
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 counties and individual sites within California's five most populous air basins: 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 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 2004 emission inventory year. The data for stationary sources include emissions data associated with 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 (EMFAC 1.99(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 2003. 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. Furthermore, the information reflects data collected only at monitoring sites operated by the ARB.

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

Great Basin Valleys Air Basin

TAC	Alpine	Inyo	Mono
Acetaldehyde	7	15	32
Benzene	25	16	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	73
Methylene Chloride	< 1	2	1
Perchloroethylene	< 1	4	3
Diesel PM	0	18	13

Table C-1

Lake County Air Basin

TAC	Lake
Acetaldehyde	39
Benzene	76
1,3-Butadiene	19
Carbon Tetrachloride	0
Chromium, Hexavalent	< .01
<i>para</i> -DiChlorobenzene	3
Formaldehyde	89
Methylene Chloride	8
Perchloroethylene	13
Diesel PM	49

Table C-2

Lake Tahoe Air Basin

TAC	El Dorado ¹	Placer ¹
Acetaldehyde	39	18
Benzene	36	13
1,3-Butadiene	10	3
Carbon Tetrachloride	< .01	0
Chromium, Hexavalent	< .01	< .01
<i>para</i> -DiChlorobenzene	2	< 1
Formaldehyde	76	28
Methylene Chloride	5	4
Perchloroethylene	6	3
Diesel PM	31	5

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	61	9	159
Benzene	91	85	9	235
1,3-Butadiene	41	21	2	50
Carbon Tetrachloride	0.02	< .01	0.04	0.10
Chromium (Hexavalent)	0.29	0.02	< .01	0.01
<i>para</i> -DiChlorobenzene	6	19	1	23
Formaldehyde	349	162	18	485
Methylene Chloride	14	100	4	79
Perchloroethylene	14	53	5	112
Diesel PM	150	223	13	612

Table C-4

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

Mountain Counties Air Basin

TAC	Amador	Calaveras	El Dorado ¹	Mariposa	Nevada	Placer ¹	Plumas	Sierra	Tuolumne
Acetaldehyde	34	44	81	24	106	18	67	12	57
Benzene	50	73	87	41	87	23	151	37	99
1,3-Butadiene	17	23	21	10	22	6	47	11	26
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	2	7	< 1	5	1	1	< 1	3
Formaldehyde	70	95	144	52	175	37	177	37	133
Methylene Chloride	5	5	17	2	21	6	2	< 1	9
Perchloroethylene	5	7	18	3	15	5	4	< 1	9
Diesel PM	32	36	55	16	70	35	54	4	51

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	106	16	63
Benzene	190	21	90
1,3-Butadiene	60	14	17
Carbon Tetrachloride	0	0	0
Chromium, Hexavalent	0.01	< .01	< .01
<i>para</i> -DiChlorobenzene	22	3	14
Formaldehyde	265	37	128
Methylene Chloride	72	8	54
Perchloroethylene	89	10	78
Diesel PM	314	62	135

Table C-6

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

North Coast Air Basin

TAC	Del Norte	Humboldt ¹	Mendocino	Sonoma	Trinity
Acetaldehyde	21	88	67	30	19
Benzene	15	87	68	64	29
1,3-Butadiene	16	24	16	13	14
Carbon Tetrachloride	0	0	0	0	0
Chromium, Hexavalent	< .01	< .01	0.01	0.04	< .01
<i>para</i> -DiChlorobenzene	2	7	5	3	< 1
Formaldehyde	35	157	123	73	39
Methylene Chloride	5	18	14	13	2
Perchloroethylene	6	28	21	14	3
Diesel PM	39	214	148	88	12

Table C-7

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

Northeast Plateau Air Basin

TAC	Lassen	Modoc	Siskiyou
Acetaldehyde	60	22	82
Benzene	99	11	99
1,3-Butadiene	24	5	64
Carbon Tetrachloride	0	0	0
Chromium, Hexavalent	< .01	< .01	< .01
<i>para</i> -DiChlorobenzene	2	< 1	2
Formaldehyde	134	38	159
Methylene Chloride	4	1	6
Perchloroethylene	6	2	9
Diesel PM	61	53	123

Table C-8

Sacramento Valley Air Basin

TAC	Butte	Colusa	Glenn	Placer ¹	Sacramento	Shasta	Solano ¹	Sutter	Tehama	Yolo	Yuba
Acetaldehyde	102	16	21	87	221	136	31	39	49	59	44
Benzene	129	34	40	114	355	147	57	68	37	62	50
1,3-Butadiene	38	19	17	24	72	42	12	10	10	14	19
Carbon Tetrachloride	0	0	0	0	0.05	0	0	0	< .01	0	0
Chromium, Hexavalent	< .01	< .01	< .01	< .01	0.03	< .01	< .01	0.03	< .01	< .01	< .01
<i>para</i> -DiChlorobenzene	12	1	2	12	67	10	7	5	3	9	4
Formaldehyde	228	62	49	205	541	262	79	105	82	127	116
Methylene Chloride	32	3	3	51	176	22	19	10	7	25	7
Perchloroethylene	33	3	5	36	255	35	16	12	10	25	9
Diesel PM	232	74	87	201	744	213	124	189	119	290	82

Table C-9

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

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

Salton Sea Air Basin

TAC	Imperial	Riverside ¹
Acetaldehyde	101	36
Benzene	152	74
1,3-Butadiene	38	17
Carbon Tetrachloride	0	0
Chromium, Hexavalent	0.02	< .01
<i>para</i> -DiChlorobenzene	9	18
Formaldehyde	290	107
Methylene Chloride	20	65
Perchloroethylene	27	43
Diesel PM	269	164

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

San Diego Air Basin

TAC	San Diego
Acetaldehyde	508
Benzene	899
1,3-Butadiene	215
Carbon Tetrachloride	0.12
Chromium, Hexavalent	0.24
<i>para</i> -DiChlorobenzene	161
Formaldehyde	1324
Methylene Chloride	378
Perchloroethylene	638
Diesel PM	1527

