
APPENDIX C
Emissions, Air Quality, and Health Risk
for Ten Toxic Air Contaminants

Appendix C: *Emissions, Air Quality, and Health Risk for Ten Toxic Air Contaminants*

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Introduction

This appendix contains TAC emissions data for all counties in California. It also contains air quality and health risk data for the state as a whole, the five most populous air basins, and individual sites within these air basins. The five basins are the South Coast Air Basin, San Francisco Bay Area Air Basin, San Joaquin Valley Air Basin, San Diego Air Basin, and Sacramento Valley Air Basin. It is important to note that some counties are located in more than one air basin. For these counties, the data are provided for that portion of the county located in each air basin. The ten toxic air contaminants (TACs) presented here are the same as the TACs discussed in Chapter 5: acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, *para*-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (diesel PM). Based on available data, these TACs pose the most substantial health risks in California. There may be other TACs that pose a substantial risk, but for which data are not available.

The countywide emissions data represent tons per year from the 2005 emission inventory year. The data for stationary sources include emissions data from the air toxics “Hot Spots” Program. The toxic air contaminant emissions for each area-wide and mobile source category are calculated by applying a speciation profile, maintained by ARB staff, to the total organic gas and total particulate matter criteria pollutant emissions associated with that category.

For all source categories associated with diesel fuel combustion, all “PM” emitted from these sources was considered “diesel PM.” The area-wide source emission estimates were made by either the local districts or the ARB staff. These estimates have been speciated for toxics. The other mobile source emission estimates are primarily from ARB’s OFFROAD model, speciated for toxics. For the categories not currently included in the model, the emission estimates have been developed by either local districts or ARB staff. Districts may also provide estimates for categories normally developed by ARB staff.

Finally, the on-road mobile source emission estimates are based on the current model, EMFAC 2002, version 2.2 (April 2003, with SCAG June 2002 activity data). Again, the emission estimates have been speciated for toxics.

Readers may note that the stationary source diesel PM emission estimates differ from those presented in previous editions of the almanac and in the ARB’s October 2000 report entitled: “Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles” (Diesel Risk Reduction Plan). This is because they incorporate more recent data and have been calculated with updated methodologies developed for new regulations. These regulations are those that were recommended in the Diesel Risk Reduction Plan. The on-road mobile source emissions cited in the Diesel Risk Reduction Plan are based on an earlier version of EMFAC 2001 (EMFAC1.99(f) 6/26/00) and the other mobile inventory includes revised estimates for ship diesel PM emissions.

In addition to the emissions data, air quality and health risk data are available for 1990 through 2004. It is important to note that the data reflect concentrations measured at a specific location or, in the case of the air basin summary data, spatially averaged concentrations. Therefore, the ambient concentrations and health risks for other locations may be higher or lower. TAC air quality data are also collected by the local air districts and for special studies. However, for consistency, only data collected by the ARB are included here.

County Emissions (tons/year) for Ten Toxic Air Contaminants by Air Basin

Great Basin Valleys Air Basin

TAC	Alpine	Inyo	Mono
Acetaldehyde	9	16	36
Benzene	25	15	56
1,3-Butadiene	6	4	14
Carbon Tetrachloride	0	0	0
Chromium, Hexavalent	< .01	< .01	0.02
<i>para</i> -DiChlorobenzene	< 1	1	< 1
Formaldehyde	24	27	72
Methylene Chloride	< 1	2	1
Perchloroethylene	< 1	4	4
Diesel PM	0	17	12

Table C-1

Lake County Air Basin

TAC	Lake
Acetaldehyde	43
Benzene	72
1,3-Butadiene	16
Carbon Tetrachloride	0
Chromium, Hexavalent	< .01
<i>para</i> -DiChlorobenzene	4
Formaldehyde	84
Methylene Chloride	8
Perchloroethylene	13
Diesel PM	49

Table C-2

Lake Tahoe Air Basin

TAC	El Dorado ¹	Placer ¹
Acetaldehyde	42	21
Benzene	36	13
1,3-Butadiene	9	3
Carbon Tetrachloride	< .01	0
Chromium, Hexavalent	< .01	< .01
<i>para</i> -DiChlorobenzene	3	< 1
Formaldehyde	78	31
Methylene Chloride	5	4
Perchloroethylene	6	3
Diesel PM	38	14

Table C-3

¹ This Air Basin includes only a portion of this county.

County Emissions (tons/year) for Ten Toxic Air Contaminants by Air Basin

Mojave Desert Air Basin

TAC	Kern ¹	Los Angeles ¹	Riverside ¹	San Bernardino ¹
Acetaldehyde	112	63	5	162
Benzene	87	85	8	212
1,3-Butadiene	40	21	2	46
Carbon Tetrachloride	0.02	< .01	0	0.04
Chromium, Hexavalent	0.29	0.03	< .01	0.09
<i>para</i> -DiChlorobenzene	9	24	2	28
Formaldehyde	340	162	13	377
Methylene Chloride	16	102	7	77
Perchloroethylene	16	55	10	103
Diesel PM	145	216	13	697

Table C-4 ¹ This Air Basin includes only a portion of this county.

Mountain Counties Air Basin

TAC	Amador	Calaveras	El Dorado	Mariposa	Nevada	Placer ¹	Plumas	Sierra	Tuolumne
Acetaldehyde	37	47	87	26	113	19	77	14	62
Benzene	49	69	84	38	84	22	149	36	95
1,3-Butadiene	12	22	19	9	22	6	47	11	41
Carbon Tetrachloride	0	0	0	0	0	0	0	0	0
Chromium, Hexavalent	< .01	< .01	< .01	< .01	< .01	< .01	< .01	< .01	0.08
<i>para</i> -DiChlorobenzene	2	3	9	1	7	2	1	< 1	4
Formaldehyde	69	90	141	49	172	35	172	36	128
Methylene Chloride	5	5	17	2	21	6	2	< 1	9
Perchloroethylene	5	4	19	3	9	5	4	< 1	10
Diesel PM	31	34	53	16	67	35	53	3	50

Table C-5 ¹ This Air Basin includes only a portion of this county.

North Central Coast Air Basin

TAC	Monterey	San Benito	Santa Cruz
Acetaldehyde	124	17	65
Benzene	182	20	85
1,3-Butadiene	58	14	16
Carbon Tetrachloride	0	0	< .01
Chromium, Hexavalent	0.01	< .01	< .01
<i>para</i> -DiChlorobenzene	28	4	17
Formaldehyde	287	35	126
Methylene Chloride	72	9	54
Perchloroethylene	91	10	81
Diesel PM	379	62	131

Table C-6

County Emissions (tons/year) for Ten Toxic Air Contaminants by Air Basin

North Coast Air Basin

TAC	Del Norte	Humboldt	Mendocino	Sonoma	Trinity
Acetaldehyde	19	90	71	53	21
Benzene	13	82	64	69	27
1,3-Butadiene	16	22	13	13	13
Carbon Tetrachloride	0	0	0	0	0
Chromium, Hexavalent	< .01	< .01	0.02	0.04	< .01
<i>para</i> -DiChlorobenzene	2	8	6	4	< 1
Formaldehyde	29	151	121	113	37
Methylene Chloride	4	18	14	13	2
Perchloroethylene	6	29	21	15	3
Diesel PM	19	196	141	239	11

Table C-7

¹ This Air Basin includes only a portion of this county.

Northeast Plateau Air Basin

TAC	Lassen	Modoc	Siskiyou
Acetaldehyde	66	22	88
Benzene	97	11	96
1,3-Butadiene	22	3	65
Carbon Tetrachloride	0	0	0
Chromium, Hexavalent	< .01	< .01	< .01
<i>para</i> -DiChlorobenzene	3	< 1	3
Formaldehyde	131	37	156
Methylene Chloride	4	< 1	6
Perchloroethylene	7	2	9
Diesel PM	60	52	120

Table C-8

Outer Continental Shelf Air Basin

TAC	Statewide
Acetaldehyde	18
Benzene	82
1,3-Butadiene	1
Carbon Tetrachloride	0
Chromium, Hexavalent	0
<i>para</i> -DiChlorobenzene	0
Formaldehyde	73
Methylene Chloride	0
Perchloroethylene	5
Diesel PM	6108

Table C-9

County Emissions (tons/year) for Ten Toxic Air Contaminants by Air Basin

Sacramento Valley Air Basin

TAC	Butte	Colusa	Glenn	Placer ¹	Sacramento	Shasta	Solano ¹	Sutter	Tehama	Yolo	Yuba
Acetaldehyde	107	16	21	91	232	143	32	57	50	60	45
Benzene	124	34	39	108	343	139	53	87	35	58	47
1,3-Butadiene	32	7	17	22	66	39	12	17	7	12	16
Carbon Tetrachloride	0	0	0	0	0.05	0	0	0	< .01	0	0
Chromium, Hexavalent	< .01	< .01	< .01	< .01	0.02	< .01	< .01	< .01	< .01	< .01	< .01
<i>para</i> -DiChlorobenzene	15	2	2	17	89	12	9	6	4	12	4
Formaldehyde	220	61	47	199	511	255	74	159	80	123	112
Methylene Chloride	32	2	3	54	179	21	19	10	7	26	7
Perchloroethylene	34	3	5	38	261	33	17	13	11	26	9
Diesel PM	224	71	84	195	745	263	120	183	118	296	80

Table C-10 ¹ This Air Basin includes only a portion of this county.

