.4E+04	7.0E+05	1.3E+05
98953	Nitrobenzene		NC	1.0E+03	2.0E+02	2.0E+03	4.0E+02	2.9E+03	5.7E+02	5.0E+03	9.9E+02	1.0E+04	2.0E+03
79469	2-Nitropropane		C	4.5E+01	1.2E+01	9.0E+01	2.5E+01	1.3E+02	3.5E+01	2.3E+02	6.2E+01	4.5E+02	1.2E+02
924163	N-Nitroso-di-n-butylamine		C	7.6E+01	1.2E+01	1.5E+02	2.4E+01	2.2E+02	3.4E+01	3.8E+02	5.9E+01	7.6E+02	1.2E+02
103651	n-Propylbenzene	X	NC	7.0E+04	1.4E+04	1.4E+05	2.8E+04	2.0E+05	4.1E+04	3.5E+05	7.1E+04	7.0E+05	1.4E+05
88722	o-Nitrotoluene	X	NC	1.8E+04	3.1E+03	3.5E+04	6.2E+03	5.0E+04	8.9E+03	8.8E+04	1.6E+04	1.8E+05	3.1E+04
95476	o-Xylene	X	NC	3.5E+06	8.1E+05	7.0E+06	1.6E+06	1.0E+07	2.3E+06	1.8E+07	4.0E+06	3.5E+07	8.1E+06
106423	p-Xylene	X	NC	3.5E+06	8.1E+05	7.0E+06	1.6E+06	1.0E+07	2.3E+06	1.8E+07	4.0E+06	3.5E+07	8.1E+06
129000	Pyrene	X	NC	**	**	**	**	**	**	**	**	**	**
135988	sec-Butylbenzene	X	NC	7.0E+04	1.3E+04	1.4E+05	2.6E+04	2.0E+05	3.6E+04	3.5E+05	6.4E+04	7.0E+05	1.3E+05
100425	Styrene		NC	5.0E+05	1.2E+05	1.0E+06	2.3E+05	1.4E+06	3.4E+05	2.5E+06	5.9E+05	5.0E+06	1.2E+06
98066	tert-Butylbenzene	X	NC	7.0E+04	1.3E+04	1.4E+05	2.6E+04	2.0E+05	3.6E+04	3.5E+05	6.4E+04	7.0E+05	1.3E+05
630206	1,1,1,2-Tetrachloroethane		C	1.6E+04	2.4E+03	3.3E+04	4.8E+03	4.7E+04	6.8E+03	8.2E+04	1.2E+04	1.6E+05	2.4E+04
79345	1,1,2,2-Tetrachloroethane		C	2.1E+03	3.1E+02	4.2E+03	6.1E+02	6.0E+03	8.7E+02	1.0E+04	1.5E+03	2.1E+04	3.1E+03
127184	Tetrachloroethylene		C	4.1E+04	6.0E+03	8.1E+04	1.2E+04	1.2E+05	1.7E+04	2.0E+05	3.0E+04	4.1E+05	6.0E+04
108883	Toluene		NC	2.0E+05	5.3E+04	4.0E+05	1.1E+05	5.7E+05	1.5E+05	1.0E+06	2.7E+05	2.0E+06	5.3E+05
156605	trans-1,2-Dichloroethylene	X	NC	3.5E+04	8.8E+03	7.0E+04	1.8E+04	1.0E+05	2.5E+04	1.8E+05	4.4E+04	3.5E+05	8.8E+04
76131	1,1,2-Trichloro-1,2,2-trifluoroethane		NC	1.5E+07	2.0E+06	3.0E+07	3.9E+06	4.3E+07	5.6E+06	7.5E+07	9.8E+06	1.5E+08	2.0E+07
120821	1,2,4-Trichlorobenzene		NC	1.0E+05	1.3E+04	2.0E+05	2.7E+04	2.9E+05	3.8E+04	5.0E+05	6.7E+04	1.0E+06	1.3E+05
79005	1,1,2-Trichloroethane		C	7.6E+03	1.4E+03	1.5E+04	2.8E+03	2.2E+04	4.0E+03	3.8E+04	7.0E+03	7.6E+04	1.4E+04
71556	1,1,1-Trichloroethane		NC	1.1E+06	2.0E+05	2.2E+06	4.0E+05	3.1E+06	5.8E+05	5.5E+06	1.0E+06	1.1E+07	2.0E+06
79016	Trichloroethylene ††	X	C	1.1E+03	2.1E+02	2.2E+03	4.1E+02	3.2E+03	5.9E+02	5.5E+03	1.0E+03	1.1E+04	2.1E+03
75694	Trichlorofluoromethane		NC	3.5E+05	6.2E+04	7.0E+05	1.2E+05	1.0E+06	1.8E+05	1.8E+06	3.1E+05	3.5E+06	6.2E+05
96184	1,2,3-Trichloropropane		NC	2.5E+03	4.1E+02	4.9E+03	8.1E+02	7.0E+03	1.2E+03	1.2E+04	2.0E+03	2.5E+04	4.1E+03
95636	1,2,4-Trimethylbenzene		NC	3.0E+03	6.1E+02	6.0E+03	1.2E+03	8.5E+03	1.7E+03	1.5E+04	3.0E+03	3.0E+04	6.1E+03
108678	1,3,5-Trimethylbenzene		NC	3.0E+03	6.1E+02	6.0E+03	1.2E+03	8.5E+03	1.7E+03	1.5E+04	3.0E+03	3.0E+04	6.1E+03
108054	Vinyl acetate		NC	1.0E+05	2.8E+04	2.0E+05	5.7E+04	2.9E+05	8.1E+04	5.0E+05	1.4E+05	1.0E+06	2.8E+05
75014	Vinyl chloride (chloroethene)		C	1.4E+04	5.4E+03	2.8E+04	1.1E+04	4.0E+04	1.5E+04	6.9E+04	2.7E+04	1.4E+05	5.4E+04

* Health-based target breathing concentration exceeds maximum possible chemical vapor concentration (pathway incomplete)

** Target soil gas concentration exceeds maximum possible vapor concentration at this soil gas to indoor air attenuation factor (pathway incomplete)

†† The target concentration for trichloroethylene is based on the upper bound cancer slope factor identified in EPA's draft risk assessment for trichloroethylene (US EPA, 2001). The slope factor is based on state-of-the-art methodology, however the TCE assessment is still undergoing review. As a result, the slope factor and the target concentration values for TCE may be revised further. (See Appendix D.)

Table 3b-SG: Question 5 Soil Gas Screening Levels for Scenario-Specific Vapor Attenuation Factors (α) **DRAFT**

Risk = 1 x 10^{-5}

				Target Soil Gas Concentrations for Different Attenuation Factors									
		Compounds with Provisional Toxicity Data Extrapolated	Basis of Target Concentration C=cancer risk	$\alpha = 2x10^{-3}$ $C_{soil-gas}$		$\alpha = 1x10^{-3}$ $C_{soil-gas}$		$\alpha = 7x10^{-4}$ $C_{soil-gas}$		$\alpha = 4x10^{-4}$ $C_{soil-gas}$		$\alpha = 2x10^{-4}$ $C_{soil-gas}$	
CAS No.	Chemical	From Oral Sources	NC=noncancer risk	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)
83329	Acenaphthene	X	NC	**	**	**	**	**	**	**	**	**	**
75070	Acetaldehyde		NC	4.5E+03	2.5E+03	9.0E+03	5.0E+03	1.3E+04	7.1E+03	2.2E+04	1.2E+04	4.5E+04	2.5E+04
67641	Acetone	X	NC	1.8E+05	7.4E+04	3.5E+05	1.5E+05	5.0E+05	2.1E+05	8.8E+05	3.7E+05	1.8E+06	7.4E+05
75058	Acetonitrile		NC	3.0E+04	1.8E+04	6.0E+04	3.6E+04	8.6E+04	5.1E+04	1.5E+05	8.9E+04	3.0E+05	1.8E+05
98862	Acetophenone	X	NC	1.8E+05	3.6E+04	3.5E+05	7.1E+04	5.0E+05	1.0E+05	8.8E+05	1.8E+05	1.8E+06	3.6E+05
107028	Acrolein		NC	1.0E+01	4.4E+00	2.0E+01	8.7E+00	2.9E+01	1.2E+01	5.0E+01	2.2E+01	1.0E+02	4.4E+01
107131	Acrylonitrile		C	1.8E+02	8.3E+01	3.6E+02	1.7E+02	5.1E+02	2.4E+02	8.9E+02	4.1E+02	1.8E+03	8.3E+02
309002	Aldrin		C	2.5E+00	1.7E-01	5.0E+00	3.3E-01	7.1E+00	4.8E-01	1.2E+01	8.3E-01	2.5E+01	1.7E+00
319846	alpha-HCH (alpha-BHC)		C	6.8E+00	5.7E-01	1.4E+01	1.1E+00	1.9E+01	1.6E+00	3.4E+01	2.8E+00	6.8E+01	5.7E+00
100527	Benzaldehyde	X	NC	1.8E+05	4.0E+04	3.5E+05	8.1E+04	5.0E+05	1.2E+05	8.8E+05	2.0E+05	1.8E+06	4.0E+05
71432	Benzene		C	1.6E+03	4.9E+02	3.1E+03	9.8E+02	4.5E+03	1.4E+03	7.8E+03	2.4E+03	1.6E+04	4.9E+03
205992	Benzo(b)fluoranthene	X	C	**	**	**	**	**	**	**	**	**	**
100447	Benzylchloride	X	C	2.5E+02	4.8E+01	5.0E+02	9.7E+01	7.2E+02	1.4E+02	1.3E+03	2.4E+02	2.5E+03	4.8E+02
91587	beta-Chloronaphthalene	X	NC	1.4E+05	2.1E+04	**	**	**	**	**	**	**	**
92524	Biphenyl	X	NC	8.8E+04	1.4E+04	**	**	**	**	**	**	**	**
111444	Bis(2-chloroethyl)ether		C	3.7E+01	6.3E+00	7.4E+01	1.3E+01	1.1E+02	1.8E+01	1.8E+02	3.2E+01	3.7E+02	6.3E+01
108601	Bis(2-chloroisopropyl)ether		C	1.2E+03	1.7E+02	2.4E+03	3.5E+02	3.5E+03	5.0E+02	6.1E+03	8.7E+02	1.2E+04	1.7E+03
542881	Bis(chloromethyl)ether		C	2.0E-01	4.2E-02	3.9E-01	8.4E-02	5.6E-01	1.2E-01	9.8E-01	2.1E-01	2.0E+00	4.2E-01
75274	Bromodichloromethane	X	C	6.9E+02	1.0E+02	1.4E+03	2.1E+02	2.0E+03	2.9E+02	3.4E+03	5.1E+02	6.9E+03	1.0E+03
75252	Bromoform		C	1.1E+04	1.1E+03	2.2E+04	2.1E+03	3.2E+04	3.1E+03	5.5E+04	5.4E+03	1.1E+05	1.1E+04
106990	1,3-Butadiene		C	4.3E+01	2.0E+01	8.7E+01	3.9E+01	1.2E+02	5.6E+01	2.2E+02	9.8E+01	4.3E+02	2.0E+02
75150	Carbon disulfide		NC	3.5E+05	1.1E+05	7.0E+05	2.2E+05	1.0E+06	3.2E+05	1.8E+06	5.6E+05	3.5E+06	1.1E+06
56235	Carbon tetrachloride		C	8.1E+02	1.3E+02	1.6E+03	2.6E+02	2.3E+03	3.7E+02	4.1E+03	6.5E+02	8.1E+03	1.3E+03
57749	Chlordane		C	**	**	**	**	**	**	**	**	**	**
126998	2-Chloro-1,3-butadiene (chloroprene)		NC	3.5E+03	9.7E+02	7.0E+03	1.9E+03	1.0E+04	2.8E+03	1.8E+04	4.8E+03	3.5E+04	9.7E+03
108907	Chlorobenzene		NC	3.0E+04	6.5E+03	6.0E+04	1.3E+04	8.5E+04	1.8E+04	1.5E+05	3.2E+04	3.0E+05	6.5E+04
109693	1-Chlorobutane	X	NC	7.0E+05	1.8E+05	1.4E+06	3.7E+05	2.0E+06	5.3E+05	3.5E+06	9.2E+05	7.0E+06	1.8E+06
124481	Chlorodibromomethane	X	C	5.1E+02	6.0E+01	1.0E+03	1.2E+02	1.4E+03	1.7E+02	2.5E+03	3.0E+02	5.1E+03	6.0E+02
75456	Chlorodifluoromethane		NC	**	**	**	**	**	**	**	**	**	**
75003	Chloroethane (ethyl chloride)		NC	5.0E+06	1.9E+06	1.0E+07	3.8E+06	1.4E+07	5.4E+06	2.5E+07	9.5E+06	5.0E+07	1.9E+07
67663	Chloroform		C	5.3E+02	1.1E+02	1.1E+03	2.2E+02	1.5E+03	3.1E+02	2.6E+03	5.4E+02	5.3E+03	1.1E+03
95578	2-Chlorophenol	X	NC	8.8E+03	1.7E+03	1.8E+04	3.3E+03	2.5E+04	4.8E+03	4.4E+04	8.3E+03	8.8E+04	1.7E+04
75296	2-Chloropropane		NC	5.1E+04	1.6E+04	1.0E+05	3.2E+04	1.5E+05	4.5E+04	2.5E+05	7.9E+04	5.1E+05	1.6E+05
218019	Chrysene	X	C	**	**	**	**	**	**	**	**	**	**
156592	cis-1,2-Dichloroethylene	X	NC	1.8E+04	4.4E+03	3.5E+04	8.8E+03	5.0E+04	1.3E+04	8.8E+04	2.2E+04	1.8E+05	4.4E+04
123739	Crotonaldehyde (2-butenal)	X	C	2.2E+01	7.8E+00	4.5E+01	1.6E+01	6.4E+01	2.2E+01	1.1E+02	3.9E+01	2.2E+02	7.8E+01
98828	Cumene		NC	2.0E+05	4.1E+04	4.0E+05	8.1E+04	5.7E+05	1.2E+05	1.0E+06	2.0E+05	2.0E+06	4.1E+05
72559	DDE	X	C	**	**	**	**	**	**	**	**	**	**
132649	Dibenzofuran	X	NC	**	**	**	**	**	**	**	**	**	**
96128	1,2-Dibromo-3-chloropropane		NC	1.0E+02	1.0E+01	2.0E+02	2.1E+01	2.9E+02	3.0E+01	5.0E+02	5.2E+01	1.0E+03	1.0E+02
106934	1,2-Dibromoethane (ethylene dibromide)		C	5.5E+01	7.2E+00	1.1E+02	1.4E+01	1.6E+02	2.1E+01	2.8E+02	3.6E+01	5.5E+02	7.2E+01
541731	1,3-Dichlorobenzene	X	NC	5.3E+04	8.7E+03	1.1E+05	1.7E+04	1.5E+05	2.5E+04	2.6E+05	4.4E+04	5.3E+05	8.7E+04