Table C-11

San Francisco Bay Area Air Basin

TAC	Alameda	Contra Costa	Marin	Napa	San Francisco	San Mateo	Santa Clara	Solano ¹	Sonoma ¹
Acetaldehyde	303	169	53	34	145	151	262	112	90
Benzene	410	336	120	66	202	238	513	123	129
1,3-Butadiene	88	65	26	14	39	59	102	43	26
Carbon Tetrachloride	0.03	1.46	< .01	< .01	0	< .01	< .01	< .01	0.02
Chromium, Hexavalent	0.03	0.01	< .01	< .01	< .01	0.02	0.02	0.02	< .01
<i>para</i> -DiChlorobenzene	78	51	13	7	42	39	93	15	22
Formaldehyde	636	474	141	86	344	403	709	325	195
Methylene Chloride	259	131	35	19	113	119	324	41	83
Perchloroethylene	199	110	42	13	111	113	226	28	46
Diesel PM	914	706	159	110	764	400	904	162	294

Table C-12

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

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

San Joaquin Valley Air Basin

TAC	Fresno	Kern ¹	Kings	Madera	Merced	San Joaquin	Stanislaus	Tulare
Acetaldehyde	252	195	109	64	79	165	125	150
Benzene	326	757	72	86	99	233	161	165
1,3-Butadiene	80	55	40	25	36	53	50	107
Carbon Tetrachloride	< .01	< .01	0	0	0	0	0	0
Chromium, Hexavalent	0.05	0.04	0.02	< .01	< .01	0.03	0.03	< .01
<i>para</i> -DiChlorobenzene	46	36	7	7	12	33	26	21
Formaldehyde	590	1210	324	168	185	401	289	350
Methylene Chloride	129	70	15	16	26	74	60	46
Perchloroethylene	179	92	23	26	41	117	91	66
Diesel PM	1006	749	186	217	309	677	456	524

Table C-13

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

South Central Coast Air Basin

TAC	San Luis Obispo	Santa Barbara	Ventura
Acetaldehyde	83	102	126
Benzene	122	336	280
1,3-Butadiene	35	56	105
Carbon Tetrachloride	0	< .01	0.05
Chromium, Hexavalent	< .01	< .01	0.03
<i>para</i> -DiChlorobenzene	14	22	39
Formaldehyde	202	540	380
Methylene Chloride	44	107	158
Perchloroethylene	64	81	75
Diesel PM	246	264	469

Table C-14

South Coast Air Basin

TAC	Los Angeles ¹	Orange	Riverside ¹	San Bernardino ¹
Acetaldehyde	922	317	205	202
Benzene	2446	874	396	413
1,3-Butadiene	477	159	86	93
Carbon Tetrachloride	0.37	< .01	< .01	< .01
Chromium, Hexavalent	0.37	0.05	0.04	0.04
<i>para</i> -DiChlorobenzene	497	156	70	72
Formaldehyde	3098	1020	599	564
Methylene Chloride	2647	1083	266	472
Perchloroethylene	1819	566	183	243
Diesel PM	4490	1670	996	795

Table C-15

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 2003. Annual average concentrations and health risks are listed by site 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. 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.

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
Acetaldehyde	Annual Avg											1.10	1.31		1.25
	Health Risk											5	6		6
Benzene	Annual Avg											0.69		0.62	0.60
	Health Risk											64		57	55
1,3-Butadiene	Annual Avg											0.15		0.14	0.08
	Health Risk											55		51	29
Carbon Tetrachloride	Annual Avg											0.09		0.09	0.10
	Health Risk											24		24	25
Chromium, Hexavalent	Annual Avg											0.12			0.09
	Health Risk											19			14
<i>para</i> -Dichlorobenzene	Annual Avg											0.10		0.15	0.15
	Health Risk											7		10	10
Formaldehyde	Annual Avg											3.05	3.80		3.45
	Health Risk											22	28		25
Methylene Chloride	Annual Avg											1.32		1.00	0.96
	Health Risk											5		3	3
Perchloroethylene	Annual Avg											0.18		0.15	0.11
	Health Risk											7		6	4
Diesel PM	Annual Avg	No Monitoring Data Available													
	Health Risk														
Total Health Risk												208	34	151	171

* 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-16

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
Acetaldehyde	Annual Avg	3.16	3.89		3.06	2.46	0.79			1.94	2.70	1.70	1.93	1.96	
	Health Risk	15	19		15	12	4			9	13	8	9	10	
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	
	Health Risk	444	362	319	244	308	227	177	137	154	151	117	98	93	
1,3-Butadiene	Annual Avg	0.78	0.62	0.73	0.75	0.75	0.61	0.51	0.42	0.48	0.48	0.35	0.33	0.28	
	Health Risk	294	234	272	282	283	227	192	158	182	181	130	123	106	
Carbon Tetrachloride	Annual Avg	0.14	0.13				0.10	0.08		0.11		0.09	0.09	0.09	
	Health Risk	37	35				28	22		30		25	23	24	
Chromium, Hexavalent	Annual Avg			0.65	0.37	0.43	1.24			0.23	0.20	0.19		0.12	
	Health Risk			97	55	64	186			34	29	28		18	
<i>para</i> -Dichlorobenzene	Annual Avg		0.23	0.22	0.19	0.14	0.20	0.10	0.11			0.13	0.15	0.17	
	Health Risk		15	15	12	9	13	7	7			8	10	11	
Formaldehyde	Annual Avg	4.05	3.59		3.66	3.92	4.58			4.72	6.07	4.14	4.87	5.48	
	Health Risk	30	26		27	29	34			35	45	30	36	40	
Methylene Chloride	Annual Avg	3.25	1.69	1.42	2.01	1.94	1.82	1.41	1.11	1.07		0.80	0.60	0.60	
	Health Risk	11	6	5	7	7	6	5	4	4		3	2	2	
Perchloroethylene	Annual Avg	1.19	0.79	0.61	0.62	0.66	0.49	0.44	0.37	0.50		0.37	0.30	0.25	
	Health Risk	48	31	24	25	26	19	18	15	20		15	12	10	
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	