Salton Sea Air Basin

TAC	Imperial	Riverside ¹
Acetaldehyde	70	38
Benzene	134	71
1,3-Butadiene	33	14
Carbon Tetrachloride	0	< .01
Chromium, Hexavalent	0.06	< .01
<i>para</i> -DiChlorobenzene	12	24
Formaldehyde	182	100
Methylene Chloride	19	111
Perchloroethylene	28	50
Diesel PM	263	157

Table C-11 ¹ This Air Basin includes only a portion of this county.

San Diego Air Basin

TAC	San Diego
Acetaldehyde	497
Benzene	849
1,3-Butadiene	190
Carbon Tetrachloride	0.12
Chromium, Hexavalent	0.24
<i>para</i> -DiChlorobenzene	203
Formaldehyde	1240
Methylene Chloride	370
Perchloroethylene	657
Diesel PM	1798

Table C-12

County Emissions (tons/year) for Ten Toxic Air Contaminants by Air Basin

San Francisco Bay Area Air Basin

TAC	Alameda	Contra Costa	Marin	Napa	San Francisco	San Mateo	Santa Clara	Solano ¹	Sonoma ¹
Acetaldehyde	334	177	54	37	145	151	270	111	77
Benzene	400	318	111	62	189	221	467	115	113
1,3-Butadiene	77	55	24	13	36	53	93	41	23
Carbon Tetrachloride	< .01	0.93	< .01	< .01	0	< .01	< .01	< .01	< .01
Chromium, Hexavalent	0.02	0.01	< .01	< .01	< .01	0.02	0.02	0.02	< .01
para-DiChlorobenzene	100	67	17	9	53	49	116	19	27
Formaldehyde	711	479	126	82	323	373	647	315	152
Methylene Chloride	212	124	33	17	105	103	263	35	64
Perchloroethylene	167	96	32	13	89	92	178	25	39
Diesel PM	1369	692	137	107	674	403	875	144	150

Table C-13

¹ This Air Basin includes only a portion of this county.

San Joaquin Valley Air Basin

TAC	Fresno	Kern ¹	Kings	Madera	Merced	San Joaquin	Stanislaus	Tulare
Acetaldehyde	251	193	108	65	78	168	124	150
Benzene	304	742	69	82	93	221	152	157
1,3-Butadiene	76	51	40	24	38	51	49	109
Carbon Tetrachloride	< .01	< .01	0	0	0	0	0	0
Chromium, Hexavalent	0.05	0.04	0.02	< .01	< .01	0.03	0.03	0.01
para-DiChlorobenzene	58	45	10	10	16	42	34	27
Formaldehyde	558	1184	316	161	174	382	273	335
Methylene Chloride	129	68	15	16	26	74	61	45
Perchloroethylene	183	94	23	28	43	119	94	68
Diesel PM	977	726	181	213	298	668	441	509

Table C-14

¹ This Air Basin includes only a portion of this county.

South Central Coast Air Basin

TAC	San Luis Obispo	Santa Barbara	Ventura
Acetaldehyde	89	114	135
Benzene	113	341	232
1,3-Butadiene	30	54	54
Carbon Tetrachloride	0	< .01	0.05
Chromium, Hexavalent	< .01	< .01	0.03
para-DiChlorobenzene	19	28	53
Formaldehyde	200	585	318
Methylene Chloride	45	108	161
Perchloroethylene	67	83	79
Diesel PM	234	303	492

Table C-15

County Emissions (tons/year) for Ten Toxic Air Contaminants by Air Basin

South Coast Air Basin

TAC	Los Angeles¹	Orange	Riverside¹	San Bernardino¹
Acetaldehyde	992	325	213	214
Benzene	2141	726	356	383
1,3-Butadiene	410	139	69	78
Carbon Tetrachloride	0.11	0.02	0.09	0.01
Chromium, Hexavalent	0.08	0.04	0.02	0.03
<i>para</i> -DiChlorobenzene	623	197	90	94
Formaldehyde	2664	908	529	522
Methylene Chloride	2137	933	196	239
Perchloroethylene	1224	420	182	185
Diesel PM	4654	1376	966	750

Table C-16

¹ This Air Basin includes only a portion of this county.

Air Quality and Health Risk

The air quality and health risk data in the following tables cover the time period of 1990 through 2004. Annual average concentrations and health risks are listed at the statewide level, the air basin level, and site level for California's five most populous air basins. The ten TACs presented here are ones that pose the most substantial health risk in California based on available data: acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, hexavalent chromium, *para*-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel PM. It is important to note that there may be other compounds that pose a substantial risk, but for which data are not available.

The ambient data for all TACs except diesel PM are based on concentrations measured at sites in California's TAC monitoring network. The annual average concentration is calculated as the mean of the monthly means, and the concentration is available only if a full year of data is available. The associated health risk is based on the annual average concentration and represents the estimated number of excess cancer cases per million people exposed to the specified concentration for 70 years.

For diesel PM, the ARB previously made a preliminary estimation of concentrations for the State's 15 air basins using a PM-based exposure method. The method uses the ARB emission inventory's PM₁₀ database, ambient PM₁₀ monitoring data, and the results from several studies with chemical speciation of ambient data. These data were used, along with receptor modeling techniques, to estimate statewide outdoor concentrations of diesel PM. Details on the method and the resulting estimates can be found in the ARB report entitled: "Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles," (October 2000).

Numerous factors influence the ambient TAC measurements, and a number of assumptions are embodied in the summary statistics. These factors are described in Chapter 1 under the heading "Interpreting

the Emission and Air Quality Statistics." These factors must be considered when using the statistics presented here. Finally, it is important to note that the data provided reflect concentrations measured at a specific location or, in the case of the air basin summary data, spatially averaged concentrations. The ambient concentrations and health risks for other locations may be higher or lower.

California

Statewide Summary

		Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg	1.73	1.97	1.54	1.76	1.52	0.61	1.34	1.16	1.08	1.29	1.00	1.10	1.18	1.19	1.12
	Health Risk	8	10	7	9	7	3	7	6	5	6	5	5	6	6	5
Benzene	Annual Avg	2.57	2.14	1.71	1.50	1.58	1.31	0.93	0.85	0.86	0.85	0.71	0.61	0.63	0.57	0.46
	Health Risk	238	198	158	139	146	121	86	79	80	79	66	56	58	52	43
1,3-Butadiene	Annual Avg	0.41	0.34	0.32	0.39	0.34	0.31	0.26	0.23	0.25	0.23	0.18	0.17	0.17	0.12	0.11
	Health Risk	155	128	120	147	129	117	98	88	92	85	69	65	65	44	40
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.11		0.10	0.08		0.11		0.09	0.09	0.09	0.09	
	Health Risk	35	34		28		26	21		30		25	23	24	25	
Chromium, Hexavalent	Annual Avg			0.27	0.22	0.21	0.29	0.13	0.12	0.11	0.11	0.13	0.13	0.10	0.09	0.10
	Health Risk			40	33	31	43	20	18	17	17	19	19	15	14	16
<i>para</i> -Dichlorobenzene	Annual Avg		0.14	0.14	0.14	0.13	0.14	0.12	0.14			0.12	0.14	0.16	0.16	0.16
	Health Risk		9	9	9	9	9	8	9			8	9	11	11	11
Formaldehyde	Annual Avg	2.18	2.07	1.65	2.08	2.18	2.93	3.38	2.89	2.64	3.20	2.55	3.18	3.50	3.15	2.69
	Health Risk	16	15	12	15	16	22	25	21	19	24	19	23	26	23	20
Methylene Chloride	Annual Avg	1.09	1.27	0.75	0.93	0.79	0.77	0.66	0.66	0.62	0.66	0.67	0.36	0.28	0.28	0.25
	Health Risk	4	4	3	3	3	3	2	2	2	2	2	1	1	1	<1
Perchloroethylene	Annual Avg	0.28	0.27	0.21	0.27	0.18	0.17	0.13	0.12	0.11		0.12	0.09	0.08	0.06	0.05
	Health Risk	11	11	8	11	7	7	5	5	5		5	4	3	2	2
Diesel PM***	Annual Avg	(3.0)					(2.2)					(1.8)				
	Health Risk	(900)					(660)					(540)				
Average Statewide Health Risk		467	409	359	394	348	350	272	228	250	212	217	207	208	178	136

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

*** The Diesel PM concentrations are estimates based on receptor modeling. Because data are not available for all years, Diesel PM is not included in the Average Basin Health Risk number.

Table C-17

South Coast Air Basin

Air Basin Summary

Annual Average Concentrations and Health Risks																
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg	2.46	3	2.46	2.67	2.3	0.97	2.08	1.77	1.54	1.63	1.26	1.47	1.41	1.47	1.46
	Health Risk	12	15	12	13	11	5	10	9	7	8	6	7	7	7	7
Benzene	Annual Avg	3.42	2.91	2.61	2.17	2.4	1.89	1.45	1.34	1.25	1.2	0.97	0.86	0.769	0.745	0.589
	Health Risk	317	269	242	201	222	175	134	124	116	111	90	80	71	69	55
1,3-Butadiene	Annual Avg	0.532	0.452	0.498	0.565	0.497	0.459	0.39	0.378	0.354	0.328	0.251	0.251	0.211	0.147	0.143
	Health Risk	200	170	187	212	187	173	146	142	133	123	94	94	79	55	54
Carbon Tetrachloride	Annual Avg	0.136	0.134		0.105		0.102	0.079		0.114		0.096	0.086	0.092	0.093	
	Health Risk	36	35		28		27	21		30		25	23	24	25	
Chromium, Hexavalent	Annual Avg			0.39	0.29	0.29	0.46	0.18	0.17	0.15	0.14	0.18		0.179	0.158	0.177
	Health Risk			59	43	43	69	27	25	22	22	27		27	24	27
<i>para</i> -Dichlorobenzene	Annual Avg		0.17	0.19	0.17	0.13	0.17	0.11	0.13			0.13	0.15	0.16	0.17	0.16
	Health Risk		11	13	11	8	11	7	9			9	10	11	11	11
Formaldehyde	Annual Avg	2.92	3.08	2.22	3.22	3.14	3.57	5.06	4.47	3.79	4.06	3.13	4.13	4.16	3.83	3.76
	Health Risk	22	23	16	24	23	26	37	33	28	30	23	30	31	28	28
Methylene Chloride	Annual Avg	1.86	1.51	0.9	1.23	1.1	1.28	0.95	1.14	0.85	0.92	0.83	0.63	0.57	0.59	0.57
	Health Risk	6	5	3	4	4	4	3	4	3	3	3	2	2	2	2
Perchloroethylene	Annual Avg	0.576	0.547	0.412	0.448	0.393	0.364	0.32	0.274	0.259		0.207	0.176	0.146	0.105	0.082
	Health Risk	23	22	16	18	16	15	13	11	10		8	7	6	4	3
Diesel PM***	Annual Avg	(3.6)					(2.7)					(2.4)				
	Health Risk	(1080)					(810)					(720)				
Average Basin Health Risk		616	550	548	554	514	505	398	357	349	297	285	253	258	225	187

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

*** The Diesel PM concentrations are estimates based on receptor modeling. Because data are not available for all years, Diesel PM is not included in the Average Basin Health Risk number.