Table 3b-SG: Question 5 Soil Gas Screening Levels for Scenario-Specific Vapor Attenuation Factors (α) **DRAFT**

Risk = 1 x 10^{-5}

				Target Soil Gas Concentrations for Different Attenuation Factors									
		Compounds with Provisional Toxicity Data Extrapolated	Basis of Target Concentration C=cancer risk	α = 2x10^{-3} $C_{soil-gas}$		α = 1x10^{-3} $C_{soil-gas}$		α = 7x10^{-4} $C_{soil-gas}$		α = 4x10^{-4} $C_{soil-gas}$		α = 2x10^{-4} $C_{soil-gas}$	
CAS No.	Chemical	From Oral Sources	NC=noncancer risk	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)
95501	1,2-Dichlorobenzene		NC	1.0E+05	1.7E+04	2.0E+05	3.3E+04	2.9E+05	4.8E+04	5.0E+05	8.3E+04	1.0E+06	1.7E+05
106467	1,4-Dichlorobenzene		NC	4.0E+05	6.7E+04	8.0E+05	1.3E+05	1.1E+06	1.9E+05	2.0E+06	3.3E+05	4.0E+06	6.7E+05
75718	Dichlorodifluoromethane		NC	1.0E+05	2.0E+04	2.0E+05	4.0E+04	2.9E+05	5.8E+04	5.0E+05	1.0E+05	1.0E+06	2.0E+05
75343	1,1-Dichloroethane		NC	2.5E+05	6.2E+04	5.0E+05	1.2E+05	7.1E+05	1.8E+05	1.3E+06	3.1E+05	2.5E+06	6.2E+05
107062	1,2-Dichloroethane		C	4.7E+02	1.2E+02	9.4E+02	2.3E+02	1.3E+03	3.3E+02	2.3E+03	5.8E+02	4.7E+03	1.2E+03
75354	1,1-Dichloroethylene		NC	1.0E+05	2.5E+04	2.0E+05	5.0E+04	2.9E+05	7.2E+04	5.0E+05	1.3E+05	1.0E+06	2.5E+05
78875	1,2-Dichloropropane		NC	2.0E+03	4.3E+02	4.0E+03	8.7E+02	5.7E+03	1.2E+03	1.0E+04	2.2E+03	2.0E+04	4.3E+03
542756	1,3-Dichloropropene		C	3.0E+03	6.7E+02	6.1E+03	1.3E+03	8.7E+03	1.9E+03	1.5E+04	3.4E+03	3.0E+04	6.7E+03
60571	Dieldrin		C	2.6E+00	1.7E-01	5.3E+00	3.4E-01	7.6E+00	4.9E-01	1.3E+01	8.5E-01	2.6E+01	1.7E+00
115297	Endosulfan	X	NC	**	**	**	**	**	**	**	**	**	**
106898	Epichlorohydrin		NC	5.0E+02	1.3E+02	1.0E+03	2.6E+02	1.4E+03	3.8E+02	2.5E+03	6.6E+02	5.0E+03	1.3E+03
60297	Ethyl ether	X	NC	3.5E+05	1.2E+05	7.0E+05	2.3E+05	1.0E+06	3.3E+05	1.8E+06	5.8E+05	3.5E+06	1.2E+06
141786	Ethylacetate	X	NC	1.6E+06	4.4E+05	3.2E+06	8.7E+05	4.5E+06	1.2E+06	7.9E+06	2.2E+06	1.6E+07	4.4E+06
100414	Ethylbenzene		C	1.1E+04	2.5E+03	2.2E+04	5.1E+03	3.2E+04	7.3E+03	5.5E+04	1.3E+04	1.1E+05	2.5E+04
75218	Ethylene oxide		C	1.2E+02	6.8E+01	2.4E+02	1.4E+02	3.5E+02	1.9E+02	6.1E+02	3.4E+02	1.2E+03	6.8E+02
97632	Ethylmethacrylate	X	NC	1.6E+05	3.4E+04	3.2E+05	6.8E+04	4.5E+05	9.6E+04	7.9E+05	1.7E+05	1.6E+06	3.4E+05
86737	Fluorene	X	NC	**	**	**	**	**	**	**	**	**	**
110009	Furan	X	NC	1.8E+03	6.3E+02	3.5E+03	1.3E+03	5.0E+03	1.8E+03	8.8E+03	3.1E+03	1.8E+04	6.3E+03
58899	gamma-HCH (Lindane)	X	C	3.3E+01	2.8E+00	6.6E+01	5.5E+00	9.4E+01	7.9E+00	1.6E+02	1.4E+01	3.3E+02	2.8E+01
76448	Heptachlor		C	9.4E+00	6.1E-01	1.9E+01	1.2E+00	2.7E+01	1.8E+00	4.7E+01	3.1E+00	9.4E+01	6.1E+00
87683	Hexachloro-1,3-butadiene		C	5.5E+02	5.2E+01	1.1E+03	1.0E+02	1.6E+03	1.5E+02	2.8E+03	2.6E+02	5.5E+03	5.2E+02
118741	Hexachlorobenzene		C	2.6E+01	2.3E+00	5.3E+01	4.5E+00	7.6E+01	6.5E+00	1.3E+02	1.1E+01	2.6E+02	2.3E+01
77474	Hexachlorocyclopentadiene		NC	1.0E+02	9.0E+00	2.0E+02	1.8E+01	2.9E+02	2.6E+01	5.0E+02	4.5E+01	1.0E+03	9.0E+01
67721	Hexachloroethane		C	3.0E+03	3.1E+02	6.1E+03	6.3E+02	8.7E+03	9.0E+02	1.5E+04	1.6E+03	3.0E+04	3.1E+03
110543	Hexane		NC	1.0E+05	2.8E+04	2.0E+05	5.7E+04	2.9E+05	8.1E+04	5.0E+05	1.4E+05	1.0E+06	2.8E+05
74908	Hydrogen cyanide		NC	1.5E+03	1.4E+03	3.0E+03	2.7E+03	4.3E+03	3.9E+03	7.5E+03	6.8E+03	1.5E+04	1.4E+04
78831	Isobutanol	X	NC	5.3E+05	1.7E+05	1.1E+06	3.5E+05	1.5E+06	5.0E+05	2.6E+06	8.7E+05	5.3E+06	1.7E+06
7439976	Mercury (elemental)		NC	1.5E+02	1.8E+01	3.0E+02	3.7E+01	4.3E+02	5.2E+01	7.5E+02	9.1E+01	1.5E+03	1.8E+02
126987	Methacrylonitrile		NC	3.5E+02	1.3E+02	7.0E+02	2.6E+02	1.0E+03	3.6E+02	1.8E+03	6.4E+02	3.5E+03	1.3E+03
72435	Methoxychlor	X	NC	**	**	**	**	**	**	**	**	**	**
79209	Methyl acetate	X	NC	1.8E+06	5.8E+05	3.5E+06	1.2E+06	5.0E+06	1.7E+06	8.8E+06	2.9E+06	**	**
96333	Methyl acrylate	X	NC	5.3E+04	1.5E+04	1.1E+05	3.0E+04	1.5E+05	4.3E+04	2.6E+05	7.5E+04	5.3E+05	1.5E+05
74839	Methyl bromide		NC	2.5E+03	6.4E+02	5.0E+03	1.3E+03	7.1E+03	1.8E+03	1.3E+04	3.2E+03	2.5E+04	6.4E+03
74873	Methyl chloride (chloromethane)		C	1.2E+04	5.9E+03	2.4E+04	1.2E+04	3.5E+04	1.7E+04	6.1E+04	2.9E+04	1.2E+05	5.9E+04
108872	Methylcyclohexane		NC	1.5E+06	3.7E+05	3.0E+06	7.5E+05	4.3E+06	1.1E+06	7.5E+06	1.9E+06	1.5E+07	3.7E+06
74953	Methylene bromide	X	NC	1.8E+04	2.5E+03	3.5E+04	4.9E+03	5.0E+04	7.0E+03	8.8E+04	1.2E+04	1.8E+05	2.5E+04
75092	Methylene chloride		C	2.6E+04	7.5E+03	5.2E+04	1.5E+04	7.4E+04	2.1E+04	1.3E+05	3.7E+04	2.6E+05	7.5E+04
78933	Methylethylketone (2-butanone)		NC	5.0E+05	1.7E+05	1.0E+06	3.4E+05	1.4E+06	4.8E+05	2.5E+06	8.5E+05	5.0E+06	1.7E+06
108101	Methylisobutylketone		NC	4.0E+04	9.8E+03	8.0E+04	2.0E+04	1.1E+05	2.8E+04	2.0E+05	4.9E+04	4.0E+05	9.8E+04
80626	Methylmethacrylate		NC	3.5E+05	8.6E+04	7.0E+05	1.7E+05	1.0E+06	2.4E+05	1.8E+06	4.3E+05	3.5E+06	8.6E+05
91576	2-Methylnaphthalene	X	NC	3.5E+04	6.0E+03	7.0E+04	1.2E+04	1.0E+05	1.7E+04	1.8E+05	3.0E+04	3.5E+05	6.0E+04
1634044	MTBE		NC	1.5E+06	4.2E+05	3.0E+06	8.3E+05	4.3E+06	1.2E+06	7.5E+06	2.1E+06	1.5E+07	4.2E+06

Table 3b-SG: Question 5 Soil Gas Screening Levels for Scenario-Specific Vapor Attenuation Factors (α) **DRAFT**