* 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-17

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
Acetaldehyde	Annual Avg	2.68	2.78	2.50	2.89	2.35	1.28	2.33			1.43	0.84	1.45	1.30	1.39
	Health Risk	13	13	12	14	11	6	11			7	4	7	6	7
Benzene	Annual Avg	3.50	3.25	2.97	2.54	2.45	2.24	1.86		1.36	1.50	1.04	1.03		0.85
	Health Risk	324	301	275	235	227	207	173		126	139	97	95		79
1,3-Butadiene	Annual Avg	0.60	0.55	0.64	0.73	0.59	0.60	0.54		0.42	0.43	0.30	0.31		0.19
	Health Risk	226	206	242	276	221	225	204		158	162	111	118		70
Carbon Tetrachloride	Annual Avg	0.14	0.13				0.10	0.08		0.11		0.10	0.09		0.10
	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		0.13	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
	Health Risk		13	14	12	10	13	8				11	11		10
Formaldehyde	Annual Avg	3.50	3.00	2.30	3.23	3.54	4.13	5.87			3.88	2.42	4.30	4.32	3.79
	Health Risk	26	22	17	24	26	30	43			29	18	32	32	28
Methylene Chloride	Annual Avg	1.28	2.72	0.68	1.05	1.06	1.51	1.10		0.80	1.20	0.68	0.74		0.59
	Health Risk	4	9	2	4	4	5	4		3	4	2	3		2
Perchloroethylene	Annual Avg	0.55	0.60	0.54	0.59	0.50	0.57	0.50		0.23		0.19	0.18		0.11
	Health Risk	22	24	21	24	20	23	20		9		7	7		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

* 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-18

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
Acetaldehyde	Annual Avg	2.49	2.52		2.36	2.18	0.81		1.43			1.16	1.11		1.06
	Health Risk	12	12		11	11	4		7			6	5		5
Benzene	Annual Avg	3.53	2.45	2.60	1.99	2.04	1.69		1.24	1.16	1.11	1.00		0.71	0.71
	Health Risk	327	227	241	185	188	157		115	108	103	92		65	65
1,3-Butadiene	Annual Avg	0.59	0.44	0.52	0.58	0.45	0.45		0.36	0.34	0.32	0.28		0.20	0.14
	Health Risk	223	165	197	216	168	169		137	127	121	104		75	53
Carbon Tetrachloride	Annual Avg	0.14	0.13				0.10			0.12		0.10		0.09	0.09
	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		0.08	
	Health Risk			66	51	33	38		22	16	18	18		12	
<i>para</i> -Dichlorobenzene	Annual Avg		0.17	0.26	0.19	0.12	0.17		0.16			0.13		0.18	0.20
	Health Risk		11	17	13	8	11		10			8		12	13
Formaldehyde	Annual Avg	2.97	2.76		3.22	3.06	3.29		3.68			2.88	2.96		2.79
	Health Risk	22	20		24	23	24		27			21	22		21
Methylene Chloride	Annual Avg	2.05	0.88	1.00	1.15	0.84	0.98		0.74	0.60		0.65		0.27	0.31
	Health Risk	7	3	3	4	3	3		3	2		2		1	1
Perchloroethylene	Annual Avg	0.48	0.36	0.35	0.43	0.32	0.32		0.23	0.19		0.17		0.10	0.08
	Health Risk	19	14	14	17	13	13		9	8		7		4	3
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	193	185

* 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***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
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
	Health Risk	9	12	9	11	10	4	9			7	7	8	8	8
Benzene	Annual Avg	2.55	2.22	1.90	1.77	2.01	1.45	1.03			0.87	0.85	0.69		0.62
	Health Risk	236	206	176	164	186	134	95			80	79	63		58
1,3-Butadiene	Annual Avg	0.34	0.31	0.29	0.38	0.36	0.33	0.27			0.21	0.19	0.18		0.12
	Health Risk	128	117	110	143	136	125	100			78	72	66		44
Carbon Tetrachloride	Annual Avg	0.13	0.14				0.10	0.08				0.10	0.09		0.09
	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	0.35
	Health Risk			50	50	55	56	33			29	52		62	52
<i>para</i> -Dichlorobenzene	Annual Avg		0.13	0.13	0.16	0.12	0.17	0.11				0.14	0.15		0.17
	Health Risk		9	8	10	8	11	7				9	10		12
Formaldehyde	Annual Avg	1.75	2.70	1.53	2.73	2.50	2.65	4.15			3.55	3.17	4.73	4.36	4.18
	Health Risk	13	20	11	20	18	19	31			26	23	35	32	31
Methylene Chloride	Annual Avg		0.69	0.60	1.10	0.93	0.98	0.83			0.58	0.69	0.44		0.45
	Health Risk		2	2	4	3	3	3			2	2	2		2
Perchloroethylene	Annual Avg	0.24	0.28	0.20	0.20	0.19	0.18	0.18				0.13	0.11		0.06
	Health Risk	9	11	8	8	8	7	7				5	4		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

* 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

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
Acetaldehyde	Annual Avg														
	Health Risk														
Benzene	Annual Avg									0.98					
	Health Risk									91					
1,3-Butadiene	Annual Avg									0.24					
	Health Risk									92					
Carbon Tetrachloride	Annual Avg									0.11					
	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									0.18					
	Health Risk									7					
Diesel PM	Annual Avg	No Monitoring Data Available													
	Health Risk	No Monitoring Data Available													
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-21