Table C-18

South Coast Air Basin

Los Angeles County: Azusa

Annual Average Concentrations and Health Risks																
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg											1.1	1.31		1.25	1.53
	Health Risk											5	6		6	7
Benzene	Annual Avg											0.69		0.621	0.598	0.432
	Health Risk											64		57	55	40
1,3-Butadiene	Annual Avg											0.146		0.135	0.076	0.076
	Health Risk											55		51	29	29
Carbon Tetrachloride	Annual Avg											0.093		0.09	0.095	
	Health Risk											24		24	25	
Chromium, Hexavalent	Annual Avg											0.12			0.09	0.073
	Health Risk											19			14	11
<i>para</i> -Dichlorobenzene	Annual Avg											0.1		0.15	0.15	0.15
	Health Risk											7		10	10	10
Formaldehyde	Annual Avg											3.05	3.8		3.45	3.04
	Health Risk											22	28		25	22
Methylene Chloride	Annual Avg											1.32		1	0.96	1.43
	Health Risk											5		3	3	5
Perchloroethylene	Annual Avg											0.183		0.153	0.109	0.063
	Health Risk											7		6	4	3
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk															
Total Health Risk												208	34	151	171	127

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-19

South Coast Air Basin

Los Angeles County: Burbank - West Palm Avenue

Annual Average Concentrations and Health Risks																
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg	3.16	3.89		3.06	2.46	0.79			1.94	2.7	1.7	1.93	1.96		1.77
	Health Risk	15	19		15	12	4			9	13	8	9	10		9
Benzene	Annual Avg	4.79	3.91	3.44	2.63	3.33	2.45	1.91	1.48	1.66	1.64	1.27	1.06	1.01		0.754
	Health Risk	444	362	319	244	308	227	177	137	154	151	117	98	93		70
1,3-Butadiene	Annual Avg	0.782	0.623	0.725	0.749	0.752	0.605	0.512	0.421	0.483	0.483	0.345	0.328	0.283		0.18
	Health Risk	294	234	272	282	283	227	192	158	182	181	130	123	106		68
Carbon Tetrachloride	Annual Avg	0.141	0.133				0.104	0.082		0.114		0.094	0.086	0.091		
	Health Risk	37	35				28	22		30		25	23	24		
Chromium, Hexavalent	Annual Avg			0.65	0.37	0.43	1.24			0.23	0.2	0.19		0.123		0.113
	Health Risk			97	55	64	186			34	29	28		18		17
<i>para</i> -Dichlorobenzene	Annual Avg		0.23	0.22	0.19	0.14	0.2	0.1	0.11			0.13	0.15	0.17		0.17
	Health Risk		15	15	12	9	13	7	7			8	10	11		11
Formaldehyde	Annual Avg	4.05	3.59		3.66	3.92	4.58			4.72	6.07	4.14	4.87	5.48		3.85
	Health Risk	30	26		27	29	34			35	45	30	36	40		28
Methylene Chloride	Annual Avg	3.25	1.69	1.42	2.01	1.94	1.82	1.41	1.11	1.07		0.8	0.6	0.6		0.41
	Health Risk	11	6	5	7	7	6	5	4	4		3	2	2		1
Perchloroethylene	Annual Avg	1.19	0.785	0.609	0.62	0.663	0.487	0.44	0.365	0.503		0.368	0.296	0.247		0.151
	Health Risk	48	31	24	25	26	19	18	15	20		15	12	10		6
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk	No Monitoring Data Available														
Total Health Risk		879	728	732	667	738	744	421	321	468	419	364	313	314		210

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-20

South Coast Air Basin

Los Angeles County: North Main Street

		Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg	2.68	2.78	2.5	2.89	2.35	1.28	2.33			1.43	0.84	1.45	1.3	1.39	1.24
	Health Risk	13	13	12	14	11	6	11			7	4	7	6	7	6
Benzene	Annual Avg	3.5	3.25	2.97	2.54	2.45	2.24	1.86		1.36	1.5	1.04	1.03		0.853	0.677
	Health Risk	324	301	275	235	227	207	173		126	139	97	95		79	63
1,3-Butadiene	Annual Avg	0.6	0.547	0.643	0.733	0.588	0.599	0.542		0.421	0.432	0.296	0.313		0.186	0.195
	Health Risk	226	206	242	276	221	225	204		158	162	111	118		70	73
Carbon Tetrachloride	Annual Avg	0.138	0.134				0.103	0.079		0.112		0.098	0.086		0.095	
	Health Risk	36	35				27	21		30		26	23		25	
Chromium, Hexavalent	Annual Avg				0.24	0.27	0.23	0.17			0.11	0.13		0.133	0.07	
	Health Risk				36	40	35	25			16	19		20	11	
<i>para</i> -Dichlorobenzene	Annual Avg		0.19	0.22	0.19	0.16	0.19	0.12				0.16	0.17		0.16	0.17
	Health Risk		13	14	12	10	13	8				11	11		10	11
Formaldehyde	Annual Avg	3.5	3	2.3	3.23	3.54	4.13	5.87			3.88	2.42	4.3	4.32	3.79	5.69
	Health Risk	26	22	17	24	26	30	43			29	18	32	32	28	42
Methylene Chloride	Annual Avg	1.28	2.72	0.68	1.05	1.06	1.51	1.1		0.8	1.2	0.68	0.74		0.59	0.5
	Health Risk	4	9	2	4	4	5	4		3	4	2	3		2	2
Perchloroethylene	Annual Avg	0.551	0.603	0.536	0.588	0.503	0.574	0.502		0.232		0.187	0.177		0.109	0.088
	Health Risk	22	24	21	24	20	23	20		9		7	7		4	4
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk	No Monitoring Data Available														
Total Health Risk		651	623	583	625	559	571	509		326	357	295	296	58	236	201

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-21

South Coast Air Basin

Los Angeles County: North Long Beach

Annual Average Concentrations and Health Risks																
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg	2.49	2.52		2.36	2.18	0.81		1.43			1.16	1.11		1.06	1.19
	Health Risk	12	12		11	11	4		7			6	5		5	6
Benzene	Annual Avg	3.53	2.45	2.6	1.99	2.04	1.69		1.24	1.16	1.11	1		0.705	0.705	0.554
	Health Risk	327	227	241	185	188	157		115	108	103	92		65	65	51
1,3-Butadiene	Annual Avg	0.592	0.439	0.523	0.575	0.447	0.448		0.364	0.339	0.323	0.278		0.198	0.142	0.144
	Health Risk	223	165	197	216	168	169		137	127	121	104		75	53	54
Carbon Tetrachloride	Annual Avg	0.139	0.129				0.099			0.118		0.097		0.092	0.092	
	Health Risk	37	34				26			31		26		24	24	
Chromium, Hexavalent	Annual Avg			0.44	0.34	0.22	0.25		0.15	0.11	0.12	0.12		0.078		0.09
	Health Risk			66	51	33	38		22	16	18	18		12		14
<i>para</i> -Dichlorobenzene	Annual Avg		0.17	0.26	0.19	0.12	0.17		0.16			0.13		0.18	0.2	0.15
	Health Risk		11	17	13	8	11		10			8		12	13	10
Formaldehyde	Annual Avg	2.97	2.76		3.22	3.06	3.29		3.68			2.88	2.96		2.79	2.78
	Health Risk	22	20		24	23	24		27			21	22		21	20
Methylene Chloride	Annual Avg	2.05	0.88	1	1.15	0.84	0.98		0.74	0.6		0.65		0.27	0.31	0.24
	Health Risk	7	3	3	4	3	3		3	2		2		<1	1	<1
Perchloroethylene	Annual Avg	0.477	0.355	0.349	0.433	0.321	0.318		0.227	0.193		0.168		0.095	0.076	0.057
	Health Risk	19	14	14	17	13	13		9	8		7		4	3	2
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk	No Monitoring Data Available														
Total Health Risk		647	486	538	521	447	445		330	292	242	284	27	192	184	157