Risk = 1 x 10^{-5}

				Target Soil Gas Concentrations for Different Attenuation Factors									
		Compounds with Provisional Toxicity Data Extrapolated	Basis of Target Concentration C=cancer risk	α = $2x10^{-3}$ $C_{soil-gas}$		α = $1x10^{-3}$ $C_{soil-gas}$		α = $7x10^{-4}$ $C_{soil-gas}$		α = $4x10^{-4}$ $C_{soil-gas}$		α = $2x10^{-4}$ $C_{soil-gas}$	
CAS No.	Chemical	From Oral Sources	NC=noncancer risk	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)
108383	m-Xylene	X	NC	3.5E+06	8.1E+05	7.0E+06	1.6E+06	1.0E+07	2.3E+06	1.8E+07	4.0E+06	3.5E+07	8.1E+06
91203	Naphthalene		NC	1.5E+03	2.9E+02	3.0E+03	5.7E+02	4.3E+03	8.2E+02	7.5E+03	1.4E+03	1.5E+04	2.9E+03
104518	n-Butylbenzene	X	NC	7.0E+04	1.3E+04	1.4E+05	2.6E+04	2.0E+05	3.6E+04	3.5E+05	6.4E+04	7.0E+05	1.3E+05
98953	Nitrobenzene		NC	1.0E+03	2.0E+02	2.0E+03	4.0E+02	2.9E+03	5.7E+02	5.0E+03	9.9E+02	1.0E+04	2.0E+03
79469	2-Nitropropane		C	4.5E+00	1.2E+00	9.0E+00	2.5E+00	1.3E+01	3.5E+00	2.3E+01	6.2E+00	4.5E+01	1.2E+01
924163	N-Nitroso-di-n-butylamine		C	7.6E+00	1.2E+00	1.5E+01	2.4E+00	2.2E+01	3.4E+00	3.8E+01	5.9E+00	7.6E+01	1.2E+01
103651	n-Propylbenzene	X	NC	7.0E+04	1.4E+04	1.4E+05	2.8E+04	2.0E+05	4.1E+04	3.5E+05	7.1E+04	7.0E+05	1.4E+05
88722	o-Nitrotoluene	X	NC	1.8E+04	3.1E+03	3.5E+04	6.2E+03	5.0E+04	8.9E+03	8.8E+04	1.6E+04	1.8E+05	3.1E+04
95476	o-Xylene	X	NC	3.5E+06	8.1E+05	7.0E+06	1.6E+06	1.0E+07	2.3E+06	1.8E+07	4.0E+06	3.5E+07	8.1E+06
106423	p-Xylene	X	NC	3.5E+06	8.1E+05	7.0E+06	1.6E+06	1.0E+07	2.3E+06	1.8E+07	4.0E+06	3.5E+07	8.1E+06
129000	Pyrene	X	NC	**	**	**	**	**	**	**	**	**	**
135988	sec-Butylbenzene	X	NC	7.0E+04	1.3E+04	1.4E+05	2.6E+04	2.0E+05	3.6E+04	3.5E+05	6.4E+04	7.0E+05	1.3E+05
100425	Styrene		NC	5.0E+05	1.2E+05	1.0E+06	2.3E+05	1.4E+06	3.4E+05	2.5E+06	5.9E+05	5.0E+06	1.2E+06
98066	tert-Butylbenzene	X	NC	7.0E+04	1.3E+04	1.4E+05	2.6E+04	2.0E+05	3.6E+04	3.5E+05	6.4E+04	7.0E+05	1.3E+05
630206	1,1,1,2-Tetrachloroethane		C	1.6E+03	2.4E+02	3.3E+03	4.8E+02	4.7E+03	6.8E+02	8.2E+03	1.2E+03	1.6E+04	2.4E+03
79345	1,1,2,2-Tetrachloroethane		C	2.1E+02	3.1E+01	4.2E+02	6.1E+01	6.0E+02	8.7E+01	1.0E+03	1.5E+02	2.1E+03	3.1E+02
127184	Tetrachloroethylene		C	4.1E+03	6.0E+02	8.1E+03	1.2E+03	1.2E+04	1.7E+03	2.0E+04	3.0E+03	4.1E+04	6.0E+03
108883	Toluene		NC	2.0E+05	5.3E+04	4.0E+05	1.1E+05	5.7E+05	1.5E+05	1.0E+06	2.7E+05	2.0E+06	5.3E+05
156605	trans-1,2-Dichloroethylene	X	NC	3.5E+04	8.8E+03	7.0E+04	1.8E+04	1.0E+05	2.5E+04	1.8E+05	4.4E+04	3.5E+05	8.8E+04
76131	1,1,2-Trichloro-1,2,2-trifluoroethane		NC	1.5E+07	2.0E+06	3.0E+07	3.9E+06	4.3E+07	5.6E+06	7.5E+07	9.8E+06	1.5E+08	2.0E+07
120821	1,2,4-Trichlorobenzene		NC	1.0E+05	1.3E+04	2.0E+05	2.7E+04	2.9E+05	3.8E+04	5.0E+05	6.7E+04	1.0E+06	1.3E+05
79005	1,1,2-Trichloroethane		C	7.6E+02	1.4E+02	1.5E+03	2.8E+02	2.2E+03	4.0E+02	3.8E+03	7.0E+02	7.6E+03	1.4E+03
71556	1,1,1-Trichloroethane		NC	1.1E+06	2.0E+05	2.2E+06	4.0E+05	3.1E+06	5.8E+05	5.5E+06	1.0E+06	1.1E+07	2.0E+06
79016	Trichloroethylene ††	X	C	1.1E+02	2.1E+01	2.2E+02	4.1E+01	3.2E+02	5.9E+01	5.5E+02	1.0E+02	1.1E+03	2.1E+02
75694	Trichlorofluoromethane		NC	3.5E+05	6.2E+04	7.0E+05	1.2E+05	1.0E+06	1.8E+05	1.8E+06	3.1E+05	3.5E+06	6.2E+05
96184	1,2,3-Trichloropropane		NC	2.5E+03	4.1E+02	4.9E+03	8.1E+02	7.0E+03	1.2E+03	1.2E+04	2.0E+03	2.5E+04	4.1E+03
95636	1,2,4-Trimethylbenzene		NC	3.0E+03	6.1E+02	6.0E+03	1.2E+03	8.5E+03	1.7E+03	1.5E+04	3.0E+03	3.0E+04	6.1E+03
108678	1,3,5-Trimethylbenzene		NC	3.0E+03	6.1E+02	6.0E+03	1.2E+03	8.5E+03	1.7E+03	1.5E+04	3.0E+03	3.0E+04	6.1E+03
108054	Vinyl acetate		NC	1.0E+05	2.8E+04	2.0E+05	5.7E+04	2.9E+05	8.1E+04	5.0E+05	1.4E+05	1.0E+06	2.8E+05
75014	Vinyl chloride (chloroethene)		C	1.4E+03	5.4E+02	2.8E+03	1.1E+03	4.0E+03	1.5E+03	6.9E+03	2.7E+03	1.4E+04	5.4E+03

* Health-based target breathing concentration exceeds maximum possible chemical vapor concentration (pathway incomplete)

** Target soil gas concentration exceeds maximum possible vapor concentration at this soil gas to indoor air attenuation factor (pathway incomplete)

†† The target concentration for trichloroethylene is based on the upper bound cancer slope factor identified in EPA's draft risk assessment for trichloroethylene (US EPA, 2001). The slope factor is based on state-of-the-art methodology, however the TCE assessment is still undergoing review. As a result, the slope factor and the target concentration values for TCE may be revised further. (See Appendix D.)

Table 3c-SG: Question 5 Soil Gas Screening Levels for Scenario-Specific Vapor Attenuation Factors (α) **DRAFT**

Risk = 1 x 10^{-6}

				Target Soil Gas Concentrations for Different Attenuation Factors									
		Compounds with Provisional Toxicity Data Extrapolated	Basis of Target Concentration C=cancer risk	α = 2x10^{-3} $C_{soil-gas}$		α = 1x10^{-3} $C_{soil-gas}$		α = 7x10^{-4} $C_{soil-gas}$		α = 4x10^{-4} $C_{soil-gas}$		α = 2x10^{-4} $C_{soil-gas}$	
CAS No.	Chemical	From Oral Sources	NC=noncancer risk	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)
83329	Acenaphthene	X	NC	**	**	**	**	**	**	**	**	**	**
75070	Acetaldehyde		C	5.5E+02	3.1E+02	1.1E+03	6.1E+02	1.6E+03	8.8E+02	2.8E+03	1.5E+03	5.5E+03	3.1E+03
67641	Acetone	X	NC	1.8E+05	7.4E+04	3.5E+05	1.5E+05	5.0E+05	2.1E+05	8.8E+05	3.7E+05	1.8E+06	7.4E+05
75058	Acetonitrile		NC	3.0E+04	1.8E+04	6.0E+04	3.6E+04	8.6E+04	5.1E+04	1.5E+05	8.9E+04	3.0E+05	1.8E+05
98862	Acetophenone	X	NC	1.8E+05	3.6E+04	3.5E+05	7.1E+04	5.0E+05	1.0E+05	8.8E+05	1.8E+05	1.8E+06	3.6E+05
107028	Acrolein		NC	1.0E+01	4.4E+00	2.0E+01	8.7E+00	2.9E+01	1.2E+01	5.0E+01	2.2E+01	1.0E+02	4.4E+01
107131	Acrylonitrile		C	1.8E+01	8.3E+00	3.6E+01	1.7E+01	5.1E+01	2.4E+01	8.9E+01	4.1E+01	1.8E+02	8.3E+01
309002	Aldrin		C	2.5E-01	1.7E-02	5.0E-01	3.3E-02	7.1E-01	4.8E-02	1.2E+00	8.3E-02	2.5E+00	1.7E-01
319846	alpha-HCH (alpha-BHC)		C	6.8E-01	5.7E-02	1.4E+00	1.1E-01	1.9E+00	1.6E-01	3.4E+00	2.8E-01	6.8E+00	5.7E-01
100527	Benzaldehyde	X	NC	1.8E+05	4.0E+04	3.5E+05	8.1E+04	5.0E+05	1.2E+05	8.8E+05	2.0E+05	1.8E+06	4.0E+05
71432	Benzene		C	1.6E+02	4.9E+01	3.1E+02	9.8E+01	4.5E+02	1.4E+02	7.8E+02	2.4E+02	1.6E+03	4.9E+02
205992	Benzo(b)fluoranthene	X	C	5.8E+00	5.6E-01	**	**	**	**	**	**	**	**
100447	Benzylchloride	X	C	2.5E+01	4.8E+00	5.0E+01	9.7E+00	7.2E+01	1.4E+01	1.3E+02	2.4E+01	2.5E+02	4.8E+01
91587	beta-Chloronaphthalene	X	NC	1.4E+05	2.1E+04	**	**	**	**	**	**	**	**
92524	Biphenyl	X	NC	8.8E+04	1.4E+04	**	**	**	**	**	**	**	**
111444	Bis(2-chloroethyl)ether		C	3.7E+00	6.3E-01	7.4E+00	1.3E+00	1.1E+01	1.8E+00	1.8E+01	3.2E+00	3.7E+01	6.3E+00
108601	Bis(2-chloroisopropyl)ether		C	1.2E+02	1.7E+01	2.4E+02	3.5E+01	3.5E+02	5.0E+01	6.1E+02	8.7E+01	1.2E+03	1.7E+02
542881	Bis(chloromethyl)ether		C	2.0E-02	4.2E-03	3.9E-02	8.4E-03	5.6E-02	1.2E-02	9.8E-02	2.1E-02	2.0E-01	4.2E-02
75274	Bromodichloromethane	X	C	6.9E+01	1.0E+01	1.4E+02	2.1E+01	2.0E+02	2.9E+01	3.4E+02	5.1E+01	6.9E+02	1.0E+02
75252	Bromoform		C	1.1E+03	1.1E+02	2.2E+03	2.1E+02	3.2E+03	3.1E+02	5.5E+03	5.4E+02	1.1E+04	1.1E+03
106990	1,3-Butadiene		C	4.3E+00	2.0E+00	8.7E+00	3.9E+00	1.2E+01	5.6E+00	2.2E+01	9.8E+00	4.3E+01	2.0E+01
75150	Carbon disulfide		NC	3.5E+05	1.1E+05	7.0E+05	2.2E+05	1.0E+06	3.2E+05	1.8E+06	5.6E+05	3.5E+06	1.1E+06
56235	Carbon tetrachloride		C	8.1E+01	1.3E+01	1.6E+02	2.6E+01	2.3E+02	3.7E+01	4.1E+02	6.5E+01	8.1E+02	1.3E+02
57749	Chlordane		C	1.2E+01	7.3E-01	2.4E+01	1.5E+00	3.5E+01	2.1E+00	6.1E+01	3.6E+00	**	**
126998	2-Chloro-1,3-butadiene (chloroprene)		NC	3.5E+03	9.7E+02	7.0E+03	1.9E+03	1.0E+04	2.8E+03	1.8E+04	4.8E+03	3.5E+04	9.7E+03
108907	Chlorobenzene		NC	3.0E+04	6.5E+03	6.0E+04	1.3E+04	8.5E+04	1.8E+04	1.5E+05	3.2E+04	3.0E+05	6.5E+04
109693	1-Chlorobutane	X	NC	7.0E+05	1.8E+05	1.4E+06	3.7E+05	2.0E+06	5.3E+05	3.5E+06	9.2E+05	7.0E+06	1.8E+06
124481	Chlorodibromomethane	X	C	5.1E+01	6.0E+00	1.0E+02	1.2E+01	1.4E+02	1.7E+01	2.5E+02	3.0E+01	5.1E+02	6.0E+01
75456	Chlorodifluoromethane		NC	**	**	**	**	**	**	**	**	**	**
75003	Chloroethane (ethyl chloride)		NC	5.0E+06	1.9E+06	1.0E+07	3.8E+06	1.4E+07	5.4E+06	2.5E+07	9.5E+06	5.0E+07	1.9E+07
67663	Chloroform		C	5.3E+01	1.1E+01	1.1E+02	2.2E+01	1.5E+02	3.1E+01	2.6E+02	5.4E+01	5.3E+02	1.1E+02
95578	2-Chlorophenol	X	NC	8.8E+03	1.7E+03	1.8E+04	3.3E+03	2.5E+04	4.8E+03	4.4E+04	8.3E+03	8.8E+04	1.7E+04
75296	2-Chloropropane		NC	5.1E+04	1.6E+04	1.0E+05	3.2E+04	1.5E+05	4.5E+04	2.5E+05	7.9E+04	5.1E+05	1.6E+05
218019	Chrysene	X	C	**	**	**	**	**	**	**	**	**	**
156592	cis-1,2-Dichloroethylene	X	NC	1.8E+04	4.4E+03	3.5E+04	8.8E+03	5.0E+04	1.3E+04	8.8E+04	2.2E+04	1.8E+05	4.4E+04
123739	Crotonaldehyde (2-butenal)	X	C	2.2E+00	7.8E-01	4.5E+00	1.6E+00	6.4E+00	2.2E+00	1.1E+01	3.9E+00	2.2E+01	7.8E+00
98828	Cumene		NC	2.0E+05	4.1E+04	4.0E+05	8.1E+04	5.7E+05	1.2E+05	1.0E+06	2.0E+05	2.0E+06	4.1E+05
72559	DDE	X	C	1.3E+01	9.6E-01	2.5E+01	1.9E+00	3.6E+01	2.8E+00	6.3E+01	4.8E+00	**	**
132649	Dibenzofuran	X	NC	**	**	**	**	**	**	**	**	**	**
96128	1,2-Dibromo-3-chloropropane		NC	1.0E+02	1.0E+01	2.0E+02	2.1E+01	2.9E+02	3.0E+01	5.0E+02	5.2E+01	1.0E+03	1.0E+02
106934	1,2-Dibromoethane (ethylene dibromide)		C	5.5E+00	7.2E-01	1.1E+01	1.4E+00	1.6E+01	2.1E+00	2.8E+01	3.6E+00	5.5E+01	7.2E+00
541731	1,3-Dichlorobenzene	X	NC	5.3E+04	8.7E+03	1.1E+05	1.7E+04	1.5E+05	2.5E+04	2.6E+05	4.4E+04	5.3E+05	8.7E+04