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
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	2.70	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	0.35	0.34	0.31	0.39	0.34	0.31	0.26	0.25						
	Health Risk	131	128	116	147	126	117	97	95						
Carbon Tetrachloride	Annual Avg	0.13	0.14		0.10		0.10	0.08							
	Health Risk	35	36		27		26	20							
Chromium, Hexavalent	Annual Avg			0.22	0.16	0.16	0.20	0.12							
	Health Risk			33	24	24	30	17							
<i>para</i> -Dichlorobenzene	Annual Avg		0.13	0.14	0.14	0.10	0.13	0.10	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	5.20							
	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	1.70						
	Health Risk	5	6	3	3	3	4	2	6						
Perchloroethylene	Annual Avg	0.42	0.72	0.36	0.40	0.29	0.26	0.20	0.21						
	Health Risk	17	29	15	16	11	11	8	8						
Diesel PM	Annual Avg	No Monitoring Data Available													
	Health Risk	No Monitoring Data Available													
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-22

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
Acetaldehyde	Annual Avg	2.46	3.00	2.46	2.67	2.30	0.97	2.08	1.77	1.54	1.63	1.26	1.47	1.41	1.47
	Health Risk	12	15	12	13	11	5	10	9	7	8	6	7	7	7
Benzene	Annual Avg	3.42	2.91	2.61	2.17	2.40	1.89	1.45	1.34	1.25	1.20	0.97	0.86	0.77	0.75
	Health Risk	317	269	242	201	222	175	134	124	116	111	90	80	71	69
1,3-Butadiene	Annual Avg	0.53	0.45	0.50	0.57	0.50	0.46	0.39	0.38	0.35	0.33	0.25	0.25	0.21	0.15
	Health Risk	200	170	187	212	187	173	146	142	133	123	94	94	79	55
Carbon Tetrachloride	Annual Avg	0.14	0.13		0.11		0.10	0.08		0.11		0.10	0.09	0.09	0.09
	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		0.18	0.16
	Health Risk			59	43	43	69	27	25	22	22	27		27	24
<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
	Health Risk		11	13	11	8	11	7	9			9	10	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
	Health Risk	22	23	16	24	23	26	37	33	28	30	23	30	31	28
Methylene Chloride	Annual Avg	1.86	1.51	0.90	1.23	1.10	1.28	0.95	1.14	0.85	0.92	0.83	0.63	0.57	0.59
	Health Risk	6	5	3	4	4	4	3	4	3	3	3	2	2	2
Perchloroethylene	Annual Avg	0.58	0.55	0.41	0.45	0.39	0.36	0.32	0.27	0.26		0.21	0.18	0.15	0.11
	Health Risk	23	22	16	18	16	15	13	11	10		8	7	6	4
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

* 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-23

*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
Acetaldehyde	Annual Avg	1.28	1.60	1.02	1.28	1.23	0.35	0.88	0.65	0.72					0.69
	Health Risk	6	8	5	6	6	2	4	3	4					3
Benzene	Annual Avg	1.92	1.67	1.21	1.35	1.25	1.24	0.58		0.76	0.61	0.53	0.44	0.42	0.36
	Health Risk	178	155	112	125	116	115	54		71	57	49	41	39	33
1,3-Butadiene	Annual Avg	0.28	0.26	0.19	0.32	0.25	0.27	0.20		0.24	0.18	0.14	0.13	0.12	0.08
	Health Risk	106	97	72	120	95	101	75		90	66	51	50	43	29
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.11		0.10	0.08				0.10	0.09	0.09	0.10
	Health Risk	35	34		28		27	20				25	23	24	25
Chromium, Hexavalent	Annual Avg			0.20	0.19	0.21	0.20	0.11		0.10	0.10	0.10			0.05
	Health Risk			30	28	32	30	16		15	15	16			7
<i>para</i> -Dichlorobenzene	Annual Avg			0.11	0.11	0.10	0.12	0.10				0.10	0.13	0.15	0.16
	Health Risk			7	7	7	8	7				7	9	10	11
Formaldehyde	Annual Avg	1.84	1.98	1.30	1.37	1.78	2.02	2.16	1.79	1.96					2.15
	Health Risk	14	15	10	10	13	15	16	13	14					16
Methylene Chloride	Annual Avg	0.76	0.58	0.52	0.83	0.50	0.62	0.50				0.50	0.28	0.23	0.30
	Health Risk	3	2	2	3	2	2	2				2	1	1	1
Perchloroethylene	Annual Avg	0.19	0.21	0.13	0.11	0.09	0.12	0.07				0.08	0.06	0.05	0.04
	Health Risk	8	8	5	5	3	5	3				3	2	2	2
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	119	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-24

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
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	0.32	0.27	0.25	0.31	0.23	0.24	0.15	0.18	0.19	0.16				
	Health Risk	118	100	95	114	87	91	56	66	72	58				
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.11		0.10	0.08							
	Health Risk	34	33		29		27	22							
Chromium, Hexavalent	Annual Avg				0.19	0.18	0.21	0.11	0.11		0.10				
	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	2.30	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	0.50						
	Health Risk	2	2	2	2	2	2	2	2						
Perchloroethylene	Annual Avg	0.34	0.42	0.39	0.20	0.10	0.15	0.08	0.10						
	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-25

*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
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	1.70	1.44	1.00							
	Health Risk		177	143	163	157	133	92							
1,3-Butadiene	Annual Avg		0.27	0.26	0.39	0.31	0.30	0.25							
	Health Risk		102	98	148	116	113	94							
Carbon Tetrachloride	Annual Avg		0.12		0.11		0.10	0.08							
	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	0.10	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	0.50	0.54	0.65							
	Health Risk		2	2	2	2	2	2							
Perchloroethylene	Annual Avg		0.15	0.09	0.09	0.06	0.04	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-26