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-22

South Coast Air Basin

Riverside County: Riverside - Rubidoux

Annual Average Concentrations and Health Risks																
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg	1.87	2.54	1.86	2.19	2.08	0.89	1.84			1.36	1.49	1.58	1.66	1.66	1.59
	Health Risk	9	12	9	11	10	4	9			7	7	8	8	8	8
Benzene	Annual Avg	2.55	2.22	1.9	1.77	2.01	1.45	1.03			0.87	0.85	0.685		0.623	0.526
	Health Risk	236	206	176	164	186	134	95			80	79	63		58	49
1,3-Butadiene	Annual Avg	0.34	0.312	0.292	0.379	0.363	0.332	0.267			0.208	0.193	0.175		0.118	0.121
	Health Risk	128	117	110	143	136	125	100			78	72	66		44	45
Carbon Tetrachloride	Annual Avg	0.131	0.136				0.102	0.079				0.096	0.086		0.093	
	Health Risk	34	36				27	21				25	23		24	
Chromium, Hexavalent	Annual Avg			0.33	0.33	0.36	0.38	0.22			0.19	0.35		0.41	0.348	0.485
	Health Risk			50	50	55	56	33			29	52		62	52	73
<i>para</i> -Dichlorobenzene	Annual Avg		0.13	0.13	0.16	0.12	0.17	0.11				0.14	0.15		0.17	0.16
	Health Risk		9	8	10	8	11	7				9	10		12	11
Formaldehyde	Annual Avg	1.75	2.7	1.53	2.73	2.5	2.65	4.15			3.55	3.17	4.73	4.36	4.18	3.46
	Health Risk	13	20	11	20	18	19	31			26	23	35	32	31	25
Methylene Chloride	Annual Avg		0.69	0.6	1.1	0.93	0.98	0.83			0.58	0.69	0.44		0.45	0.29
	Health Risk		2	2	4	3	3	3			2	2	2		2	1
Perchloroethylene	Annual Avg	0.237	0.276	0.201	0.198	0.191	0.177	0.175				0.129	0.112		0.06	0.051
	Health Risk	9	11	8	8	8	7	7				5	4		2	2
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk	No Monitoring Data Available														
Total Health Risk		429	413	374	410	424	386	306			222	274	211	102	233	214

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-23

South Coast Air Basin

San Bernardino County: Fontana - Arrow Highway

		Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg															
	Health Risk															
Benzene	Annual Avg									0.98						
	Health Risk									91						
1,3-Butadiene	Annual Avg									0.244						
	Health Risk									92						
Carbon Tetrachloride	Annual Avg									0.114						
	Health Risk									30						
Chromium, Hexavalent	Annual Avg															
	Health Risk															
<i>para</i> -Dichlorobenzene	Annual Avg															
	Health Risk															
Formaldehyde	Annual Avg															
	Health Risk															
Methylene Chloride	Annual Avg									0.59						
	Health Risk									2						
Perchloroethylene	Annual Avg									0.179						
	Health Risk									7						
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk															
Total Health Risk										222						

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-24

South Coast Air Basin

San Bernardino County: Upland - San Bernardino Road

Annual Average Concentrations and Health Risks																
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg	2.12	3.28	2.36	2.84	2.42	1.09	2.13								
	Health Risk	10	16	11	14	12	5	10								
Benzene	Annual Avg	2.73	2.7	2.14	1.92	2.15	1.62	1.11	1.11							
	Health Risk	253	250	198	178	199	150	103	103							
1,3-Butadiene	Annual Avg	0.348	0.341	0.308	0.391	0.336	0.312	0.257	0.254							
	Health Risk	131	128	116	147	126	117	97	95							
Carbon Tetrachloride	Annual Avg	0.133	0.137		0.103		0.1	0.075								
	Health Risk	35	36		27		26	20								
Chromium, Hexavalent	Annual Avg			0.22	0.16	0.16	0.2	0.12								
	Health Risk			33	24	24	30	17								
<i>para</i> -Dichlorobenzene	Annual Avg		0.13	0.14	0.14	0.1	0.13	0.1	0.14							
	Health Risk		9	9	9	7	9	7	9							
Formaldehyde	Annual Avg	2.35	3.34	1.98	3.25	2.67	3.21	5.2								
	Health Risk	17	25	15	24	20	24	38								
Methylene Chloride	Annual Avg	1.41	1.59	0.82	0.87	0.72	1.13	0.66	1.7							
	Health Risk	5	6	3	3	3	4	2	6							
Perchloroethylene	Annual Avg	0.423	0.717	0.364	0.398	0.286	0.263	0.199	0.206							
	Health Risk	17	29	15	16	11	11	8	8							
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk															
Total Health Risk		468	499	400	442	402	376	302	221							

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.
 ** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-25

San Francisco Bay Area Air Basin

Air Basin Summary

Annual Average Concentrations and Health Risks																
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg	1.3	1.4	1.03	1.31	1.17	0.42	0.83	0.73	0.65	0.76	0.68	0.73	0.63	0.74	0.74
	Health Risk	6	7	5	6	6	2	4	4	3	4	3	4	3	4	4
Benzene	Annual Avg	2.18	1.82	1.49	1.49	1.4	1.26	0.71	0.61	0.71	0.6	0.56	0.425	0.454	0.439	0.372
	Health Risk	202	169	138	138	129	116	66	56	66	55	52	39	42	41	34
1,3-Butadiene	Annual Avg	0.359	0.287	0.275	0.367	0.287	0.277	0.218	0.187	0.217	0.17	0.149	0.133	0.137	0.098	0.09
	Health Risk	135	108	103	138	108	104	82	70	82	64	56	50	51	37	34
Carbon Tetrachloride	Annual Avg	0.128	0.125		0.108		0.1	0.078				0.094	0.087	0.089	0.095	
	Health Risk	34	33		29		26	21				25	23	24	25	
Chromium, Hexavalent	Annual Avg			0.23	0.2	0.19	0.25	0.13	0.12	0.1	0.1	0.12		0.074	0.096	0.091
	Health Risk			34	29	29	37	19	17	15	15	18		11	14	14
<i>para</i> -Dichlorobenzene	Annual Avg		0.12	0.12	0.12	0.11	0.13	0.14	0.12			0.11	0.14	0.15	0.15	0.17
	Health Risk		8	8	8	7	8	9	8			7	9	10	10	11
Formaldehyde	Annual Avg	1.87	1.73	1.43	1.56	1.66	2.06	2.62	1.85	1.76	2.09	1.77	2.32	2.57	2.22	1.71
	Health Risk	14	13	11	11	12	15	19	14	13	15	13	17	19	16	13
Methylene Chloride	Annual Avg	1.04	2.32	0.65	0.72	0.59	0.6	0.58	0.55			0.53	0.27	0.22	0.22	0.14
	Health Risk	4	8	2	2	2	2	2	2			2	<1	<1	<1	<1
Perchloroethylene	Annual Avg	0.204	0.232	0.169	0.128	0.082	0.094	0.067	0.071			0.078	0.059	0.052	0.039	0.035
	Health Risk	8	9	7	5	3	4	3	3			3	2	2	2	1
Diesel PM***	Annual Avg	(2.5)					(1.9)					(1.6)				
	Health Risk	(750)					(570)					(480)				
Average Basin Health Risk		403	355	308	366	296	314	225	174	179	153	179	144	162	149	111

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

*** The Diesel PM concentrations are estimates based on receptor modeling. Because data are not available for all years, Diesel PM is not included in the Average Basin Health Risk number.

Table C-26

San Francisco Bay Area Air Basin

Alameda County: Fremont - Chapel Way

Annual Average Concentrations and Health Risks																
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg	1.28	1.6	1.02	1.28	1.23	0.35	0.88	0.65	0.72					0.69	0.69
	Health Risk	6	8	5	6	6	2	4	3	4					3	3
Benzene	Annual Avg	1.92	1.67	1.21	1.35	1.25	1.24	0.58		0.76	0.61	0.53	0.439	0.418	0.356	0.286
	Health Risk	178	155	112	125	116	115	54		71	57	49	41	39	33	26
1,3-Butadiene	Annual Avg	0.283	0.259	0.193	0.321	0.252	0.27	0.199		0.238	0.176	0.136	0.132	0.116	0.078	0.049
	Health Risk	106	97	72	120	95	101	75		90	66	51	50	43	29	19
Carbon Tetrachloride	Annual Avg	0.131	0.127		0.105		0.101	0.076				0.095	0.085	0.089	0.096	
	Health Risk	35	34		28		27	20				25	23	24	25	
Chromium, Hexavalent	Annual Avg			0.2	0.19	0.21	0.2	0.11		0.1	0.1	0.1			0.045	0.053
	Health Risk			30	28	32	30	16		15	15	16			7	8
<i>para</i> -Dichlorobenzene	Annual Avg			0.11	0.11	0.1	0.12	0.1				0.1	0.13	0.15	0.16	0.15
	Health Risk			7	7	7	8	7				7	9	10	11	10
Formaldehyde	Annual Avg	1.84	1.98	1.3	1.37	1.78	2.02	2.16	1.79	1.96					2.15	1.46
	Health Risk	14	15	10	10	13	15	16	13	14					16	11
Methylene Chloride	Annual Avg	0.76	0.58	0.52	0.83	0.5	0.62	0.5				0.5	0.28	0.23	0.3	0.1
	Health Risk	3	2	2	3	2	2	2				2	1	<1	1	<1
Perchloroethylene	Annual Avg	0.189	0.21	0.134	0.114	0.086	0.118	0.069				0.083	0.056	0.05	0.039	0.029
	Health Risk	8	8	5	5	3	5	3				3	2	2	2	1
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk	No Monitoring Data Available														
Total Health Risk		350	319	243	332	274	305	197	16	194	138	153	126	118	127	78

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-27

*San Francisco Bay Area Air Basin***Contra Costa County: Concord - 2975 Treat Boulevard**

		Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg	1.41			1.39	1.46	0.62	0.86	0.76		0.87					
	Health Risk	7			7	7	3	4	4		4					
Benzene	Annual Avg	1.84	1.58	1.41	1.13	1.08	1.09	0.48	0.56	0.57	0.57					
	Health Risk	171	147	130	105	100	101	44	52	53	53					
1,3-Butadiene	Annual Avg	0.315	0.265	0.253	0.305	0.232	0.242	0.149	0.176	0.192	0.155					
	Health Risk	118	100	95	114	87	91	56	66	72	58					
Carbon Tetrachloride	Annual Avg	0.13	0.125		0.108		0.102	0.082								
	Health Risk	34	33		29		27	22								
Chromium, Hexavalent	Annual Avg				0.19	0.18	0.21	0.11	0.11		0.1					
	Health Risk				28	27	32	16	17		15					
<i>para</i> -Dichlorobenzene	Annual Avg			0.15	0.13	0.14	0.13	0.13	0.14							
	Health Risk			10	8	9	9	8	9							
Formaldehyde	Annual Avg	1.99			1.99	1.69	2.21	2.3	2.05		2.64					
	Health Risk	15			15	12	16	17	15		19					
Methylene Chloride	Annual Avg	0.67	0.51	0.66	0.54	0.54	0.55	0.55	0.5							
	Health Risk	2	2	2	2	2	2	2	2							
Perchloroethylene	Annual Avg	0.337	0.419	0.39	0.204	0.098	0.147	0.082	0.102							
	Health Risk	13	17	16	8	4	6	3	4							
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk	No Monitoring Data Available														
Total Health Risk		360	299	253	316	248	287	172	169	125	149					

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-28

San Francisco Bay Area Air Basin

Contra Costa County: Richmond - 13th Street

Annual Average Concentrations and Health Risks																
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg			0.78		0.92	0.36	0.59								
	Health Risk			4		4	2	3								
Benzene	Annual Avg		1.92	1.54	1.76	1.7	1.44	1								
	Health Risk		177	143	163	157	133	92								
1,3-Butadiene	Annual Avg		0.272	0.26	0.393	0.308	0.3	0.251								
	Health Risk		102	98	148	116	113	94								
Carbon Tetrachloride	Annual Avg		0.123		0.11		0.097	0.078								
	Health Risk		33		29		25	21								
Chromium, Hexavalent	Annual Avg			0.19		0.15	0.26	0.13								
	Health Risk			28		23	39	19								
<i>para</i> -Dichlorobenzene	Annual Avg		0.14	0.12	0.12	0.1	0.12	0.19								
	Health Risk		9	8	8	7	8	13								
Formaldehyde	Annual Avg			1.08		1.32	2.22	4.27								
	Health Risk			8		10	16	31								
Methylene Chloride	Annual Avg		0.62	0.54	0.67	0.5	0.54	0.65								
	Health Risk		2	2	2	2	2	2								
Perchloroethylene	Annual Avg		0.147	0.093	0.092	0.056	0.043	0.03								
	Health Risk		6	4	4	2	2	1								
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk	No Monitoring Data Available														
Total Health Risk			329	295	354	321	340	276								

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-29

*San Francisco Bay Area Air Basin***Contra Costa County: San Pablo - El Portal**

		Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg										0.55					
	Health Risk										3					
Benzene	Annual Avg									0.56	0.42					
	Health Risk									52	39					
1,3-Butadiene	Annual Avg									0.148	0.118					
	Health Risk									56	45					
Carbon Tetrachloride	Annual Avg															
	Health Risk															
Chromium, Hexavalent	Annual Avg										0.1					
	Health Risk										15					
<i>para</i> -Dichlorobenzene	Annual Avg															
	Health Risk															
Formaldehyde	Annual Avg										1.24					
	Health Risk										9					
Methylene Chloride	Annual Avg															
	Health Risk															
Perchloroethylene	Annual Avg															
	Health Risk															
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk															
Total Health Risk										108	111					

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-30

San Francisco Bay Area Air Basin

San Francisco County: San Francisco - Arkansas Street

Annual Average Concentrations and Health Risks																
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg	1.32				0.98	0.4		0.75	0.54			0.57	0.54	0.68	0.69
	Health Risk	6				5	2		4	3			3	3	3	3
Benzene	Annual Avg		1.49	1.25		1.07	0.95	0.53	0.51	0.63	0.65	0.48	0.376		0.386	0.329
	Health Risk		138	116		99	88	49	48	59	61	45	35		36	30
1,3-Butadiene	Annual Avg		0.252	0.234		0.259	0.226	0.181	0.165	0.215	0.173	0.128	0.113		0.084	0.083
	Health Risk		95	88		97	85	68	62	81	65	48	42		32	31
Carbon Tetrachloride	Annual Avg		0.124				0.1	0.078				0.095	0.087		0.094	
	Health Risk		33				26	21				25	23		25	
Chromium, Hexavalent	Annual Avg				0.19	0.18	0.25	0.12	0.13	0.1		0.12		0.088	0.145	0.13
	Health Risk				29	26	37	18	19	15		18		13	22	20
<i>para</i> -Dichlorobenzene	Annual Avg		0.15	0.13		0.1	0.15	0.12	0.12			0.11	0.14		0.15	0.19
	Health Risk		10	9		7	10	8	8			7	9		10	13
Formaldehyde	Annual Avg	1.71				1.33	1.58		1.62	1.45			1.51	2.03	1.71	1.54
	Health Risk	13				10	12		12	11			11	15	13	11
Methylene Chloride	Annual Avg		3.22	0.88		0.6	0.63	0.66	0.5			0.6	0.26		0.17	0.17
	Health Risk		11	3		2	2	2	2			2	<1		<1	<1
Perchloroethylene	Annual Avg		0.229	0.13		0.105	0.092	0.084	0.065			0.068	0.074		0.038	0.04
	Health Risk		9	5		4	4	3	3			3	3		1	2
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk	No Monitoring Data Available														
Total Health Risk		19	296	221	29	250	266	169	158	169	126	148	126	31	142	110

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-31

San Francisco Bay Area Air Basin

Santa Clara County: San Jose - 4th Street

Annual Average Concentrations and Health Risks																
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg	1.53	1.55	1.41	1.58	1.27	0.35	1.04	0.97	0.77	0.93	0.79	0.76			
	Health Risk	7	8	7	8	6	2	5	5	4	4	4	4			
Benzene	Annual Avg	3.02	2.44	2.03	1.89	1.88	1.55	0.97	0.93	1.04	0.73	0.7				
	Health Risk	280	226	188	175	174	144	89	86	97	68	65				
1,3-Butadiene	Annual Avg	0.549	0.385	0.436	0.485	0.385	0.348	0.311	0.287	0.293	0.227	0.193				
	Health Risk	207	145	164	182	145	131	117	108	110	85	72				
Carbon Tetrachloride	Annual Avg	0.127	0.128		0.107		0.102	0.077				0.095				
	Health Risk	33	34		28		27	20				25				
Chromium, Hexavalent	Annual Avg			0.29	0.25	0.25	0.33	0.17	0.13	0.11	0.1	0.13				
	Health Risk			43	37	38	49	25	20	17	15	19				
<i>para</i> -Dichlorobenzene	Annual Avg			0.12	0.12	0.1	0.12	0.14	0.12			0.12				
	Health Risk			8	8	7	8	10	8			8				
Formaldehyde	Annual Avg	2.27	2	2.09	1.83	2.16	2.28	2.7	2.56	2.24	2.69	2.24	2.27			
	Health Risk	17	15	15	13	16	17	20	19	16	20	16	17			
Methylene Chloride	Annual Avg	0.83	6.65	0.66	0.58	0.8	0.69	0.55	0.75			0.5				
	Health Risk	3	23	2	2	3	2	2	3			2				
Perchloroethylene	Annual Avg	0.161	0.153	0.1	0.094	0.064	0.069	0.068	0.096			0.088				
	Health Risk	6	6	4	4	3	3	3	4			4				
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk	No Monitoring Data Available														
Total Health Risk		553	457	431	457	392	383	291	253	244	192	215	21			

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-32

San Francisco Bay Area Air Basin

Santa Clara County: San Jose - Jackson Street

		Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg														0.84	0.82
	Health Risk														4	4
Benzene	Annual Avg														0.577	0.502
	Health Risk														53	46
1,3-Butadiene	Annual Avg														0.131	0.137
	Health Risk														49	51
Carbon Tetrachloride	Annual Avg														0.096	
	Health Risk														25	
Chromium, Hexavalent	Annual Avg														0.098	0.1
	Health Risk														15	15
<i>para</i> -Dichlorobenzene	Annual Avg														0.15	0.15
	Health Risk														10	10
Formaldehyde	Annual Avg														2.79	2.13
	Health Risk														21	16
Methylene Chloride	Annual Avg														0.19	0.16
	Health Risk														<1	<1
Perchloroethylene	Annual Avg														0.04	0.037
	Health Risk														2	1
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk															
Total Health Risk															179	143