Table 3c-SG: Question 5 Soil Gas Screening Levels for Scenario-Specific Vapor Attenuation Factors (α) **DRAFT**

Risk = 1 x 10^{-6}

				Target Soil Gas Concentrations for Different Attenuation Factors									
		Compounds with Provisional Toxicity Data Extrapolated	Basis of Target Concentration C=cancer risk	α = 2x10^{-3} $C_{soil-gas}$		α = 1x10^{-3} $C_{soil-gas}$		α = 7x10^{-4} $C_{soil-gas}$		α = 4x10^{-4} $C_{soil-gas}$		α = 2x10^{-4} $C_{soil-gas}$	
CAS No.	Chemical	From Oral Sources	NC=noncancer risk	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)
95501	1,2-Dichlorobenzene		NC	1.0E+05	1.7E+04	2.0E+05	3.3E+04	2.9E+05	4.8E+04	5.0E+05	8.3E+04	1.0E+06	1.7E+05
106467	1,4-Dichlorobenzene		NC	4.0E+05	6.7E+04	8.0E+05	1.3E+05	1.1E+06	1.9E+05	2.0E+06	3.3E+05	4.0E+06	6.7E+05
75718	Dichlorodifluoromethane		NC	1.0E+05	2.0E+04	2.0E+05	4.0E+04	2.9E+05	5.8E+04	5.0E+05	1.0E+05	1.0E+06	2.0E+05
75343	1,1-Dichloroethane		NC	2.5E+05	6.2E+04	5.0E+05	1.2E+05	7.1E+05	1.8E+05	1.3E+06	3.1E+05	2.5E+06	6.2E+05
107062	1,2-Dichloroethane		C	4.7E+01	1.2E+01	9.4E+01	2.3E+01	1.3E+02	3.3E+01	2.3E+02	5.8E+01	4.7E+02	1.2E+02
75354	1,1-Dichloroethylene		NC	1.0E+05	2.5E+04	2.0E+05	5.0E+04	2.9E+05	7.2E+04	5.0E+05	1.3E+05	1.0E+06	2.5E+05
78875	1,2-Dichloropropane		NC	2.0E+03	4.3E+02	4.0E+03	8.7E+02	5.7E+03	1.2E+03	1.0E+04	2.2E+03	2.0E+04	4.3E+03
542756	1,3-Dichloropropene		C	3.0E+02	6.7E+01	6.1E+02	1.3E+02	8.7E+02	1.9E+02	1.5E+03	3.4E+02	3.0E+03	6.7E+02
60571	Dieldrin		C	2.6E-01	1.7E-02	5.3E-01	3.4E-02	7.6E-01	4.9E-02	1.3E+00	8.5E-02	2.6E+00	1.7E-01
115297	Endosulfan	X	NC	**	**	**	**	**	**	**	**	**	**
106898	Epichlorohydrin		NC	5.0E+02	1.3E+02	1.0E+03	2.6E+02	1.4E+03	3.8E+02	2.5E+03	6.6E+02	5.0E+03	1.3E+03
60297	Ethyl ether	X	NC	3.5E+05	1.2E+05	7.0E+05	2.3E+05	1.0E+06	3.3E+05	1.8E+06	5.8E+05	3.5E+06	1.2E+06
141786	Ethylacetate	X	NC	1.6E+06	4.4E+05	3.2E+06	8.7E+05	4.5E+06	1.2E+06	7.9E+06	2.2E+06	1.6E+07	4.4E+06
100414	Ethylbenzene		C	1.1E+03	2.5E+02	2.2E+03	5.1E+02	3.2E+03	7.3E+02	5.5E+03	1.3E+03	1.1E+04	2.5E+03
75218	Ethylene oxide		C	1.2E+01	6.8E+00	2.4E+01	1.4E+01	3.5E+01	1.9E+01	6.1E+01	3.4E+01	1.2E+02	6.8E+01
97632	Ethylmethacrylate	X	NC	1.6E+05	3.4E+04	3.2E+05	6.8E+04	4.5E+05	9.6E+04	7.9E+05	1.7E+05	1.6E+06	3.4E+05
86737	Fluorene	X	NC	**	**	**	**	**	**	**	**	**	**
110009	Furan	X	NC	1.8E+03	6.3E+02	3.5E+03	1.3E+03	5.0E+03	1.8E+03	8.8E+03	3.1E+03	1.8E+04	6.3E+03
58899	gamma-HCH (Lindane)	X	C	3.3E+00	2.8E-01	6.6E+00	5.5E-01	9.4E+00	7.9E-01	1.6E+01	1.4E+00	3.3E+01	2.8E+00
76448	Heptachlor		C	9.4E-01	6.1E-02	1.9E+00	1.2E-01	2.7E+00	1.8E-01	4.7E+00	3.1E-01	9.4E+00	6.1E-01
87683	Hexachloro-1,3-butadiene		C	5.5E+01	5.2E+00	1.1E+02	1.0E+01	1.6E+02	1.5E+01	2.8E+02	2.6E+01	5.5E+02	5.2E+01
118741	Hexachlorobenzene		C	2.6E+00	2.3E-01	5.3E+00	4.5E-01	7.6E+00	6.5E-01	1.3E+01	1.1E+00	2.6E+01	2.3E+00
77474	Hexachlorocyclopentadiene		NC	1.0E+02	9.0E+00	2.0E+02	1.8E+01	2.9E+02	2.6E+01	5.0E+02	4.5E+01	1.0E+03	9.0E+01
67721	Hexachloroethane		C	3.0E+02	3.1E+01	6.1E+02	6.3E+01	8.7E+02	9.0E+01	1.5E+03	1.6E+02	3.0E+03	3.1E+02
110543	Hexane		NC	1.0E+05	2.8E+04	2.0E+05	5.7E+04	2.9E+05	8.1E+04	5.0E+05	1.4E+05	1.0E+06	2.8E+05
74908	Hydrogen cyanide		NC	1.5E+03	1.4E+03	3.0E+03	2.7E+03	4.3E+03	3.9E+03	7.5E+03	6.8E+03	1.5E+04	1.4E+04
78831	Isobutanol	X	NC	5.3E+05	1.7E+05	1.1E+06	3.5E+05	1.5E+06	5.0E+05	2.6E+06	8.7E+05	5.3E+06	1.7E+06
7439976	Mercury (elemental)		NC	1.5E+02	1.8E+01	3.0E+02	3.7E+01	4.3E+02	5.2E+01	7.5E+02	9.1E+01	1.5E+03	1.8E+02
126987	Methacrylonitrile		NC	3.5E+02	1.3E+02	7.0E+02	2.6E+02	1.0E+03	3.6E+02	1.8E+03	6.4E+02	3.5E+03	1.3E+03
72435	Methoxychlor	X	NC	**	**	**	**	**	**	**	**	**	**
79209	Methyl acetate	X	NC	1.8E+06	5.8E+05	3.5E+06	1.2E+06	5.0E+06	1.7E+06	8.8E+06	2.9E+06	**	**
96333	Methyl acrylate	X	NC	5.3E+04	1.5E+04	1.1E+05	3.0E+04	1.5E+05	4.3E+04	2.6E+05	7.5E+04	5.3E+05	1.5E+05
74839	Methyl bromide		NC	2.5E+03	6.4E+02	5.0E+03	1.3E+03	7.1E+03	1.8E+03	1.3E+04	3.2E+03	2.5E+04	6.4E+03
74873	Methyl chloride (chloromethane)		C	1.2E+03	5.9E+02	2.4E+03	1.2E+03	3.5E+03	1.7E+03	6.1E+03	2.9E+03	1.2E+04	5.9E+03
108872	Methylcyclohexane		NC	1.5E+06	3.7E+05	3.0E+06	7.5E+05	4.3E+06	1.1E+06	7.5E+06	1.9E+06	1.5E+07	3.7E+06
74953	Methylene bromide	X	NC	1.8E+04	2.5E+03	3.5E+04	4.9E+03	5.0E+04	7.0E+03	8.8E+04	1.2E+04	1.8E+05	2.5E+04
75092	Methylene chloride		C	2.6E+03	7.5E+02	5.2E+03	1.5E+03	7.4E+03	2.1E+03	1.3E+04	3.7E+03	2.6E+04	7.5E+03
78933	Methylethylketone (2-butanone)		NC	5.0E+05	1.7E+05	1.0E+06	3.4E+05	1.4E+06	4.8E+05	2.5E+06	8.5E+05	5.0E+06	1.7E+06
108101	Methylisobutylketone		NC	4.0E+04	9.8E+03	8.0E+04	2.0E+04	1.1E+05	2.8E+04	2.0E+05	4.9E+04	4.0E+05	9.8E+04
80626	Methylmethacrylate		NC	3.5E+05	8.6E+04	7.0E+05	1.7E+05	1.0E+06	2.4E+05	1.8E+06	4.3E+05	3.5E+06	8.6E+05
91576	2-Methylnaphthalene	X	NC	3.5E+04	6.0E+03	7.0E+04	1.2E+04	1.0E+05	1.7E+04	1.8E+05	3.0E+04	3.5E+05	6.0E+04
1634044	MTBE		NC	1.5E+06	4.2E+05	3.0E+06	8.3E+05	4.3E+06	1.2E+06	7.5E+06	2.1E+06	1.5E+07	4.2E+06

Table 3c-SG: Question 5 Soil Gas Screening Levels for Scenario-Specific Vapor Attenuation Factors (α) **DRAFT**

Risk = 1 x 10^{-6}

				Target Soil Gas Concentrations for Different Attenuation Factors									
		Compounds with Provisional Toxicity Data Extrapolated	Basis of Target Concentration C=cancer risk	α = $2x10^{-3}$ $C_{soil-gas}$		α = $1x10^{-3}$ $C_{soil-gas}$		α = $7x10^{-4}$ $C_{soil-gas}$		α = $4x10^{-4}$ $C_{soil-gas}$		α = $2x10^{-4}$ $C_{soil-gas}$	
CAS No.	Chemical	From Oral Sources	NC=noncancer risk	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)	(ug/m^3)	(ppbv)
108383	m-Xylene	X	NC	3.5E+06	8.1E+05	7.0E+06	1.6E+06	1.0E+07	2.3E+06	1.8E+07	4.0E+06	3.5E+07	8.1E+06
91203	Naphthalene		NC	1.5E+03	2.9E+02	3.0E+03	5.7E+02	4.3E+03	8.2E+02	7.5E+03	1.4E+03	1.5E+04	2.9E+03
104518	n-Butylbenzene	X	NC	7.0E+04	1.3E+04	1.4E+05	2.6E+04	2.0E+05	3.6E+04	3.5E+05	6.4E+04	7.0E+05	1.3E+05
98953	Nitrobenzene		NC	1.0E+03	2.0E+02	2.0E+03	4.0E+02	2.9E+03	5.7E+02	5.0E+03	9.9E+02	1.0E+04	2.0E+03
79469	2-Nitropropane		C	4.5E-01	1.2E-01	9.0E-01	2.5E-01	1.3E+00	3.5E-01	2.3E+00	6.2E-01	4.5E+00	1.2E+00
924163	N-Nitroso-di-n-butylamine		C	7.6E-01	1.2E-01	1.5E+00	2.4E-01	2.2E+00	3.4E-01	3.8E+00	5.9E-01	7.6E+00	1.2E+00
103651	n-Propylbenzene	X	NC	7.0E+04	1.4E+04	1.4E+05	2.8E+04	2.0E+05	4.1E+04	3.5E+05	7.1E+04	7.0E+05	1.4E+05
88722	o-Nitrotoluene	X	NC	1.8E+04	3.1E+03	3.5E+04	6.2E+03	5.0E+04	8.9E+03	8.8E+04	1.6E+04	1.8E+05	3.1E+04
95476	o-Xylene	X	NC	3.5E+06	8.1E+05	7.0E+06	1.6E+06	1.0E+07	2.3E+06	1.8E+07	4.0E+06	3.5E+07	8.1E+06
106423	p-Xylene	X	NC	3.5E+06	8.1E+05	7.0E+06	1.6E+06	1.0E+07	2.3E+06	1.8E+07	4.0E+06	3.5E+07	8.1E+06
129000	Pyrene	X	NC	**	**	**	**	**	**	**	**	**	**
135988	sec-Butylbenzene	X	NC	7.0E+04	1.3E+04	1.4E+05	2.6E+04	2.0E+05	3.6E+04	3.5E+05	6.4E+04	7.0E+05	1.3E+05
100425	Styrene		NC	5.0E+05	1.2E+05	1.0E+06	2.3E+05	1.4E+06	3.4E+05	2.5E+06	5.9E+05	5.0E+06	1.2E+06
98066	tert-Butylbenzene	X	NC	7.0E+04	1.3E+04	1.4E+05	2.6E+04	2.0E+05	3.6E+04	3.5E+05	6.4E+04	7.0E+05	1.3E+05
630206	1,1,1,2-Tetrachloroethane		C	1.6E+02	2.4E+01	3.3E+02	4.8E+01	4.7E+02	6.8E+01	8.2E+02	1.2E+02	1.6E+03	2.4E+02
79345	1,1,2,2-Tetrachloroethane		C	2.1E+01	3.1E+00	4.2E+01	6.1E+00	6.0E+01	8.7E+00	1.0E+02	1.5E+01	2.1E+02	3.1E+01
127184	Tetrachloroethylene		C	4.1E+02	6.0E+01	8.1E+02	1.2E+02	1.2E+03	1.7E+02	2.0E+03	3.0E+02	4.1E+03	6.0E+02
108883	Toluene		NC	2.0E+05	5.3E+04	4.0E+05	1.1E+05	5.7E+05	1.5E+05	1.0E+06	2.7E+05	2.0E+06	5.3E+05
156605	trans-1,2-Dichloroethylene	X	NC	3.5E+04	8.8E+03	7.0E+04	1.8E+04	1.0E+05	2.5E+04	1.8E+05	4.4E+04	3.5E+05	8.8E+04
76131	1,1,2-Trichloro-1,2,2-trifluoroethane		NC	1.5E+07	2.0E+06	3.0E+07	3.9E+06	4.3E+07	5.6E+06	7.5E+07	9.8E+06	1.5E+08	2.0E+07
120821	1,2,4-Trichlorobenzene		NC	1.0E+05	1.3E+04	2.0E+05	2.7E+04	2.9E+05	3.8E+04	5.0E+05	6.7E+04	1.0E+06	1.3E+05
79005	1,1,2-Trichloroethane		C	7.6E+01	1.4E+01	1.5E+02	2.8E+01	2.2E+02	4.0E+01	3.8E+02	7.0E+01	7.6E+02	1.4E+02
71556	1,1,1-Trichloroethane		NC	1.1E+06	2.0E+05	2.2E+06	4.0E+05	3.1E+06	5.8E+05	5.5E+06	1.0E+06	1.1E+07	2.0E+06
79016	Trichloroethylene ††	X	C	1.1E+01	2.1E+00	2.2E+01	4.1E+00	3.2E+01	5.9E+00	5.5E+01	1.0E+01	1.1E+02	2.1E+01
75694	Trichlorofluoromethane		NC	3.5E+05	6.2E+04	7.0E+05	1.2E+05	1.0E+06	1.8E+05	1.8E+06	3.1E+05	3.5E+06	6.2E+05
96184	1,2,3-Trichloropropane		NC	2.5E+03	4.1E+02	4.9E+03	8.1E+02	7.0E+03	1.2E+03	1.2E+04	2.0E+03	2.5E+04	4.1E+03
95636	1,2,4-Trimethylbenzene		NC	3.0E+03	6.1E+02	6.0E+03	1.2E+03	8.5E+03	1.7E+03	1.5E+04	3.0E+03	3.0E+04	6.1E+03
108678	1,3,5-Trimethylbenzene		NC	3.0E+03	6.1E+02	6.0E+03	1.2E+03	8.5E+03	1.7E+03	1.5E+04	3.0E+03	3.0E+04	6.1E+03
108054	Vinyl acetate		NC	1.0E+05	2.8E+04	2.0E+05	5.7E+04	2.9E+05	8.1E+04	5.0E+05	1.4E+05	1.0E+06	2.8E+05
75014	Vinyl chloride (chloroethene)		C	1.4E+02	5.4E+01	2.8E+02	1.1E+02	4.0E+02	1.5E+02	6.9E+02	2.7E+02	1.4E+03	5.4E+02