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
Acetaldehyde	Annual Avg										0.55				
	Health Risk										3				
Benzene	Annual Avg									0.56	0.42				
	Health Risk									52	39				
1,3-Butadiene	Annual Avg									0.15	0.12				
	Health Risk									56	45				
Carbon Tetrachloride	Annual Avg														
	Health Risk														
Chromium, Hexavalent	Annual Avg										0.10				
	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	No Monitoring Data Available													
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-27

San Francisco Bay Area Air Basin

San Francisco County: San Francisco - Arkansas Street

TAC	Conc./Risk**	Annual Average Concentrations and Health Risks													
		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Acetaldehyde	Annual Avg	1.32				0.98	0.40		0.75	0.54			0.57	0.54	0.68
	Health Risk	6				5	2		4	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	0.38		0.39
	Health Risk		138	116		99	88	49	48	59	61	45	35		36
1,3-Butadiene	Annual Avg		0.25	0.23		0.26	0.23	0.18	0.17	0.22	0.17	0.13	0.11		0.08
	Health Risk		95	88		97	85	68	62	81	65	48	42		32
Carbon Tetrachloride	Annual Avg		0.12				0.10	0.08				0.10	0.09		0.09
	Health Risk		33				26	21				25	23		25
Chromium, Hexavalent	Annual Avg				0.19	0.18	0.25	0.12	0.13	0.10		0.12		0.09	0.15
	Health Risk				29	26	37	18	19	15		18		13	22
<i>para</i> -Dichlorobenzene	Annual Avg		0.15	0.13		0.10	0.15	0.12	0.12			0.11	0.14		0.15
	Health Risk		10	9		7	10	8	8			7	9		10
Formaldehyde	Annual Avg	1.71				1.33	1.58		1.62	1.45			1.51	2.03	1.71
	Health Risk	13				10	12		12	11			11	15	13
Methylene Chloride	Annual Avg		3.22	0.88		0.60	0.63	0.66	0.50			0.60	0.26		0.17
	Health Risk		11	3		2	2	2	2			2	1		1
Perchloroethylene	Annual Avg		0.23	0.13		0.11	0.09	0.08	0.07			0.07	0.07		0.04
	Health Risk		9	5		4	4	3	3			3	3		1
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	127	31	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-28

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
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	0.70			
	Health Risk	280	226	188	175	174	144	89	86	97	68	65			
1,3-Butadiene	Annual Avg	0.55	0.39	0.44	0.49	0.39	0.35	0.31	0.29	0.29	0.23	0.19			
	Health Risk	207	145	164	182	145	131	117	108	110	85	72			
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.11		0.10	0.08				0.10			
	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	0.10	0.13			
	Health Risk			43	37	38	49	25	20	17	15	19			
<i>para</i> -Dichlorobenzene	Annual Avg			0.12	0.12	0.10	0.12	0.14	0.12			0.12			
	Health Risk			8	8	7	8	10	8			8			
Formaldehyde	Annual Avg	2.27	2.00	2.09	1.83	2.16	2.28	2.70	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	0.80	0.69	0.55	0.75			0.50			
	Health Risk	3	23	2	2	3	2	2	3			2			
Perchloroethylene	Annual Avg	0.16	0.15	0.10	0.09	0.06	0.07	0.07	0.10			0.09			
	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-29

*San Francisco Bay Area Air Basin***Santa Clara County: San Jose - Jackson Street**

TAC	Conc./Risk**	Annual Average Concentrations and Health Risks													
		1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Acetaldehyde	Annual Avg														0.84
	Health Risk														4
Benzene	Annual Avg														0.58
	Health Risk														53
1,3-Butadiene	Annual Avg														0.13
	Health Risk														49
Carbon Tetrachloride	Annual Avg														0.10
	Health Risk														25
Chromium, Hexavalent	Annual Avg														0.10
	Health Risk														15
<i>para</i> -Dichlorobenzene	Annual Avg														0.15
	Health Risk														10
Formaldehyde	Annual Avg														2.79
	Health Risk														21
Methylene Chloride	Annual Avg														0.19
	Health Risk														1
Perchloroethylene	Annual Avg														0.04
	Health Risk														2
Diesel PM	Annual Avg	No Monitoring Data Available													
	Health Risk														
Total Health Risk															180

* 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

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
Acetaldehyde	Annual Avg	1.30	1.40	1.03	1.31	1.17	0.42	0.83	0.73	0.65	0.76	0.68	0.73	0.63	0.74
	Health Risk	6	7	5	6	6	2	4	4	3	4	3	4	3	4
Benzene	Annual Avg	2.18	1.82	1.49	1.49	1.40	1.26	0.71	0.61	0.71	0.60	0.56	0.43	0.45	0.44
	Health Risk	202	169	138	138	129	116	66	56	66	55	52	39	42	41
1,3-Butadiene	Annual Avg	0.36	0.29	0.28	0.37	0.29	0.28	0.22	0.19	0.22	0.17	0.15	0.13	0.14	0.10
	Health Risk	135	108	103	138	108	104	82	70	82	64	56	50	51	37
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.11		0.10	0.08				0.09	0.09	0.09	0.10
	Health Risk	34	33		29		26	21				25	23	24	25
Chromium, Hexavalent	Annual Avg			0.23	0.20	0.19	0.25	0.13	0.12	0.10	0.10	0.12		0.07	0.10
	Health Risk			34	29	29	37	19	17	15	15	18		11	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
	Health Risk		8	8	8	7	8	9	8			7	9	10	10
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
	Health Risk	14	13	11	11	12	15	19	14	13	15	13	17	19	16
Methylene Chloride	Annual Avg	1.04	2.32	0.65	0.72	0.59	0.60	0.58	0.55			0.53	0.27	0.22	0.22
	Health Risk	4	8	2	2	2	2	2	2			2	1	1	1
Perchloroethylene	Annual Avg	0.20	0.23	0.17	0.13	0.08	0.09	0.07	0.07			0.08	0.06	0.05	0.04
	Health Risk	8	9	7	5	3	4	3	3			3	2	2	2
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	145	163	150