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-33

San Joaquin Valley Air Basin

Air Basin Summary

TAC	Conc.*/Risk**	Annual Average Concentrations and Health Risks														
		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg	1.94	1.84	1.38	1.73	1.29	0.54	1.28	1.19	1.3	1.56	1.09	1.15	1.24	1.34	1.14
	Health Risk	9	9	7	8	6	3	6	6	6	8	5	6	6	7	6
Benzene	Annual Avg	2.45	2.11	1.36	1.32	1.33	1.16	0.73	0.71	0.76	0.69	0.63	0.538	0.552	0.463	0.372
	Health Risk	227	196	126	122	123	107	68	66	71	64	58	50	51	43	34
1,3-Butadiene	Annual Avg	0.409	0.36	0.236	0.339	0.323	0.264	0.222	0.195	0.233	0.177	0.158	0.15	0.146	0.095	0.08
	Health Risk	154	135	89	127	121	99	83	73	88	67	59	56	55	36	30
Carbon Tetrachloride	Annual Avg	0.128	0.129		0.109		0.098	0.077		0.114		0.096	0.086	0.091	0.097	
	Health Risk	34	34		29		26	20		30		25	23	24	26	
Chromium, Hexavalent	Annual Avg			0.23	0.21	0.19	0.28	0.13	0.11	0.1	0.1	0.12		0.086	0.078	0.083
	Health Risk			34	31	29	42	20	16	15	15	18		13	12	13
<i>para</i> -Dichlorobenzene	Annual Avg		0.11	0.11	0.13	0.11	0.11	0.1	0.13			0.11	0.13	0.15	0.15	0.15
	Health Risk		7	7	9	7	8	7	9			7	9	10	10	10
Formaldehyde	Annual Avg	2.45	1.81	1.46	1.67	1.8	2.1	2.96	2.77	2.86	3.44	2.61	3.08	3.13	3.02	2.27
	Health Risk	18	13	11	12	13	15	22	20	21	25	19	23	23	22	17
Methylene Chloride	Annual Avg	0.76	0.59	0.55	0.76	0.59	0.61	0.54	0.53	0.52	0.5	0.53	0.27	0.16	0.14	0.11
	Health Risk	3	2	2	3	2	2	2	2	2	2	2	<1	<1	<1	<1
Perchloroethylene	Annual Avg	0.126	0.133	0.104	0.473	0.067	0.068	0.068	0.056	0.039		0.076	0.052	0.039	0.033	0.027
	Health Risk	5	5	4	19	3	3	3	2	2		3	2	2	1	1
Diesel PM***	Annual Avg	(2.6)					(1.7)					(1.3)				
	Health Risk	(780)					(510)					(390)				
Average Basin Health Risk		450	401	280	360	304	305	231	194	235	181	196	169	184	157	111

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

*** The Diesel PM concentrations are estimates based on receptor modeling. Because data are not available for all years, Diesel PM is not included in the Average Basin Health Risk number.

Table C-34

San Joaquin Valley Air Basin

Kern County: Bakersfield - Chester Avenue

Annual Average Concentrations and Health Risks																
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg	1.87	1.83	1.6	2											
	Health Risk	9	9	8	10											
Benzene	Annual Avg	2.68	2.22	1.54	1.47											
	Health Risk	248	205	143	136											
1,3-Butadiene	Annual Avg	0.389	0.306	0.24	0.327											
	Health Risk	146	115	90	123											
Carbon Tetrachloride	Annual Avg	0.127	0.125		0.104											
	Health Risk	33	33		27											
Chromium, Hexavalent	Annual Avg			0.21	0.21											
	Health Risk			31	31											
<i>para</i> -Dichlorobenzene	Annual Avg			0.12	0.17											
	Health Risk			8	11											
Formaldehyde	Annual Avg	2.44	1.62	1.36	1.85											
	Health Risk	18	12	10	14											
Methylene Chloride	Annual Avg	0.92	0.65	0.52	0.99											
	Health Risk	3	2	2	3											
Perchloroethylene	Annual Avg	0.087	0.127	0.075	1.48											
	Health Risk	3	5	3	59											
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk															
Total Health Risk		460	381	295	414											

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-35

San Joaquin Valley Air Basin

Kern County: Bakersfield - 5558 California Avenue

		Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg						0.49	1.59	1.22	1.27	1.69	1.19	1.27	1.37	1.51	
	Health Risk						2	8	6	6	8	6	6	7	7	
Benzene	Annual Avg						1.14	0.78	0.57	0.7	0.71	0.58	0.549	0.506	0.405	
	Health Risk						106	72	53	65	66	54	51	47	37	
1,3-Butadiene	Annual Avg						0.206	0.211	0.16	0.2	0.153	0.126	0.138	0.099	0.063	
	Health Risk						78	79	60	75	58	47	52	37	24	
Carbon Tetrachloride	Annual Avg						0.099	0.079				0.094	0.086	0.092	0.095	
	Health Risk						26	21				25	23	24	25	
Chromium, Hexavalent	Annual Avg						0.26	0.13	0.1	0.1	0.1	0.1		0.078	0.053	
	Health Risk						39	19	15	15	16	16		12	8	
<i>para</i> -Dichlorobenzene	Annual Avg						0.11	0.11	0.12			0.11	0.13	0.15	0.15	
	Health Risk						7	7	8			7	9	10	10	
Formaldehyde	Annual Avg						1.92	3.48	3.12	2.99	3.67	2.79	3.44	3.15	3.43	
	Health Risk						14	26	23	22	27	21	25	23	25	
Methylene Chloride	Annual Avg						0.54	0.64	0.5		0.5	0.58	0.26	0.1	0.11	
	Health Risk						2	2	2		2	2	<1	<1	<1	
Perchloroethylene	Annual Avg						0.092	0.119	0.039			0.065	0.058	0.047	0.037	
	Health Risk						4	5	2			3	2	2	1	
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk															
Total Health Risk							278	239	169	183	177	181	168	162	137	

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-36

San Joaquin Valley Air Basin

Fresno County: Fresno - 1st Street

Annual Average Concentrations and Health Risks																
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg		2.29		1.89	1.4	0.67			1.5		1.43	1.6	1.55	1.71	1.27
	Health Risk		11		9	7	3			7		7	8	8	8	6
Benzene	Annual Avg		2.42	1.34	1.35	1.44	1.24	0.79	1	0.83	0.8	0.73	0.61	0.631	0.546	0.403
	Health Risk		224	124	125	133	115	73	92	76	74	68	56	58	51	37
1,3-Butadiene	Annual Avg		0.459	0.262	0.342	0.356	0.3	0.234	0.233	0.265	0.214	0.195	0.182	0.194	0.127	0.098
	Health Risk		173	99	129	134	113	88	87	100	80	73	68	73	48	37
Carbon Tetrachloride	Annual Avg		0.122		0.108		0.099	0.078				0.095	0.086	0.089	0.097	
	Health Risk		32		28		26	21				25	23	23	26	
Chromium, Hexavalent	Annual Avg			0.21	0.15	0.14	0.22	0.1	0.11	0.1	0.1	0.13		0.058	0.05	0.073
	Health Risk			31	22	21	33	16	16	15	15	20		9	8	11
<i>para</i> -Dichlorobenzene	Annual Avg			0.1	0.1	0.14	0.13	0.11	0.14			0.1	0.14	0.15	0.15	0.15
	Health Risk			7	7	9	8	7	9			7	9	10	10	10
Formaldehyde	Annual Avg		2.32		1.64	2.01	2.41			3.42		3.56	4.32	4.16	3.72	2.57
	Health Risk		17		12	15	18			25		26	32	31	27	19
Methylene Chloride	Annual Avg		0.62	0.54	0.69	0.59	0.58	0.5	0.52			0.5	0.27	0.24	0.15	0.14
	Health Risk		2	2	2	2	2	2	2			2	<1	<1	<1	<1
Perchloroethylene	Annual Avg		0.142	0.102	0.1	0.062	0.065	0.041	0.043			0.056	0.046	0.034	0.031	0.023
	Health Risk		6	4	4	2	3	2	2			2	2	1	1	<1
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk	No Monitoring Data Available														
Total Health Risk			465	267	338	323	321	209	208	223	169	230	198	213	179	120

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-37

San Joaquin Valley Air Basin

Stanislaus County: Modesto - I Street (Courthouse)

		Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg		1.51	1.37	1.75	1.44	0.51	1.17	1.25							
	Health Risk		7	7	8	7	2	6	6							
Benzene	Annual Avg															
	Health Risk															
1,3-Butadiene	Annual Avg															
	Health Risk															
Carbon Tetrachloride	Annual Avg															
	Health Risk															
Chromium, Hexavalent	Annual Avg			0.27	0.23	0.22	0.32	0.16	0.11							
	Health Risk			40	34	33	48	25	17							
<i>para</i> -Dichlorobenzene	Annual Avg															
	Health Risk															
Formaldehyde	Annual Avg		1.43	1.32	1.82	1.86	2.16	2.58	2.43							
	Health Risk		11	10	13	14	16	19	18							
Methylene Chloride	Annual Avg															
	Health Risk															
Perchloroethylene	Annual Avg															
	Health Risk															
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk															
Total Health Risk			18	57	55	54	66	50	41							

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-38

San Joaquin Valley Air Basin

Stanislaus County: Modesto - 14th Street

Annual Average Concentrations and Health Risks																
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg										1.65					
	Health Risk										8					
Benzene	Annual Avg	2.25	1.86	1.2	1.23	1.14	1.2	0.7	0.77	0.85	0.61					
	Health Risk	208	172	111	114	105	111	65	71	78	56					
1,3-Butadiene	Annual Avg	0.379	0.353	0.224	0.348	0.293	0.298	0.236	0.208	0.26	0.162					
	Health Risk	142	133	84	131	110	112	89	78	98	61					
Carbon Tetrachloride	Annual Avg	0.128	0.132		0.112		0.094	0.074		0.113						
	Health Risk	34	35		30		25	20		30						
Chromium, Hexavalent	Annual Avg										0.1					
	Health Risk										15					
<i>para</i> -Dichlorobenzene	Annual Avg		0.11	0.1	0.12	0.1	0.11	0.1	0.15							
	Health Risk		7	7	8	7	7	7	10							
Formaldehyde	Annual Avg										3.09					
	Health Risk										23					
Methylene Chloride	Annual Avg	0.65	0.61	0.55	0.65	0.62	0.58	0.5	0.59	0.51						
	Health Risk	2	2	2	2	2	2	2	2	2						
Perchloroethylene	Annual Avg	0.145	0.15	0.118	0.109	0.087	0.053	0.044	0.052	0.035						
	Health Risk	6	6	5	4	3	2	2	2	1						
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk	No Monitoring Data Available														
Total Health Risk		392	355	209	289	227	259	185	163	209	163					