* Health-based target breathing concentration exceeds maximum possible chemical vapor concentration (pathway incomplete)

** Target soil gas concentration exceeds maximum possible vapor concentration at this soil gas to indoor air attenuation factor (pathway incomplete)

†† The target concentration for trichloroethylene is based on the upper bound cancer slope factor identified in EPA's draft risk assessment for trichloroethylene (US EPA, 2001). The slope factor is based on state-of-the-art methodology, however the TCE assessment is still undergoing review. As a result, the slope factor and the target concentration values for TCE may be revised further. (See Appendix D.)

Table 3a - GW: Question 5 Groundwater Screening Levels for Scenario-Specific Vapor Attenuation Factors (α)
Risk = 1 x 10^{-4}

				Target Groundwater Concentrations at Different Attenuation Factors				
CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	$\alpha = 7x10^{-4}$ C_{gw} (ug/L)	$\alpha = 5x10^{-4}$ C_{gw} (ug/L)	$\alpha = 3x10^{-4}$ C_{gw} (ug/L)	$\alpha = 2x10^{-4}$ C_{gw} (ug/L)	$\alpha = 1x10^{-4}$ C_{gw} (ug/L)
83329	Acenaphthene	X	NC	**	**	**	**	**
75070	Acetaldehyde		NC	4.0E+03	5.6E+03	9.3E+03	1.4E+04	2.8E+04
67641	Acetone	X	NC	3.2E+05	4.4E+05	7.4E+05	1.1E+06	2.2E+06
75058	Acetonitrile		NC	6.1E+04	8.5E+04	1.4E+05	2.1E+05	4.2E+05
98862	Acetophenone	X	NC	1.1E+06	1.6E+06	2.7E+06	4.0E+06	**
107028	Acrolein		NC	5.7E+00	8.0E+00	1.3E+01	2.0E+01	4.0E+01
107131	Acrylonitrile		NC	6.8E+02	9.5E+02	1.6E+03	2.4E+03	4.7E+03
309002	Aldrin		C	1.0E+01	1.4E+01	**	**	**
319846	alpha-HCH (alpha-BHC)		C	4.5E+02	6.2E+02	1.0E+03	1.6E+03	**
100527	Benzaldehyde	X	NC	5.1E+05	7.2E+05	1.2E+06	1.8E+06	**
71432	Benzene		C	2.0E+02	2.7E+02	4.6E+02	6.9E+02	1.4E+03
205992	Benzo(b)fluoranthene	X	C	**	**	**	**	**
100447	Benzylchloride	X	C	4.2E+02	5.9E+02	9.8E+02	1.5E+03	3.0E+03
91587	beta-Chloronaphthalene	X	NC	**	**	**	**	**
92524	Biphenyl	X	NC	**	**	**	**	**
111444	Bis(2-chloroethyl)ether		C	1.4E+03	2.0E+03	3.3E+03	5.0E+03	1.0E+04
108601	Bis(2-chloroisopropyl)ether		C	7.3E+03	1.0E+04	1.7E+04	2.5E+04	5.1E+04
542881	Bis(chloromethyl)ether		C	6.4E-01	9.0E-01	1.5E+00	2.3E+00	4.5E+00
75274	Bromodichloromethane	X	C	3.0E+02	4.2E+02	7.0E+02	1.1E+03	2.1E+03
75252	Bromoform		C	1.2E+00	1.7E+00	2.8E+00	4.2E+00	8.3E+00
106990	1,3-Butadiene		C	4.1E-01	5.8E-01	9.6E-01	1.4E+00	2.9E+00
75150	Carbon disulfide		NC	8.1E+02	1.1E+03	1.9E+03	2.8E+03	5.6E+03
56235	Carbon tetrachloride		C	1.9E+01	2.6E+01	4.3E+01	6.5E+01	1.3E+02
57749	Chlordane		NC	**	**	**	**	**
126998	2-Chloro-1,3-butadiene (chloroprene)		NC	2.0E+01	2.9E+01	4.8E+01	7.1E+01	1.4E+02
108907	Chlorobenzene		NC	5.6E+02	7.9E+02	1.3E+03	2.0E+03	3.9E+03
109693	1-Chlorobutane	X	NC	2.9E+03	4.0E+03	6.7E+03	1.0E+04	2.0E+04
124481	Chlorodibromomethane	X	C	4.5E+02	6.3E+02	1.1E+03	1.6E+03	3.2E+03
75456	Chlorodifluoromethane		NC	**	**	**	**	**
75003	Chloroethane (ethyl chloride)		NC	4.0E+04	5.5E+04	9.2E+04	1.4E+05	2.8E+05
67663	Chloroform		C	1.0E+02	1.4E+02	2.3E+02	3.5E+02	7.0E+02
95578	2-Chlorophenol	X	NC	1.6E+03	2.2E+03	3.6E+03	5.5E+03	1.1E+04
75296	2-Chloropropane		NC	2.4E+02	3.4E+02	5.7E+02	8.6E+02	1.7E+03

Table 3a - GW: Question 5 Groundwater Screening Levels for Scenario-Specific Vapor Attenuation Factors (α)
Risk = 1 x 10^{-4}

				Target Groundwater Concentrations at Different Attenuation Factors				
CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	$\alpha = 7x10^{-4}$ C_{gw} (ug/L)	$\alpha = 5x10^{-4}$ C_{gw} (ug/L)	$\alpha = 3x10^{-4}$ C_{gw} (ug/L)	$\alpha = 2x10^{-4}$ C_{gw} (ug/L)	$\alpha = 1x10^{-4}$ C_{gw} (ug/L)
218019	Chrysene	X	*	*	*	*	*	*
156592	cis-1,2-Dichloroethylene	X	NC	3.0E+02	4.2E+02	7.0E+02	1.0E+03	2.1E+03
123739	Crotonaldehyde (2-butenal)	X	C	8.0E+02	1.1E+03	1.9E+03	2.8E+03	5.6E+03
98828	Cumene		NC	1.2E+01	1.7E+01	2.8E+01	4.2E+01	8.4E+01
72559	DDE	X	C	**	**	**	**	**
132649	Dibenzofuran	X	NC	**	**	**	**	**
96128	1,2-Dibromo-3-chloropropane		NC	4.8E+01	6.7E+01	1.1E+02	1.7E+02	3.3E+02
106934	1,2-Dibromoethane (ethylene dibromide)		NC	9.4E+00	1.3E+01	2.2E+01	3.3E+01	6.6E+01
541731	1,3-Dichlorobenzene	X	NC	1.2E+03	1.7E+03	2.8E+03	4.1E+03	8.3E+03
95501	1,2-Dichlorobenzene		NC	3.7E+03	5.1E+03	8.6E+03	1.3E+04	2.6E+04
106467	1,4-Dichlorobenzene		NC	1.2E+04	1.6E+04	2.7E+04	4.1E+04	**
75718	Dichlorodifluoromethane		NC	2.0E+01	2.9E+01	4.8E+01	7.1E+01	1.4E+02
75343	1,1-Dichloroethane		NC	3.1E+03	4.4E+03	7.3E+03	1.1E+04	2.2E+04
107062	1,2-Dichloroethane		C	3.3E+02	4.7E+02	7.8E+02	1.2E+03	2.3E+03
75354	1,1-Dichloroethylene		NC	2.7E+02	3.7E+02	6.2E+02	9.4E+02	1.9E+03
78875	1,2-Dichloropropane		NC	5.0E+01	7.0E+01	1.2E+02	1.7E+02	3.5E+02
542756	1,3-Dichloropropene		NC	3.9E+01	5.5E+01	9.2E+01	1.4E+02	2.8E+02
60571	Dieldrin		C	1.2E+02	1.7E+02	**	**	**
115297	Endosulfan	X	NC	**	**	**	**	**
106898	Epichlorohydrin		NC	1.1E+03	1.6E+03	2.7E+03	4.0E+03	8.0E+03
60297	Ethyl ether	X	NC	7.4E+02	1.0E+03	1.7E+03	2.6E+03	5.2E+03
141786	Ethylacetate	X	NC	8.0E+05	1.1E+06	1.9E+06	2.8E+06	5.6E+06
100414	Ethylbenzene		C	9.8E+02	1.4E+03	2.3E+03	3.4E+03	6.9E+03
75218	Ethylene oxide		C	1.5E+02	2.1E+02	3.6E+02	5.4E+02	1.1E+03
97632	Ethylmethacrylate	X	NC	1.3E+04	1.8E+04	3.0E+04	4.6E+04	9.1E+04
86737	Fluorene	X	NC	**	**	**	**	**
110009	Furan	X	NC	2.3E+01	3.2E+01	5.3E+01	7.9E+01	1.6E+02
58899	gamma-HCH (Lindane)	X	C	1.6E+03	2.3E+03	3.8E+03	5.7E+03	**
76448	Heptachlor		C	4.0E-01 †	4.0E-01 †	4.0E-01 †	4.0E-01 †	4.0E-01 †
87683	Hexachloro-1,3-butadiene		C	4.7E+01	6.6E+01	1.1E+02	1.7E+02	3.3E+02
118741	Hexachlorobenzene		C	**	**	**	**	**
77474	Hexachlorocyclopentadiene		NC	5.0E+01 †	5.0E+01 †	5.0E+01 †	5.0E+01 †	5.0E+01 †
67721	Hexachloroethane		C	5.5E+02	7.6E+02	1.3E+03	1.9E+03	3.8E+03

Table 3a - GW: Question 5 Groundwater Screening Levels for Scenario-Specific Vapor Attenuation Factors (α)
Risk = 1 x 10^{-4}