* 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-31

*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
Acetaldehyde	Annual Avg	1.87	1.83	1.60	2.00										
	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	0.39	0.31	0.24	0.33										
	Health Risk	146	115	90	123										
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.10										
	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	0.09	0.13	0.08	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-32

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
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	0.70	0.71	0.58	0.55	0.51	0.41
	Health Risk						106	72	53	65	66	54	51	47	37
1,3-Butadiene	Annual Avg						0.21	0.21	0.16	0.20	0.15	0.13	0.14	0.10	0.06
	Health Risk						78	79	60	75	58	47	52	37	24
Carbon Tetrachloride	Annual Avg						0.10	0.08				0.09	0.09	0.09	0.10
	Health Risk						26	21				25	23	24	25
Chromium, Hexavalent	Annual Avg						0.26	0.13	0.10	0.10	0.10	0.10		0.08	0.05
	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	0.50		0.50	0.58	0.26	0.10	0.11
	Health Risk						2	2	2		2	2	1	0	0
Perchloroethylene	Annual Avg						0.09	0.12	0.04			0.07	0.06	0.05	0.04
	Health Risk						4	5	2			3	2	2	1
Diesel PM	Annual Avg	No Monitoring Data Available													
	Health Risk	No Monitoring Data Available													
Total Health Risk							278	239	169	183	177	181	169	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-33

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
Acetaldehyde	Annual Avg		2.29		1.89	1.40	0.67			1.50		1.43	1.60	1.55	1.71
	Health Risk		11		9	7	3			7		7	8	8	8
Benzene	Annual Avg		2.42	1.34	1.35	1.44	1.24	0.79	1.00	0.83	0.80	0.73	0.61	0.63	0.55
	Health Risk		224	124	125	133	115	73	92	76	74	68	56	58	51
1,3-Butadiene	Annual Avg		0.46	0.26	0.34	0.36	0.30	0.23	0.23	0.27	0.21	0.20	0.18	0.19	0.13
	Health Risk		173	99	129	134	113	88	87	100	80	73	68	73	48
Carbon Tetrachloride	Annual Avg		0.12		0.11		0.10	0.08				0.10	0.09	0.09	0.10
	Health Risk		32		28		26	21				25	23	23	26
Chromium, Hexavalent	Annual Avg			0.21	0.15	0.14	0.22	0.10	0.11	0.10	0.10	0.13		0.06	0.05
	Health Risk			31	22	21	33	16	16	15	15	20		9	8
<i>para</i> -Dichlorobenzene	Annual Avg			0.10	0.10	0.14	0.13	0.11	0.14			0.10	0.14	0.15	0.15
	Health Risk			7	7	9	8	7	9			7	9	10	10
Formaldehyde	Annual Avg		2.32		1.64	2.01	2.41			3.42		3.56	4.32	4.16	3.72
	Health Risk		17		12	15	18			25		26	32	31	27
Methylene Chloride	Annual Avg		0.62	0.54	0.69	0.59	0.58	0.50	0.52			0.50	0.27	0.24	0.15
	Health Risk		2	2	2	2	2	2	2			2	1	1	1
Perchloroethylene	Annual Avg		0.14	0.10	0.10	0.06	0.07	0.04	0.04			0.06	0.05	0.03	0.03
	Health Risk		6	4	4	2	3	2	2			2	2	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	199	214	180

* 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-34

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
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-35

*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
Acetaldehyde	Annual Avg										1.65				
	Health Risk										8				
Benzene	Annual Avg	2.25	1.86	1.20	1.23	1.14	1.20	0.70	0.77	0.85	0.61				
	Health Risk	208	172	111	114	105	111	65	71	78	56				
1,3-Butadiene	Annual Avg	0.38	0.35	0.22	0.35	0.29	0.30	0.24	0.21	0.26	0.16				
	Health Risk	142	133	84	131	110	112	89	78	98	61				
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.11		0.09	0.07		0.11					
	Health Risk	34	35		30		25	20		30					
Chromium, Hexavalent	Annual Avg										0.10				
	Health Risk										15				
<i>para</i> -Dichlorobenzene	Annual Avg		0.11	0.10	0.12	0.10	0.11	0.10	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	0.50	0.59	0.51					
	Health Risk	2	2	2	2	2	2	2	2	2					
Perchloroethylene	Annual Avg	0.15	0.15	0.12	0.11	0.09	0.05	0.04	0.05	0.04					
	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-36

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
Acetaldehyde	Annual Avg	1.47	1.75	1.07	1.31	1.10		0.90	0.90	1.00	1.07	0.64	0.59	0.80	0.81
	Health Risk	7	9	5	6	5		4	4	5	5	3	3	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	0.45	0.52	0.44
	Health Risk	186	181	127		113	97	60	48	64	60	54	42	48	40
1,3-Butadiene	Annual Avg	0.34	0.32	0.22		0.28	0.25	0.21	0.18	0.21	0.18	0.16	0.13	0.15	0.10
	Health Risk	126	121	82		106	94	77	68	77	68	58	49	55	36
Carbon Tetrachloride	Annual Avg	0.13	0.14				0.10	0.08		0.12		0.10	0.09	0.09	0.10
	Health Risk	35	36				26	20		30		26	23	24	26
Chromium, Hexavalent	Annual Avg			0.22	0.25	0.25		0.14			0.10	0.12		0.12	0.13
	Health Risk			33	37	37		21			15	18		18	20
<i>para</i> -Dichlorobenzene	Annual Avg		0.10	0.10		0.10	0.11	0.10	0.11			0.11	0.13	0.15	0.15
	Health Risk		7	7		7	7	7	7			7	9	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
	Health Risk	13	14	9	10	12		17	16	17	20	12	11	15	14
Methylene Chloride	Annual Avg	0.63	0.50	0.60		0.50	0.75	0.53	0.50	0.50	0.50	0.53	0.27	0.14	0.16
	Health Risk	2	2	2		2	3	2	2	2	2	2	1	1	1
Perchloroethylene	Annual Avg	0.13	0.11	0.12		0.07	0.06	0.07	0.09	0.03		0.11	0.05	0.04	0.03
	Health Risk	5	5	5		3	2	3	4	1		4	2	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	140	176	152