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-39

San Joaquin Valley Air Basin

San Joaquin County: Stockton - Hazelton Street

		Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg	1.47	1.75	1.07	1.31	1.1		0.9	0.9	1	1.07	0.64	0.59	0.8	0.81	0.87
	Health Risk	7	9	5	6	5		4	4	5	5	3	3	4	4	4
Benzene	Annual Avg	2.01	1.95	1.37		1.23	1.05	0.64	0.52	0.69	0.65	0.58	0.454	0.521	0.437	0.37
	Health Risk	186	181	127		113	97	60	48	64	60	54	42	48	40	34
1,3-Butadiene	Annual Avg	0.336	0.321	0.217		0.281	0.25	0.206	0.181	0.206	0.18	0.155	0.13	0.146	0.096	0.079
	Health Risk	126	121	82		106	94	77	68	77	68	58	49	55	36	30
Carbon Tetrachloride	Annual Avg	0.131	0.136				0.099	0.077		0.115		0.098	0.087	0.091	0.098	
	Health Risk	35	36				26	20		30		26	23	24	26	
Chromium, Hexavalent	Annual Avg			0.22	0.25	0.25		0.14			0.1	0.12		0.123	0.13	0.123
	Health Risk			33	37	37		21			15	18		18	20	18
<i>para</i> -Dichlorobenzene	Annual Avg		0.1	0.1		0.1	0.11	0.1	0.11			0.11	0.13	0.15	0.15	0.15
	Health Risk		7	7		7	7	7	7			7	9	10	10	10
Formaldehyde	Annual Avg	1.81	1.88	1.24	1.38	1.56		2.35	2.24	2.33	2.68	1.61	1.48	2.07	1.91	1.79
	Health Risk	13	14	9	10	12		17	16	17	20	12	11	15	14	13
Methylene Chloride	Annual Avg	0.63	0.5	0.6		0.5	0.75	0.53	0.5	0.5	0.5	0.53	0.27	0.14	0.16	0.12
	Health Risk	2	2	2		2	3	2	2	2	2	2	<1	<1	<1	<1
Perchloroethylene	Annual Avg	0.129	0.113	0.12		0.066	0.061	0.068	0.09	0.033		0.108	0.053	0.035	0.03	0.022
	Health Risk	5	5	5		3	2	3	4	1		4	2	1	1	<1
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk	No Monitoring Data Available														
Total Health Risk		374	375	270	53	285	229	211	149	196	170	184	139	175	151	109

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-40

San Diego Air Basin

Air Basin Summary

Annual Average Concentrations and Health Risks																
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg	1.33	1.5	1.22	1.41	1.48	0.64	1.03	1	0.86	1.04	0.84	0.95	0.97	0.89	0.89
	Health Risk	6	7	6	7	7	3	5	5	4	5	4	5	5	4	4
Benzene	Annual Avg	2.25	1.7	1.48	1.16	1.39	0.98	0.76	0.76	0.76	0.86	0.65	0.505	0.491	0.483	0.371
	Health Risk	208	158	137	107	129	90	71	70	70	79	60	47	45	45	34
1,3-Butadiene	Annual Avg	0.333	0.257	0.258	0.312	0.307	0.242	0.208	0.198	0.196	0.22	0.159	0.136	0.12	0.089	0.074
	Health Risk	125	97	97	117	115	91	78	75	74	83	60	51	45	33	28
Carbon Tetrachloride	Annual Avg	0.132	0.127		0.103		0.099	0.077				0.094	0.086	0.092	0.093	
	Health Risk	35	34		27		26	20				25	23	24	25	
Chromium, Hexavalent	Annual Avg			0.24	0.19	0.16	0.18	0.11	0.11	0.1	0.1	0.1		0.045	0.05	0.03
	Health Risk			36	28	23	27	16	16	15	15	15		7	8	5
<i>para</i> -Dichlorobenzene	Annual Avg		0.1	0.11	0.13	0.15	0.12	0.11	0.13				0.15	0.15	0.15	0.15
	Health Risk		7	8	8	10	8	7	8				10	10	10	10
Formaldehyde	Annual Avg	1.64	1.53	1.26	1.76	2.25	2.13	2.62	2.62	2.27	2.67	2.23	2.59	2.99	2.68	2.19
	Health Risk	12	11	9	13	17	16	19	19	17	20	16	19	22	20	16
Methylene Chloride	Annual Avg	0.59	0.83	1.34	1.13	0.73	0.63	0.59	0.57		0.53	0.76	0.17	0.16	0.16	0.13
	Health Risk	2	3	5	4	3	2	2	2		2	3	<1	<1	<1	<1
Perchloroethylene	Annual Avg	0.282	0.269	0.263	0.2	0.207	0.249	0.147	0.125			0.089	0.061	0.06	0.047	0.037
	Health Risk	11	11	11	8	8	10	6	5			4	2	2	2	1
Diesel PM***	Annual Avg	(2.9)					(1.9)					(1.4)				
	Health Risk	(870)					(570)					(420)				
Average Basin Health Risk		399	328	309	319	312	273	224	200	180	204	187	157	160	147	98

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

*** The Diesel PM concentrations are estimates based on receptor modeling. Because data are not available for all years, Diesel PM is not included in the Average Basin Health Risk number.

Table C-41

San Diego Air Basin

San Diego County: Chula Vista

Annual Average Concentrations and Health Risks																
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg	1.1	1.21	0.99	1.16	1.32	0.64	0.83	0.91	0.7	0.91	0.75	0.78	0.75	0.72	0.74
	Health Risk	5	6	5	6	6	3	4	4	3	4	4	4	4	3	4
Benzene	Annual Avg	2	1.21	1.03	0.8	1.08	0.81		0.63	0.61		0.55	0.421	0.419		0.341
	Health Risk	186	112	95	74	100	75		58	56		51	39	39		32
1,3-Butadiene	Annual Avg	0.278	0.183	0.184	0.225	0.262	0.205		0.162	0.153		0.136	0.11	0.107		0.07
	Health Risk	105	69	69	85	98	77		61	57		51	41	40		26
Carbon Tetrachloride	Annual Avg	0.132	0.129		0.101		0.097					0.093	0.086	0.091		
	Health Risk	35	34		27		26					25	23	24		
Chromium, Hexavalent	Annual Avg			0.24	0.2	0.17	0.2	0.11	0.1	0.1	0.11	0.1		0.05	0.063	0.03
	Health Risk			37	30	25	29	16	15	15	16	16		8	9	5
<i>para</i> -Dichlorobenzene	Annual Avg		0.1	0.11	0.13	0.12	0.11		0.13				0.15	0.15		0.15
	Health Risk		7	7	8	8	7		8				10	10		10
Formaldehyde	Annual Avg	1.26	1.3	1.1	1.46	2.08	1.81	2.1	2.37	2	2.49	2.14	2.54	2.56	2.3	1.93
	Health Risk	9	10	8	11	15	13	15	17	15	18	16	19	19	17	14
Methylene Chloride	Annual Avg	0.58	0.59	0.81	1.01	0.57	0.57		0.62			0.65	0.16	0.13		0.12
	Health Risk	2	2	3	3	2	2		2			2	<1	<1		<1
Perchloroethylene	Annual Avg	0.236	0.229	0.208	0.144	0.132	0.146		0.103			0.078	0.057	0.048		0.031
	Health Risk	9	9	8	6	5	6		4			3	2	2		1
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk	No Monitoring Data Available														
Total Health Risk		351	249	232	250	259	238	35	169	146	38	168	138	146	29	92

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-42

San Diego Air Basin

San Diego County: El Cajon - Redwood Avenue

Annual Average Concentrations and Health Risks																
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg	1.56	1.78	1.46	1.66			1.23			1.17	0.92	1.11	1.2	1.06	1.04
	Health Risk	8	9	7	8			6			6	4	5	6	5	5
Benzene	Annual Avg	2.5	2.2	1.94	1.51		1.14	0.86	0.89	0.91	0.98	0.74	0.588	0.563	0.561	0.402
	Health Risk	231	203	179	140		106	79	82	84	91	69	54	52	52	37
1,3-Butadiene	Annual Avg	0.387	0.332	0.331	0.398		0.279	0.252	0.235	0.24	0.24	0.182	0.162	0.133	0.101	0.077
	Health Risk	145	125	125	150		105	95	88	90	90	68	61	50	38	29
Carbon Tetrachloride	Annual Avg	0.131	0.125				0.1	0.078				0.095	0.086	0.093	0.093	
	Health Risk	35	33				27	21				25	23	24	24	
Chromium, Hexavalent	Annual Avg			0.24	0.18			0.1	0.11		0.1	0.1		0.04	0.038	
	Health Risk			36	26			16	17		15	15		6	6	
<i>para</i> -Dichlorobenzene	Annual Avg			0.12	0.13		0.12	0.11	0.13				0.15	0.15	0.15	0.15
	Health Risk			8	8		8	7	8				10	10	10	10
Formaldehyde	Annual Avg	2.01	1.76	1.42	2.06			3.14			2.84	2.32	2.63	3.41	3.05	2.45
	Health Risk	15	13	10	15			23			21	17	19	25	22	18
Methylene Chloride	Annual Avg	0.59	1.07	1.87	1.25		0.7	0.61	0.52		0.52	0.87	0.19	0.18	0.18	0.14
	Health Risk	2	4	7	4		2	2	2		2	3	<1	<1	<1	<1
Perchloroethylene	Annual Avg	0.329	0.308	0.319	0.256		0.352	0.168	0.147			0.1	0.065	0.072	0.059	0.043
	Health Risk	13	12	13	10		14	7	6			4	3	3	2	2
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk	No Monitoring Data Available														
Total Health Risk		449	399	385	361		262	256	203	174	225	205	175	176	159	101