				Target Groundwater Concentrations at Different Attenuation Factors				
CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	$\alpha = 7x10^{-4}$ C_{gw} (ug/L)	$\alpha = 5x10^{-4}$ C_{gw} (ug/L)	$\alpha = 3x10^{-4}$ C_{gw} (ug/L)	$\alpha = 2x10^{-4}$ C_{gw} (ug/L)	$\alpha = 1x10^{-4}$ C_{gw} (ug/L)
110543	Hexane		NC	4.2E+00	5.9E+00	9.8E+00	1.5E+01	2.9E+01
74908	Hydrogen cyanide		NC	7.9E+02	1.1E+03	1.8E+03	2.8E+03	5.5E+03
78831	Isobutanol	X	NC	3.1E+06	4.4E+06	7.3E+06	1.1E+07	2.2E+07
7439976	Mercury (elemental)		NC	9.7E-01	1.4E+00	2.3E+00	3.4E+00	6.8E+00
126987	Methacrylonitrile		NC	9.9E+01	1.4E+02	2.3E+02	3.5E+02	6.9E+02
72435	Methoxychlor	X	NC	**	**	**	**	**
79209	Methyl acetate	X	NC	1.0E+06	1.4E+06	**	**	**
96333	Methyl acrylate	X	NC	2.0E+04	2.7E+04	4.6E+04	6.8E+04	1.4E+05
74839	Methyl bromide		NC	2.8E+01	3.9E+01	6.5E+01	9.8E+01	2.0E+02
74873	Methyl chloride (chloromethane)		NC	3.6E+02	5.0E+02	8.3E+02	1.2E+03	2.5E+03
108872	Methylcyclohexane		NC	1.0E+03	1.4E+03	2.4E+03	3.6E+03	7.1E+03
74953	Methylene bromide	X	NC	1.4E+03	2.0E+03	3.3E+03	5.0E+03	9.9E+03
75092	Methylene chloride		C	8.3E+03	1.2E+04	1.9E+04	2.9E+04	5.8E+04
78933	Methylethylketone (2-butanone)		NC	6.2E+05	8.7E+05	1.5E+06	2.2E+06	4.4E+06
108101	Methylisobutylketone		NC	2.0E+04	2.8E+04	4.7E+04	7.1E+04	1.4E+05
80626	Methylmethacrylate		NC	7.3E+04	1.0E+05	1.7E+05	2.5E+05	5.1E+05
91576	2-Methylnaphthalene	X	NC	4.7E+03	6.6E+03	1.1E+04	1.7E+04	**
1634044	MTBE		NC	1.7E+05	2.3E+05	3.9E+05	5.9E+05	1.2E+06
108383	m-Xylene	X	NC	3.3E+04	4.7E+04	7.8E+04	1.2E+05	**
91203	Naphthalene		NC	2.2E+02	3.0E+02	5.1E+02	7.6E+02	1.5E+03
104518	n-Butylbenzene	X	NC	3.7E+02	5.2E+02	8.7E+02	1.3E+03	**
98953	Nitrobenzene		NC	2.9E+03	4.1E+03	6.8E+03	1.0E+04	2.0E+04
79469	2-Nitropropane		C	2.6E+01	3.6E+01	6.0E+01	9.0E+01	1.8E+02
924163	N-Nitroso-di-n-butylamine		C	1.7E+01	2.4E+01	3.9E+01	5.9E+01	1.2E+02
103651	n-Propylbenzene	X	NC	4.6E+02	6.4E+02	1.1E+03	1.6E+03	3.2E+03
88722	o-Nitrotoluene	X	NC	9.8E+04	1.4E+05	2.3E+05	3.4E+05	**
95476	o-Xylene	X	NC	4.7E+04	6.6E+04	1.1E+05	1.6E+05	**
106423	p-Xylene	X	NC	3.2E+04	4.5E+04	7.4E+04	1.1E+05	**
129000	Pyrene	X	NC	**	**	**	**	**
135988	sec-Butylbenzene	X	NC	3.5E+02	4.9E+02	8.2E+02	1.2E+03	2.5E+03
100425	Styrene		NC	1.3E+04	1.8E+04	3.0E+04	4.4E+04	8.9E+04
98066	tert-Butylbenzene	X	NC	4.1E+02	5.8E+02	9.6E+02	1.4E+03	2.9E+03
630206	1,1,1,2-Tetrachloroethane		C	4.7E+02	6.6E+02	1.1E+03	1.7E+03	3.3E+03

Table 3a - GW: Question 5 Groundwater Screening Levels for Scenario-Specific Vapor Attenuation Factors (α)
Risk = 1 x 10^{-4}

				Target Groundwater Concentrations at Different Attenuation Factors				
CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	$\alpha = 7x10^{-4}$ C_{gw} (ug/L)	$\alpha = 5x10^{-4}$ C_{gw} (ug/L)	$\alpha = 3x10^{-4}$ C_{gw} (ug/L)	$\alpha = 2x10^{-4}$ C_{gw} (ug/L)	$\alpha = 1x10^{-4}$ C_{gw} (ug/L)
79345	1,1,2,2-Tetrachloroethane		C	4.2E+02	5.9E+02	9.9E+02	1.5E+03	3.0E+03
127184	Tetrachloroethylene		C	1.5E+02	2.2E+02	3.6E+02	5.4E+02	1.1E+03
108883	Toluene		NC	2.1E+03	2.9E+03	4.9E+03	7.4E+03	1.5E+04
156605	trans-1,2-Dichloroethylene	X	NC	2.6E+02	3.6E+02	6.1E+02	9.1E+02	1.8E+03
76131	1,1,2-Trichloro-1,2,2-trifluoroethane		NC	2.2E+03	3.1E+03	5.1E+03	7.7E+03	1.5E+04
120821	1,2,4-Trichlorobenzene		NC	4.9E+03	6.9E+03	1.1E+04	1.7E+04	3.4E+04
79005	1,1,2-Trichloroethane		C	5.8E+02	8.1E+02	1.4E+03	2.0E+03	4.1E+03
71556	1,1,1-Trichloroethane		NC	4.5E+03	6.3E+03	1.0E+04	1.6E+04	3.1E+04
79016	Trichloroethylene ††	X	C	7.5E+00	1.1E+01	1.8E+01	2.6E+01	5.3E+01
75694	Trichlorofluoromethane		NC	2.5E+02	3.5E+02	5.9E+02	8.8E+02	1.8E+03
96184	1,2,3-Trichloropropane		NC	4.2E+02	5.9E+02	9.8E+02	1.5E+03	2.9E+03
95636	1,2,4-Trimethylbenzene		NC	3.4E+01	4.7E+01	7.9E+01	1.2E+02	2.4E+02
108678	1,3,5-Trimethylbenzene		NC	3.5E+01	4.9E+01	8.2E+01	1.2E+02	2.5E+02
108054	Vinyl acetate		NC	1.4E+04	1.9E+04	3.2E+04	4.8E+04	9.6E+04
75014	Vinyl chloride (chloroethene)		C	3.6E+01	5.0E+01	8.3E+01	1.3E+02	2.5E+02

* Health-based target breathing concentration exceeds maximum possible chemical vapor concentration (pathway incomplete)

** Target soil gas concentration exceeds maximum possible vapor concentration at this soil gas to indoor air attenuation factor (pathway incomplete)

† The target groundwater concentrations is the MCL. (The MCL for chloroform is the MCL for total Trihalomethanes. The MCL listed for m-Xylene, o-Xylene, and p-Xylene is the MCL for total Xylenes.

†† The target concentration for trichloroethylene is based on the upper bound cancer slope factor identified in EPA's draft risk assessment for trichloroethylene (US EPA, 2001). The slope factor is based on state-of-the-art methodology, however the TCE assessment is still undergoing review. As a result, the slope factor and the target concentration values for TCE may be revised further. (See Appendix D.)

Table 3b - GW: Question 5 Groundwater Screening Levels for Scenario-Specific Vapor Attenuation Factors (α)
Risk = 1 x 10^{-5}

				Target Groundwater Concentrations at Different Attenuation Factors				
CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	$\alpha = 7x10^{-4}$ C_{gw} (ug/L)	$\alpha = 5x10^{-4}$ C_{gw} (ug/L)	$\alpha = 3x10^{-4}$ C_{gw} (ug/L)	$\alpha = 2x10^{-4}$ C_{gw} (ug/L)	$\alpha = 1x10^{-4}$ C_{gw} (ug/L)
83329	Acenaphthene	X	NC	**	**	**	**	**
75070	Acetaldehyde		NC	4.0E+03	5.6E+03	9.3E+03	1.4E+04	2.8E+04
67641	Acetone	X	NC	3.2E+05	4.4E+05	7.4E+05	1.1E+06	2.2E+06
75058	Acetonitrile		NC	6.1E+04	8.5E+04	1.4E+05	2.1E+05	4.2E+05
98862	Acetophenone	X	NC	1.1E+06	1.6E+06	2.7E+06	4.0E+06	**
107028	Acrolein		NC	5.7E+00	8.0E+00	1.3E+01	2.0E+01	4.0E+01
107131	Acrylonitrile		C	1.2E+02	1.7E+02	2.8E+02	4.2E+02	8.5E+02
309002	Aldrin		C	1.0E+00	1.4E+00	2.4E+00	3.6E+00	7.1E+00
319846	alpha-HCH (alpha-BHC)		C	4.5E+01	6.2E+01	1.0E+02	1.6E+02	3.1E+02
100527	Benzaldehyde	X	NC	5.1E+05	7.2E+05	1.2E+06	1.8E+06	**
71432	Benzene		C	2.0E+01	2.7E+01	4.6E+01	6.9E+01	1.4E+02
205992	Benzo(b)fluoranthene	X	C	**	**	**	**	**
100447	Benzylchloride	X	C	4.2E+01	5.9E+01	9.8E+01	1.5E+02	3.0E+02
91587	beta-Chloronaphthalene	X	NC	**	**	**	**	**
92524	Biphenyl	X	NC	**	**	**	**	**
111444	Bis(2-chloroethyl)ether		C	1.4E+02	2.0E+02	3.3E+02	5.0E+02	1.0E+03
108601	Bis(2-chloroisopropyl)ether		C	7.3E+02	1.0E+03	1.7E+03	2.5E+03	5.1E+03
542881	Bis(chloromethyl)ether		C	6.4E-02	9.0E-02	1.5E-01	2.3E-01	4.5E-01
75274	Bromodichloromethane	X	C	3.0E+01	4.2E+01	7.0E+01	1.1E+02	2.1E+02
75252	Bromoform		C	1.2E-01	1.7E-01	2.8E-01	4.2E-01	8.3E-01
106990	1,3-Butadiene		C	4.1E-02	5.8E-02	9.6E-02	1.4E-01	2.9E-01
75150	Carbon disulfide		NC	8.1E+02	1.1E+03	1.9E+03	2.8E+03	5.6E+03
56235	Carbon tetrachloride		C	5.0E+00 †	5.0E+00 †	5.0E+00 †	6.5E+00	1.3E+01
57749	Chlordane		C	**	**	**	**	**
126998	2-Chloro-1,3-butadiene (chloroprene)		NC	2.0E+01	2.9E+01	4.8E+01	7.1E+01	1.4E+02
108907	Chlorobenzene		NC	5.6E+02	7.9E+02	1.3E+03	2.0E+03	3.9E+03
109693	1-Chlorobutane	X	NC	2.9E+03	4.0E+03	6.7E+03	1.0E+04	2.0E+04
124481	Chlorodibromomethane	X	C	4.5E+01	6.3E+01	1.1E+02	1.6E+02	3.2E+02
75456	Chlorodifluoromethane		NC	**	**	**	**	**
75003	Chloroethane (ethyl chloride)		NC	4.0E+04	5.5E+04	9.2E+04	1.4E+05	2.8E+05
67663	Chloroform		C	8.0E+01 †	8.0E+01 †	8.0E+01 †	8.0E+01 †	8.0E+01 †
95578	2-Chlorophenol	X	NC	1.6E+03	2.2E+03	3.6E+03	5.5E+03	1.1E+04
75296	2-Chloropropane		NC	2.4E+02	3.4E+02	5.7E+02	8.6E+02	1.7E+03

Table 3b - GW: Question 5 Groundwater Screening Levels for Scenario-Specific Vapor Attenuation Factors (α)
Risk = 1 x 10^{-5}

				Target Groundwater Concentrations at Different Attenuation Factors				
CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	$\alpha = 7x10^{-4}$ C_{gw} (ug/L)	$\alpha = 5x10^{-4}$ C_{gw} (ug/L)	$\alpha = 3x10^{-4}$ C_{gw} (ug/L)	$\alpha = 2x10^{-4}$ C_{gw} (ug/L)	$\alpha = 1x10^{-4}$ C_{gw} (ug/L)
218019	Chrysene	X	C	**	**	**	**	**
156592	cis-1,2-Dichloroethylene	X	NC	3.0E+02	4.2E+02	7.0E+02	1.0E+03	2.1E+03
123739	Crotonaldehyde (2-butenal)	X	C	8.0E+01	1.1E+02	1.9E+02	2.8E+02	5.6E+02
98828	Cumene		NC	1.2E+01	1.7E+01	2.8E+01	4.2E+01	8.4E+01
72559	DDE	X	C	**	**	**	**	**
132649	Dibenzofuran	X	NC	**	**	**	**	**
96128	1,2-Dibromo-3-chloropropane		NC	4.8E+01	6.7E+01	1.1E+02	1.7E+02	3.3E+02
106934	1,2-Dibromoethane (ethylene dibromide)		C	5.2E+00	7.3E+00	1.2E+01	1.8E+01	3.6E+01
541731	1,3-Dichlorobenzene	X	NC	1.2E+03	1.7E+03	2.8E+03	4.1E+03	8.3E+03
95501	1,2-Dichlorobenzene		NC	3.7E+03	5.1E+03	8.6E+03	1.3E+04	2.6E+04
106467	1,4-Dichlorobenzene		NC	1.2E+04	1.6E+04	2.7E+04	4.1E+04	**
75718	Dichlorodifluoromethane		NC	2.0E+01	2.9E+01	4.8E+01	7.1E+01	1.4E+02
75343	1,1-Dichloroethane		NC	3.1E+03	4.4E+03	7.3E+03	1.1E+04	2.2E+04
107062	1,2-Dichloroethane		C	3.3E+01	4.7E+01	7.8E+01	1.2E+02	2.3E+02
75354	1,1-Dichloroethylene		NC	2.7E+02	3.7E+02	6.2E+02	9.4E+02	1.9E+03
78875	1,2-Dichloropropane		NC	5.0E+01	7.0E+01	1.2E+02	1.7E+02	3.5E+02
542756	1,3-Dichloropropene		C	1.2E+01	1.7E+01	2.8E+01	4.2E+01	8.4E+01
60571	Dieldrin		C	1.2E+01	1.7E+01	2.9E+01	4.3E+01	8.6E+01
115297	Endosulfan	X	NC	**	**	**	**	**
106898	Epichlorohydrin		NC	1.1E+03	1.6E+03	2.7E+03	4.0E+03	8.0E+03
60297	Ethyl ether	X	NC	7.4E+02	1.0E+03	1.7E+03	2.6E+03	5.2E+03
141786	Ethylacetate	X	NC	8.0E+05	1.1E+06	1.9E+06	2.8E+06	5.6E+06
100414	Ethylbenzene		C	7.0E+02 †	7.0E+02 †	7.0E+02 †	7.0E+02 †	7.0E+02 †
75218	Ethylene oxide		C	1.5E+01	2.1E+01	3.6E+01	5.4E+01	1.1E+02
97632	Ethylmethacrylate	X	NC	1.3E+04	1.8E+04	3.0E+04	4.6E+04	9.1E+04
86737	Fluorene	X	NC	**	**	**	**	**
110009	Furan	X	NC	2.3E+01	3.2E+01	5.3E+01	7.9E+01	1.6E+02
58899	gamma-HCH (Lindane)	X	C	1.6E+02	2.3E+02	3.8E+02	5.7E+02	1.1E+03
76448	Heptachlor		C	4.0E-01 †	4.0E-01 †	4.0E-01 †	4.0E-01 †	4.0E-01 †
87683	Hexachloro-1,3-butadiene		C	4.7E+00	6.6E+00	1.1E+01	1.7E+01	3.3E+01
118741	Hexachlorobenzene		C	1.4E+00	2.0E+00	3.3E+00	4.9E+00	**
77474	Hexachlorocyclopentadiene		NC	5.0E+01 †	5.0E+01 †	5.0E+01 †	5.0E+01 †	5.0E+01 †
67721	Hexachloroethane		C	5.5E+01	7.6E+01	1.3E+02	1.9E+02	3.8E+02