* 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

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
Acetaldehyde	Annual Avg	1.94	1.84	1.38	1.73	1.29	0.54	1.28	1.19	1.30	1.56	1.09	1.15	1.24	1.34
	Health Risk	9	9	7	8	6	3	6	6	6	8	5	6	6	7
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	0.54	0.55	0.46
	Health Risk	227	196	126	122	123	107	68	66	71	64	58	50	51	43
1,3-Butadiene	Annual Avg	0.41	0.36	0.24	0.34	0.32	0.26	0.22	0.20	0.23	0.18	0.16	0.15	0.15	0.10
	Health Risk	154	135	89	127	121	99	83	73	88	67	59	56	55	36
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.11		0.10	0.08		0.11		0.10	0.09	0.09	0.10
	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	0.10	0.10	0.12		0.09	0.08
	Health Risk			34	31	29	42	20	16	15	15	18		13	12
<i>para</i> -Dichlorobenzene	Annual Avg		0.11	0.11	0.13	0.11	0.11	0.10	0.13			0.11	0.13	0.15	0.15
	Health Risk		7	7	9	7	8	7	9			7	9	10	10
Formaldehyde	Annual Avg	2.45	1.81	1.46	1.67	1.80	2.10	2.96	2.77	2.86	3.44	2.61	3.08	3.13	3.02
	Health Risk	18	13	11	12	13	15	22	20	21	25	19	23	23	22
Methylene Chloride	Annual Avg	0.76	0.59	0.55	0.76	0.59	0.61	0.54	0.53	0.52	0.50	0.53	0.27	0.16	0.14
	Health Risk	3	2	2	3	2	2	2	2	2	2	2	1	1	1
Perchloroethylene	Annual Avg	0.13	0.13	0.10	0.47	0.07	0.07	0.07	0.06	0.04		0.08	0.05	0.04	0.03
	Health Risk	5	5	4	19	3	3	3	2	2		3	2	2	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	170	185	158

* 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-38

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
Acetaldehyde	Annual Avg	1.10	1.21	0.99	1.16	1.32	0.64	0.83	0.91	0.70	0.91	0.75	0.78	0.75	0.72
	Health Risk	5	6	5	6	6	3	4	4	3	4	4	4	4	3
Benzene	Annual Avg	2.00	1.21	1.03	0.80	1.08	0.81		0.63	0.61		0.55	0.42	0.42	
	Health Risk	186	112	95	74	100	75		58	56		51	39	39	
1,3-Butadiene	Annual Avg	0.28	0.18	0.18	0.23	0.26	0.21		0.16	0.15		0.14	0.11	0.11	
	Health Risk	105	69	69	85	98	77		61	57		51	41	40	
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.10		0.10					0.09	0.09	0.09	
	Health Risk	35	34		27		26					25	23	24	
Chromium, Hexavalent	Annual Avg			0.24	0.20	0.17	0.20	0.11	0.10	0.10	0.11	0.10		0.05	0.06
	Health Risk			37	30	25	29	16	15	15	16	16		8	9
<i>para</i> -Dichlorobenzene	Annual Avg		0.10	0.11	0.13	0.12	0.11		0.13				0.15	0.15	
	Health Risk		7	7	8	8	7		8				10	10	
Formaldehyde	Annual Avg	1.26	1.30	1.10	1.46	2.08	1.81	2.10	2.37	2.00	2.49	2.14	2.54	2.56	2.30
	Health Risk	9	10	8	11	15	13	15	17	15	18	16	19	19	17
Methylene Chloride	Annual Avg	0.58	0.59	0.81	1.01	0.57	0.57		0.62			0.65	0.16	0.13	
	Health Risk	2	2	3	3	2	2		2			2	1	0	
Perchloroethylene	Annual Avg	0.24	0.23	0.21	0.14	0.13	0.15		0.10			0.08	0.06	0.05	
	Health Risk	9	9	8	6	5	6		4			3	2	2	
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	139	146	29

* 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 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
Acetaldehyde	Annual Avg	1.56	1.78	1.46	1.66			1.23			1.17	0.92	1.11	1.20	1.06
	Health Risk	8	9	7	8			6			6	4	5	6	5
Benzene	Annual Avg	2.50	2.20	1.94	1.51		1.14	0.86	0.89	0.91	0.98	0.74	0.59	0.56	0.56
	Health Risk	231	203	179	140		106	79	82	84	91	69	54	52	52
1,3-Butadiene	Annual Avg	0.39	0.33	0.33	0.40		0.28	0.25	0.24	0.24	0.24	0.18	0.16	0.13	0.10
	Health Risk	145	125	125	150		105	95	88	90	90	68	61	50	38
Carbon Tetrachloride	Annual Avg	0.13	0.13				0.10	0.08				0.10	0.09	0.09	0.09
	Health Risk	35	33				27	21				25	23	24	24
Chromium, Hexavalent	Annual Avg			0.24	0.18			0.10	0.11		0.10	0.10		0.04	0.04
	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
	Health Risk			8	8		8	7	8				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
	Health Risk	15	13	10	15			23			21	17	19	25	22
Methylene Chloride	Annual Avg	0.59	1.07	1.87	1.25		0.70	0.61	0.52		0.52	0.87	0.19	0.18	0.18
	Health Risk	2	4	7	4		2	2	2		2	3	1	1	1
Perchloroethylene	Annual Avg	0.33	0.31	0.32	0.26		0.35	0.17	0.15			0.10	0.07	0.07	0.06
	Health Risk	13	12	13	10		14	7	6			4	3	3	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	176	177	160