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-43

Sacramento Valley Air Basin

Air Basin Summary

Annual Average Concentrations and Health Risks																
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg	1.29			1.37	1.04	0.39	1.03	1.05	0.92	1.23	0.83	0.74	1.14	1.04	1.09
	Health Risk	6			7	5	2	5	5	4	6	4	4	6	5	5
Benzene	Annual Avg	2.02	1.88	1.35	1	1.02	0.8	0.56	0.55	0.5	0.56	0.45	0.422	0.443	0.406	0.406
	Health Risk	187	174	125	92	95	74	51	51	47	52	42	39	41	38	38
1,3-Butadiene	Annual Avg	0.378	0.332	0.283	0.288	0.221	0.186	0.176	0.16	0.154	0.128	0.119	0.125	0.116	0.094	0.093
	Health Risk	142	125	106	108	83	70	66	60	58	48	45	47	44	35	35
Carbon Tetrachloride	Annual Avg	0.123	0.123		0.109		0.099	0.078				0.094	0.088	0.09	0.093	
	Health Risk	33	32		29		26	21				25	23	24	25	
Chromium, Hexavalent	Annual Avg			0.17	0.14	0.13	0.18	0.11	0.1	0.1	0.1	0.1	0.1	0.053	0.05	0.068
	Health Risk			26	21	19	26	16	15	15	15	15	15	8	8	10
<i>para</i> -Dichlorobenzene	Annual Avg			0.11	0.1	0.2	0.14	0.11	0.14			0.1	0.13	0.15	0.15	0.15
	Health Risk			7	7	14	9	7	10			7	9	10	10	10
Formaldehyde	Annual Avg	1.57			1.77	1.75	1.91	2.76	2.92	2.52	3.61	2.51	2.41	3.79	3.53	2.76
	Health Risk	12			13	13	14	20	22	19	27	18	18	28	26	20
Methylene Chloride	Annual Avg	0.65	0.56	0.55	0.98	0.66	0.53	0.54	0.52		0.6	0.57	0.29	0.08	0.08	0.07
	Health Risk	2	2	2	3	2	2	2	2		2	2	1	<1	<1	<1
Perchloroethylene	Annual Avg	0.071	0.074	0.063	0.052	0.165	0.049	0.055	0.052			0.058	0.027	0.025	0.018	0.015
	Health Risk	3	3	3	2	7	2	2	2			2	1	1	<1	<1
Diesel PM***	Annual Avg	(2.5)					(1.6)					(1.2)				
	Health Risk	(750)					(480)					(360)				
Average Basin Health Risk		385	336	269	282	238	225	190	167	143	150	160	157	162	147	118

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

*** The Diesel PM concentrations are estimates based on receptor modeling. Because data are not available for all years, Diesel PM is not included in the Average Basin Health Risk number.

Table C-44

Sacramento Valley Air Basin

Butte County: Chico - Manzanita Avenue

Annual Average Concentrations and Health Risks																
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg				1.55	1.11	0.54	1.15	1.17	0.96	1.41	0.89	1.1	1.33	1.14	1.32
	Health Risk				8	5	3	6	6	5	7	4	5	6	6	6
Benzene	Annual Avg				1.1	1.14	0.85	0.67		0.55	0.64	0.52	0.499	0.544	0.449	0.533
	Health Risk				102	106	78	62		51	59	48	46	50	42	49
1,3-Butadiene	Annual Avg				0.295	0.249	0.205	0.216		0.17	0.149	0.142	0.157	0.154	0.111	0.132
	Health Risk				111	94	77	81		64	56	54	59	58	42	50
Carbon Tetrachloride	Annual Avg				0.108		0.1	0.079					0.088	0.087	0.093	
	Health Risk				29		26	21					23	23	24	
Chromium, Hexavalent	Annual Avg				0.15	0.13	0.16	0.1	0.1	0.1	0.1	0.1	0.1	0.058	0.048	0.075
	Health Risk				23	19	24	16	15	15	15	15	15	9	7	11
<i>para</i> -Dichlorobenzene	Annual Avg				0.1	0.13	0.1	0.12					0.13	0.15	0.15	0.15
	Health Risk				7	8	7	8					9	10	10	10
Formaldehyde	Annual Avg				2.08	1.78	2.04	2.99	3.42	2.63	4.15	2.76	3.25	4.47	3.82	3.4
	Health Risk				15	13	15	22	25	19	31	20	24	33	28	25
Methylene Chloride	Annual Avg				0.81	0.5	0.53	0.58					0.36	0.09	0.07	0.08
	Health Risk				3	2	2	2					1	<1	<1	<1
Perchloroethylene	Annual Avg				0.057	0.265	0.047	0.049					0.024	0.024	0.015	0.014
	Health Risk				2	11	2	2					<1	1	<1	<1
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk	No Monitoring Data Available														
Total Health Risk					300	258	234	220	46	154	168	141	182	190	159	151

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-45

Sacramento Valley Air Basin

Butte County: Chico - Salem Street

		Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg	1.27														
	Health Risk	6														
Benzene	Annual Avg	1.96	1.91													
	Health Risk	182	177													
1,3-Butadiene	Annual Avg	0.403	0.361													
	Health Risk	151	136													
Carbon Tetrachloride	Annual Avg	0.123	0.123													
	Health Risk	32	33													
Chromium, Hexavalent	Annual Avg															
	Health Risk															
<i>para</i> -Dichlorobenzene	Annual Avg															
	Health Risk															
Formaldehyde	Annual Avg	1.49														
	Health Risk	11														
Methylene Chloride	Annual Avg	0.53	0.57													
	Health Risk	2	2													
Perchloroethylene	Annual Avg	0.047	0.054													
	Health Risk	2	2													
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk															
Total Health Risk		386	350													

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-46

Sacramento Valley Air Basin

Placer County: Roseville - North Sunrise Boulevard

		Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg					0.96	0.25	0.9	0.93	0.88		0.77	0.39	0.95	0.93	0.87
	Health Risk					5	1	4	4	4		4	2	5	5	4
Benzene	Annual Avg					0.91	0.75	0.44	0.46	0.45	0.48	0.39	0.344	0.343	0.363	0.278
	Health Risk					84	70	40	42	42	44	36	32	32	34	26
1,3-Butadiene	Annual Avg					0.194	0.167	0.135	0.121	0.138	0.107	0.096	0.093	0.078	0.078	0.054
	Health Risk					73	63	51	46	52	40	36	35	29	29	20
Carbon Tetrachloride	Annual Avg						0.099	0.077				0.094	0.087	0.093	0.093	
	Health Risk						26	20				25	23	24	25	
Chromium, Hexavalent	Annual Avg					0.13	0.19	0.11	0.1	0.1	0.1	0.1		0.048	0.053	0.06
	Health Risk					19	29	16	15	15	15	15		7	8	9
<i>para</i> -Dichlorobenzene	Annual Avg					0.28	0.17	0.1	0.15			0.1	0.13	0.15	0.15	0.15
	Health Risk					19	11	7	10			7	9	10	10	10
Formaldehyde	Annual Avg					1.71	1.78	2.52	2.42	2.42		2.25	1.57	3.12	3.23	2.12
	Health Risk					13	13	19	18	18		17	12	23	24	16
Methylene Chloride	Annual Avg					0.82	0.54	0.5	0.5			0.52	0.23	0.08	0.09	0.06
	Health Risk					3	2	2	2			2	<1	<1	<1	<1
Perchloroethylene	Annual Avg					0.065	0.051	0.061	0.063			0.047	0.031	0.026	0.022	0.016
	Health Risk					3	2	2	3			2	1	1	<1	<1
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk															
Total Health Risk						219	217	161	140	131	99	144	114	131	135	85

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-47

Sacramento Valley Air Basin

Sacramento County: Citrus Heights - Sunrise Boulevard

		Annual Average Concentrations and Health Risks														
TAC	Conc.*/Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Acetaldehyde	Annual Avg	1.32														
	Health Risk	6														
Benzene	Annual Avg	2.08	1.85	1.41												
	Health Risk	192	171	130												
1,3-Butadiene	Annual Avg	0.353	0.302	0.307												
	Health Risk	133	114	115												
Carbon Tetrachloride	Annual Avg	0.124	0.123													
	Health Risk	33	32													
Chromium, Hexavalent	Annual Avg															
	Health Risk															
<i>para</i> -Dichlorobenzene	Annual Avg			0.11												
	Health Risk			7												
Formaldehyde	Annual Avg	1.66														
	Health Risk	12														
Methylene Chloride	Annual Avg	0.76	0.54	0.5												
	Health Risk	3	2	2												
Perchloroethylene	Annual Avg	0.095	0.094	0.076												
	Health Risk	4	4	3												
Diesel PM	Annual Avg	No Monitoring Data Available														
	Health Risk															
Total Health Risk		383	323	257												

* Concentrations for Hexavalent Chromium are expressed as ng/m³, and concentrations for Diesel PM are expressed as µg/m³. Concentrations for all other TACs are expressed as ppb.

** Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available.

Table C-48