Table 3b - GW: Question 5 Groundwater Screening Levels for Scenario-Specific Vapor Attenuation Factors (α)
Risk = 1 x 10^{-5}

				Target Groundwater Concentrations at Different Attenuation Factors				
CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	$\alpha = 7x10^{-4}$ C_{gw} (ug/L)	$\alpha = 5x10^{-4}$ C_{gw} (ug/L)	$\alpha = 3x10^{-4}$ C_{gw} (ug/L)	$\alpha = 2x10^{-4}$ C_{gw} (ug/L)	$\alpha = 1x10^{-4}$ C_{gw} (ug/L)
110543	Hexane		NC	4.2E+00	5.9E+00	9.8E+00	1.5E+01	2.9E+01
74908	Hydrogen cyanide		NC	7.9E+02	1.1E+03	1.8E+03	2.8E+03	5.5E+03
78831	Isobutanol	X	NC	3.1E+06	4.4E+06	7.3E+06	1.1E+07	2.2E+07
7439976	Mercury (elemental)		NC	9.7E-01	1.4E+00	2.3E+00	3.4E+00	6.8E+00
126987	Methacrylonitrile		NC	9.9E+01	1.4E+02	2.3E+02	3.5E+02	6.9E+02
72435	Methoxychlor	X	NC	**	**	**	**	**
79209	Methyl acetate	X	NC	1.0E+06	1.4E+06	**	**	**
96333	Methyl acrylate	X	NC	2.0E+04	2.7E+04	4.6E+04	6.8E+04	1.4E+05
74839	Methyl bromide		NC	2.8E+01	3.9E+01	6.5E+01	9.8E+01	2.0E+02
74873	Methyl chloride (chloromethane)		C	9.6E+01	1.3E+02	2.2E+02	3.4E+02	6.7E+02
108872	Methylcyclohexane		NC	1.0E+03	1.4E+03	2.4E+03	3.6E+03	7.1E+03
74953	Methylene bromide	X	NC	1.4E+03	2.0E+03	3.3E+03	5.0E+03	9.9E+03
75092	Methylene chloride		C	8.3E+02	1.2E+03	1.9E+03	2.9E+03	5.8E+03
78933	Methylethylketone (2-butanone)		NC	6.2E+05	8.7E+05	1.5E+06	2.2E+06	4.4E+06
108101	Methylisobutylketone		NC	2.0E+04	2.8E+04	4.7E+04	7.1E+04	1.4E+05
80626	Methylmethacrylate		NC	7.3E+04	1.0E+05	1.7E+05	2.5E+05	5.1E+05
91576	2-Methylnaphthalene	X	NC	4.7E+03	6.6E+03	1.1E+04	1.7E+04	**
1634044	MTBE		NC	1.7E+05	2.3E+05	3.9E+05	5.9E+05	1.2E+06
108383	m-Xylene	X	NC	3.3E+04	4.7E+04	7.8E+04	1.2E+05	**
91203	Naphthalene		NC	2.2E+02	3.0E+02	5.1E+02	7.6E+02	1.5E+03
104518	n-Butylbenzene	X	NC	3.7E+02	5.2E+02	8.7E+02	1.3E+03	**
98953	Nitrobenzene		NC	2.9E+03	4.1E+03	6.8E+03	1.0E+04	2.0E+04
79469	2-Nitropropane		C	2.6E+00	3.6E+00	6.0E+00	9.0E+00	1.8E+01
924163	N-Nitroso-di-n-butylamine		C	1.7E+00	2.4E+00	3.9E+00	5.9E+00	1.2E+01
103651	n-Propylbenzene	X	NC	4.6E+02	6.4E+02	1.1E+03	1.6E+03	3.2E+03
88722	o-Nitrotoluene	X	NC	9.8E+04	1.4E+05	2.3E+05	3.4E+05	**
95476	o-Xylene	X	NC	4.7E+04	6.6E+04	1.1E+05	1.6E+05	**
106423	p-Xylene	X	NC	3.2E+04	4.5E+04	7.4E+04	1.1E+05	**
129000	Pyrene	X	NC	**	**	**	**	**
135988	sec-Butylbenzene	X	NC	3.5E+02	4.9E+02	8.2E+02	1.2E+03	2.5E+03
100425	Styrene		NC	1.3E+04	1.8E+04	3.0E+04	4.4E+04	8.9E+04
98066	tert-Butylbenzene	X	NC	4.1E+02	5.8E+02	9.6E+02	1.4E+03	2.9E+03
630206	1,1,1,2-Tetrachloroethane		C	4.7E+01	6.6E+01	1.1E+02	1.7E+02	3.3E+02

Table 3b - GW: Question 5 Groundwater Screening Levels for Scenario-Specific Vapor Attenuation Factors (α)
Risk = 1 x 10^{-5}

				Target Groundwater Concentrations at Different Attenuation Factors				
CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	$\alpha = 7x10^{-4}$ C_{gw} (ug/L)	$\alpha = 5x10^{-4}$ C_{gw} (ug/L)	$\alpha = 3x10^{-4}$ C_{gw} (ug/L)	$\alpha = 2x10^{-4}$ C_{gw} (ug/L)	$\alpha = 1x10^{-4}$ C_{gw} (ug/L)
79345	1,1,2,2-Tetrachloroethane		C	4.2E+01	5.9E+01	9.9E+01	1.5E+02	3.0E+02
127184	Tetrachloroethylene		C	1.5E+01	2.2E+01	3.6E+01	5.4E+01	1.1E+02
108883	Toluene		NC	2.1E+03	2.9E+03	4.9E+03	7.4E+03	1.5E+04
156605	trans-1,2-Dichloroethylene	X	NC	2.6E+02	3.6E+02	6.1E+02	9.1E+02	1.8E+03
76131	1,1,2-Trichloro-1,2,2-trifluoroethane		NC	2.2E+03	3.1E+03	5.1E+03	7.7E+03	1.5E+04
120821	1,2,4-Trichlorobenzene		NC	4.9E+03	6.9E+03	1.1E+04	1.7E+04	3.4E+04
79005	1,1,2-Trichloroethane		C	5.8E+01	8.1E+01	1.4E+02	2.0E+02	4.1E+02
71556	1,1,1-Trichloroethane		NC	4.5E+03	6.3E+03	1.0E+04	1.6E+04	3.1E+04
79016	Trichloroethylene ††	X	C	5.0E+00 †	5.0E+00 †	5.0E+00 †	5.0E+00 †	5.3E+00
75694	Trichlorofluoromethane		NC	2.5E+02	3.5E+02	5.9E+02	8.8E+02	1.8E+03
96184	1,2,3-Trichloropropane		NC	4.2E+02	5.9E+02	9.8E+02	1.5E+03	2.9E+03
95636	1,2,4-Trimethylbenzene		NC	3.4E+01	4.7E+01	7.9E+01	1.2E+02	2.4E+02
108678	1,3,5-Trimethylbenzene		NC	3.5E+01	4.9E+01	8.2E+01	1.2E+02	2.5E+02
108054	Vinyl acetate		NC	1.4E+04	1.9E+04	3.2E+04	4.8E+04	9.6E+04
75014	Vinyl chloride (chloroethene)		C	3.6E+00	5.0E+00	8.3E+00	1.3E+01	2.5E+01

* Health-based target breathing concentration exceeds maximum possible chemical vapor concentration (pathway incomplete)

** Target soil gas concentration exceeds maximum possible vapor concentration at this soil gas to indoor air attenuation factor (pathway incomplete)

† The target groundwater concentrations is the MCL. (The MCL for chloroform is the MCL for total Trihalomethanes. The MCL listed for m-Xylene, o-Xylene, and p-Xylene is the MCL for total Xylenes.

†† The target concentration for trichloroethylene is based on the upper bound cancer slope factor identified in EPA's draft risk assessment for trichloroethylene (US EPA, 2001). The slope factor is based on state-of-the-art methodology, however the TCE assessment is still undergoing review. As a result, the slope factor and the target concentration values for TCE may be revised further. (See Appendix D.)

Table 3c - GW: Question 5 Groundwater Screening Levels for Scenario-Specific Vapor Attenuation Factors (α)
Risk = 1 x 10^{-6}

				Target Groundwater Concentrations at Different Attenuation Factors				
CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	$\alpha = 7x10^{-4}$ C_{gw} (ug/L)	$\alpha = 5x10^{-4}$ C_{gw} (ug/L)	$\alpha = 3x10^{-4}$ C_{gw} (ug/L)	$\alpha = 2x10^{-4}$ C_{gw} (ug/L)	$\alpha = 1x10^{-4}$ C_{gw} (ug/L)
83329	Acenaphthene	X	NC	**	**	**	**	**
75070	Acetaldehyde		C	4.9E+02	6.9E+02	1.1E+03	1.7E+03	3.4E+03
67641	Acetone	X	NC	3.2E+05	4.4E+05	7.4E+05	1.1E+06	2.2E+06
75058	Acetonitrile		NC	6.1E+04	8.5E+04	1.4E+05	2.1E+05	4.2E+05
98862	Acetophenone	X	NC	1.1E+06	1.6E+06	2.7E+06	4.0E+06	**
107028	Acrolein		NC	5.7E+00	8.0E+00	1.3E+01	2.0E+01	4.0E+01
107131	Acrylonitrile		C	1.2E+01	1.7E+01	2.8E+01	4.2E+01	8.5E+01
309002	Aldrin		C	1.0E-01	1.4E-01	2.4E-01	3.6E-01	7.1E-01
319846	alpha-HCH (alpha-BHC)		C	4.5E+00	6.2E+00	1.0E+01	1.6E+01	3.1E+01
100527	Benzaldehyde	X	NC	5.1E+05	7.2E+05	1.2E+06	1.8E+06	**
71432	Benzene		C	5.0E+00 †	5.0E+00 †	5.0E+00 †	6.9E+00	1.4E+01
205992	Benzo(b)fluoranthene	X	C	**	**	**	**	**
100447	Benzylchloride	X	C	4.2E+00	5.9E+00	9.8E+00	1.5E+01	3.0E+01
91587	beta-Chloronaphthalene	X	NC	**	**	**	**	**
92524	Biphenyl	X	NC	**	**	**	**	**
111444	Bis(2-chloroethyl)ether		C	1.4E+01	2.0E+01	3.3E+01	5.0E+01	1.0E+02
108601	Bis(2-chloroisopropyl)ether		C	7.3E+01	1.0E+02	1.7E+02	2.5E+02	5.1E+02
542881	Bis(chloromethyl)ether		C	6.4E-03	9.0E-03	1.5E-02	2.3E-02	4.5E-02
75274	Bromodichloromethane	X	C	3.0E+00	4.2E+00	7.0E+00	1.1E+01	2.1E+01
75252	Bromoform		C	1.2E-02	1.7E-02	2.8E-02	4.2E-02	8.3E-02
106990	1,3-Butadiene		C	4.1E-03	5.8E-03	9.6E-03	1.4E-02	2.9E-02
75150	Carbon disulfide		NC	8.1E+02	1.1E+03	1.9E+03	2.8E+03	5.6E+03
56235	Carbon tetrachloride		C	5.0E+00 †	5.0E+00 †	5.0E+00 †	5.0E+00 †	5.0E+00 †
57749	Chlordane		C	1.7E+01	2.4E+01	4.1E+01	**	**
126998	2-Chloro-1,3-butadiene (chloroprene)		NC	2.0E+01	2.9E+01	4.8E+01	7.1E+01	1.4E+02
108907	Chlorobenzene		NC	5.6E+02	7.9E+02	1.3E+03	2.0E+03	3.9E+03
109693	1-Chlorobutane	X	NC	2.9E+03	4.0E+03	6.7E+03	1.0E+04	2.0E+04
124481	Chlorodibromomethane	X	C	4.5E+00	6.3E+00	1.1E+01	1.6E+01	3.2E+01
75456	Chlorodifluoromethane		NC	**	**	**	**	**
75003	Chloroethane (ethyl chloride)		NC	4.0E+04	5.5E+04	9.2E+04	1.4E+05	2.8E+05
67663	Chloroform		C	8.0E+01 †	8.0E+01 †	8.0E+01 †	8.0E+01 †	8.0E+01 †
95578	2-Chlorophenol	X	NC	1.6E+03	2.2E+03	3.6E+03	5.5E+03	1.1E+04
75296	2-Chloropropane		NC	2.4E+02	3.4E+02	5.7E+02	8.6E+02	1.7E+03

Table 3c - GW: Question 5 Groundwater Screening Levels for Scenario-Specific Vapor Attenuation Factors (α)
Risk = 1 x 10^{-6}

				Target Groundwater Concentrations at Different Attenuation Factors				
CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	$\alpha = 7x10^{-4}$ C_{gw} (ug/L)	$\alpha = 5x10^{-4}$ C_{gw} (ug/L)	$\alpha = 3x10^{-4}$ C_{gw} (ug/L)	$\alpha = 2x10^{-4}$ C_{gw} (ug/L)	$\alpha = 1x10^{-4}$ C_{gw} (ug/L)
218019	Chrysene	X	C	**	**	**	**	**
156592	cis-1,2-Dichloroethylene	X	NC	3.0E+02	4.2E+02	7.0E+02	1.0E+03	2.1E+03
123739	Crotonaldehyde (2-butenal)	X	C	8.0E+00	1.1E+01	1.9E+01	2.8E+01	5.6E+01
98828	Cumene		NC	1.2E+01	1.7E+01	2.8E+01	4.2E+01	8.4E+01
72559	DDE	X	C	4.2E+01	5.8E+01	9.7E+01	**	**
132649	Dibenzofuran	X	NC	**	**	**	**	**
96128	1,2-Dibromo-3-chloropropane		NC	4.8E+01	6.7E+01	1.1E+02	1.7E+02	3.3E+02
106934	1,2-Dibromoethane (ethylene dibromide)		C	5.2E-01	7.3E-01	1.2E+00	1.8E+00	3.6E+00
541731	1,3-Dichlorobenzene	X	NC	1.2E+03	1.7E+03	2.8E+03	4.1E+03	8.3E+03
95501	1,2-Dichlorobenzene		NC	3.7E+03	5.1E+03	8.6E+03	1.3E+04	2.6E+04
106467	1,4-Dichlorobenzene		NC	1.2E+04	1.6E+04	2.7E+04	4.1E+04	**
75718	Dichlorodifluoromethane		NC	2.0E+01	2.9E+01	4.8E+01	7.1E+01	1.4E+02
75343	1,1-Dichloroethane		NC	3.1E+03	4.4E+03	7.3E+03	1.1E+04	2.2E+04
107062	1,2-Dichloroethane		C	5.0E+00 †	5.0E+00 †	7.8E+00	1.2E+01	2.3E+01
75354	1,1-Dichloroethylene		NC	2.7E+02	3.7E+02	6.2E+02	9.4E+02	1.9E+03
78875	1,2-Dichloropropane		NC	5.0E+01	7.0E+01	1.2E+02	1.7E+02	3.5E+02
542756	1,3-Dichloropropene		C	1.2E+00	1.7E+00	2.8E+00	4.2E+00	8.4E+00
60571	Dieldrin		C	1.2E+00	1.7E+00	2.9E+00	4.3E+00	8.6E+00
115297	Endosulfan	X	NC	**	**	**	**	**
106898	Epichlorohydrin		NC	1.1E+03	1.6E+03	2.7E+03	4.0E+03	8.0E+03
60297	Ethyl ether	X	NC	7.4E+02	1.0E+03	1.7E+03	2.6E+03	5.2E+03
141786	Ethylacetate	X	NC	8.0E+05	1.1E+06	1.9E+06	2.8E+06	5.6E+06
100414	Ethylbenzene		C	7.0E+02 †	7.0E+02 †	7.0E+02 †	7.0E+02 †	7.0E+02 †
75218	Ethylene oxide		C	1.5E+00	2.1E+00	3.6E+00	5.4E+00	1.1E+01
97632	Ethylmethacrylate	X	NC	1.3E+04	1.8E+04	3.0E+04	4.6E+04	9.1E+04
86737	Fluorene	X	NC	**	**	**	**	**
110009	Furan	X	NC	2.3E+01	3.2E+01	5.3E+01	7.9E+01	1.6E+02
58899	gamma-HCH (Lindane)	X	C	1.6E+01	2.3E+01	3.8E+01	5.7E+01	1.1E+02
76448	Heptachlor		C	4.0E-01 †	4.0E-01 †	4.0E-01 †	4.0E-01 †	4.0E-01 †
87683	Hexachloro-1,3-butadiene		C	4.7E-01	6.6E-01	1.1E+00	1.7E+00	3.3E+00
118741	Hexachlorobenzene		C	1.0E+00 †	1.0E+00 †	1.0E+00 †	1.0E+00 †	1.0E+00 †
77474	Hexachlorocyclopentadiene		NC	5.0E+01 †	5.0E+01 †	5.0E+01 †	5.0E+01 †	5.0E+01 †
67721	Hexachloroethane		C	5.5E+00	7.6E+00	1.3E+01	1.9E+01	3.8E+01

Table 3c - GW: Question 5 Groundwater Screening Levels for Scenario-Specific Vapor Attenuation Factors (α)
Risk = 1 x 10^{-6}

				Target Groundwater Concentrations at Different Attenuation Factors				
CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	$\alpha = 7x10^{-4}$ C_{gw} (ug/L)	$\alpha = 5x10^{-4}$ C_{gw} (ug/L)	$\alpha = 3x10^{-4}$ C_{gw} (ug/L)	$\alpha = 2x10^{-4}$ C_{gw} (ug/L)	$\alpha = 1x10^{-4}$ C_{gw} (ug/L)
110543	Hexane		NC	4.2E+00	5.9E+00	9.8E+00	1.5E+01	2.9E+01
74908	Hydrogen cyanide		NC	7.9E+02	1.1E+03	1.8E+03	2.8E+03	5.5E+03
78831	Isobutanol	X	NC	3.1E+06	4.4E+06	7.3E+06	1.1E+07	2.2E+07
7439976	Mercury (elemental)		NC	9.7E-01	1.4E+00	2.3E+00	3.4E+00	6.8E+00
126987	Methacrylonitrile		NC	9.9E+01	1.4E+02	2.3E+02	3.5E+02	6.9E+02
72435	Methoxychlor	X	NC	**	**	**	**	**
79209	Methyl acetate	X	NC	1.0E+06	1.4E+06	**	**	**
96333	Methyl acrylate	X	NC	2.0E+04	2.7E+04	4.6E+04	6.8E+04	1.4E+05
74839	Methyl bromide		NC	2.8E+01	3.9E+01	6.5E+01	9.8E+01	2.0E+02
74873	Methyl chloride (chloromethane)		C	9.6E+00	1.3E+01	2.2E+01	3.4E+01	6.7E+01
108872	Methylcyclohexane		NC	1.0E+03	1.4E+03	2.4E+03	3.6E+03	7.1E+03
74953	Methylene bromide	X	NC	1.4E+03	2.0E+03	3.3E+03	5.0E+03	9.9E+03
75092	Methylene chloride		C	8.3E+01	1.2E+02	1.9E+02	2.9E+02	5.8E+02
78933	Methylethylketone (2-butanone)		NC	6.2E+05	8.7E+05	1.5E+06	2.2E+06	4.4E+06
108101	Methylisobutylketone		NC	2.0E+04	2.8E+04	4.7E+04	7.1E+04	1.4E+05
80626	Methylmethacrylate		NC	7.3E+04	1.0E+05	1.7E+05	2.5E+05	5.1E+05
91576	2-Methylnaphthalene	X	NC	4.7E+03	6.6E+03	1.1E+04	1.7E+04	**
1634044	MTBE		NC	1.7E+05	2.3E+05	3.9E+05	5.9E+05	1.2E+06
108383	m-Xylene	X	NC	3.3E+04	4.7E+04	7.8E+04	1.2E+05	**
91203	Naphthalene		NC	2.2E+02	3.0E+02	5.1E+02	7.6E+02	1.5E+03
104518	n-Butylbenzene	X	NC	3.7E+02	5.2E+02	8.7E+02	1.3E+03	**
98953	Nitrobenzene		NC	2.9E+03	4.1E+03	6.8E+03	1.0E+04	2.0E+04
79469	2-Nitropropane		C	2.6E-01	3.6E-01	6.0E-01	9.0E-01	1.8E+00
924163	N-Nitroso-di-n-butylamine		C	1.7E-01	2.4E-01	3.9E-01	5.9E-01	1.2E+00
103651	n-Propylbenzene	X	NC	4.6E+02	6.4E+02	1.1E+03	1.6E+03	3.2E+03
88722	o-Nitrotoluene	X	NC	9.8E+04	1.4E+05	2.3E+05	3.4E+05	**
95476	o-Xylene	X	NC	4.7E+04	6.6E+04	1.1E+05	1.6E+05	**
106423	p-Xylene	X	NC	3.2E+04	4.5E+04	7.4E+04	1.1E+05	**
129000	Pyrene	X	NC	**	**	**	**	**
135988	sec-Butylbenzene	X	NC	3.5E+02	4.9E+02	8.2E+02	1.2E+03	2.5E+03
100425	Styrene		NC	1.3E+04	1.8E+04	3.0E+04	4.4E+04	8.9E+04
98066	tert-Butylbenzene	X	NC	4.1E+02	5.8E+02	9.6E+02	1.4E+03	2.9E+03
630206	1,1,1,2-Tetrachloroethane		C	4.7E+00	6.6E+00	1.1E+01	1.7E+01	3.3E+01

Table 3c - GW: Question 5 Groundwater Screening Levels for Scenario-Specific Vapor Attenuation Factors (α)
Risk = 1 x 10^{-6}

				Target Groundwater Concentrations at Different Attenuation Factors				
CAS No.	Chemical	Compounds with Provisional Toxicity Data Extrapolated From Oral Sources	Basis of Target Concentration C=cancer risk NC=noncancer risk	$\alpha = 7x10^{-4}$ C_{gw} (ug/L)	$\alpha = 5x10^{-4}$ C_{gw} (ug/L)	$\alpha = 3x10^{-4}$ C_{gw} (ug/L)	$\alpha = 2x10^{-4}$ C_{gw} (ug/L)	$\alpha = 1x10^{-4}$ C_{gw} (ug/L)
79345	1,1,2,2-Tetrachloroethane		C	4.2E+00	5.9E+00	9.9E+00	1.5E+01	3.0E+01
127184	Tetrachloroethylene		C	5.0E+00 †	5.0E+00 †	5.0E+00 †	5.4E+00	1.1E+01
108883	Toluene		NC	2.1E+03	2.9E+03	4.9E+03	7.4E+03	1.5E+04
156605	trans-1,2-Dichloroethylene	X	NC	2.6E+02	3.6E+02	6.1E+02	9.1E+02	1.8E+03
76131	1,1,2-Trichloro-1,2,2-trifluoroethane		NC	2.2E+03	3.1E+03	5.1E+03	7.7E+03	1.5E+04
120821	1,2,4-Trichlorobenzene		NC	4.9E+03	6.9E+03	1.1E+04	1.7E+04	3.4E+04
79005	1,1,2-Trichloroethane		C	5.8E+00	8.1E+00	1.4E+01	2.0E+01	4.1E+01
71556	1,1,1-Trichloroethane		NC	4.5E+03	6.3E+03	1.0E+04	1.6E+04	3.1E+04
79016	Trichloroethylene ††	X	C	5.0E+00 †	5.0E+00 †	5.0E+00 †	5.0E+00 †	5.0E+00 †
75694	Trichlorofluoromethane		NC	2.5E+02	3.5E+02	5.9E+02	8.8E+02	1.8E+03
96184	1,2,3-Trichloropropane		NC	4.2E+02	5.9E+02	9.8E+02	1.5E+03	2.9E+03
95636	1,2,4-Trimethylbenzene		NC	3.4E+01	4.7E+01	7.9E+01	1.2E+02	2.4E+02
108678	1,3,5-Trimethylbenzene		NC	3.5E+01	4.9E+01	8.2E+01	1.2E+02	2.5E+02
108054	Vinyl acetate		NC	1.4E+04	1.9E+04	3.2E+04	4.8E+04	9.6E+04
75014	Vinyl chloride (chloroethene)		C	2.0E+00 †	2.0E+00 †	2.0E+00 †	2.0E+00 †	2.5E+00

* Health-based target breathing concentration exceeds maximum possible chemical vapor concentration (pathway incomplete)

** Target soil gas concentration exceeds maximum possible vapor concentration at this soil gas to indoor air attenuation factor (pathway incomplete)

† The target groundwater concentrations is the MCL. (The MCL for chloroform is the MCL for total Trihalomethanes. The MCL listed for m-Xylene, o-Xylene, and p-Xylene is the MCL for total Xylenes.

†† The target concentration for trichloroethylene is based on the upper bound cancer slope factor identified in EPA's draft risk assessment for trichloroethylene (US EPA, 2001). The slope factor is based on state-of-the-art methodology, however the TCE assessment is still undergoing review. As a result, the slope factor and the target concentration values for TCE may be revised further. (See Appendix D.)