* 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
Acetaldehyde	Annual Avg	1.33	1.50	1.22	1.41	1.48	0.64	1.03	1.00	0.86	1.04	0.84	0.95	0.97	0.89
	Health Risk	6	7	6	7	7	3	5	5	4	5	4	5	5	4
Benzene	Annual Avg	2.25	1.70	1.48	1.16	1.39	0.98	0.76	0.76	0.76	0.86	0.65	0.51	0.49	0.48
	Health Risk	208	158	137	107	129	90	71	70	70	79	60	47	45	45
1,3-Butadiene	Annual Avg	0.33	0.26	0.26	0.31	0.31	0.24	0.21	0.20	0.20	0.22	0.16	0.14	0.12	0.09
	Health Risk	125	97	97	117	115	91	78	75	74	83	60	51	45	33
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.10		0.10	0.08				0.09	0.09	0.09	0.09
	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	0.10	0.10	0.10		0.05	0.05
	Health Risk			36	28	23	27	16	16	15	15	15		7	8
<i>para</i> -Dichlorobenzene	Annual Avg		0.10	0.11	0.13	0.15	0.12	0.11	0.13				0.15	0.15	0.15
	Health Risk		7	8	8	10	8	7	8				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
	Health Risk	12	11	9	13	17	16	19	19	17	20	16	19	22	20
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
	Health Risk	2	3	5	4	3	2	2	2		2	3	1	1	1
Perchloroethylene	Annual Avg	0.28	0.27	0.26	0.20	0.21	0.25	0.15	0.13			0.09	0.06	0.06	0.05
	Health Risk	11	11	11	8	8	10	6	5			4	2	2	2
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	158	161	148

* 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

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
Acetaldehyde	Annual Avg				1.55	1.11	0.54	1.15	1.17	0.96	1.41	0.89	1.10	1.33	1.14
	Health Risk				8	5	3	6	6	5	7	4	5	6	6
Benzene	Annual Avg				1.10	1.14	0.85	0.67		0.55	0.64	0.52	0.50	0.54	0.45
	Health Risk				102	106	78	62		51	59	48	46	50	42
1,3-Butadiene	Annual Avg				0.30	0.25	0.21	0.22		0.17	0.15	0.14	0.16	0.15	0.11
	Health Risk				111	94	77	81		64	56	54	59	58	42
Carbon Tetrachloride	Annual Avg				0.11		0.10	0.08					0.09	0.09	0.09
	Health Risk				29		26	21					23	23	24
Chromium, Hexavalent	Annual Avg				0.15	0.13	0.16	0.10	0.10	0.10	0.10	0.10	0.10	0.06	0.05
	Health Risk				23	19	24	16	15	15	15	15	15	9	7
<i>para</i> -Dichlorobenzene	Annual Avg				0.10	0.13	0.10	0.12					0.13	0.15	0.15
	Health Risk				7	8	7	8					9	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
	Health Risk				15	13	15	22	25	19	31	20	24	33	28
Methylene Chloride	Annual Avg				0.81	0.50	0.53	0.58					0.36	0.09	0.07
	Health Risk				3	2	2	2					1	0	0
Perchloroethylene	Annual Avg				0.06	0.27	0.05	0.05					0.02	0.02	0.02
	Health Risk				2	11	2	2					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	183	190	160

* 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

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
Acetaldehyde	Annual Avg	1.27													
	Health Risk	6													
Benzene	Annual Avg	1.96	1.91												
	Health Risk	182	177												
1,3-Butadiene	Annual Avg	0.40	0.36												
	Health Risk	151	136												
Carbon Tetrachloride	Annual Avg	0.12	0.12												
	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	0.05	0.05												
	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-43

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
Acetaldehyde	Annual Avg					0.96	0.25	0.90	0.93	0.88		0.77	0.39	0.95	0.93
	Health Risk					5	1	4	4	4		4	2	5	5
Benzene	Annual Avg					0.91	0.75	0.44	0.46	0.45	0.48	0.39	0.34	0.34	0.36
	Health Risk					84	70	40	42	42	44	36	32	32	34
1,3-Butadiene	Annual Avg					0.19	0.17	0.14	0.12	0.14	0.11	0.10	0.09	0.08	0.08
	Health Risk					73	63	51	46	52	40	36	35	29	29
Carbon Tetrachloride	Annual Avg						0.10	0.08				0.09	0.09	0.09	0.09
	Health Risk						26	20				25	23	24	25
Chromium, Hexavalent	Annual Avg					0.13	0.19	0.11	0.10	0.10	0.10	0.10		0.05	0.05
	Health Risk					19	29	16	15	15	15	15		7	8
<i>para</i> -Dichlorobenzene	Annual Avg					0.28	0.17	0.10	0.15			0.10	0.13	0.15	0.15
	Health Risk					19	11	7	10			7	9	10	10
Formaldehyde	Annual Avg					1.71	1.78	2.52	2.42	2.42		2.25	1.57	3.12	3.23
	Health Risk					13	13	19	18	18		17	12	23	24
Methylene Chloride	Annual Avg					0.82	0.54	0.50	0.50			0.52	0.23	0.08	0.09
	Health Risk					3	2	2	2			2	1	0	0
Perchloroethylene	Annual Avg					0.07	0.05	0.06	0.06			0.05	0.03	0.03	0.02
	Health Risk					3	2	2	3			2	1	1	1
Diesel PM	Annual Avg	No Monitoring Data Available													
	Health Risk														
Total Health Risk						219	217	161	140	131	99	144	115	131	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.

Table C-44

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
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	0.35	0.30	0.31											
	Health Risk	133	114	115											
Carbon Tetrachloride	Annual Avg	0.12	0.12												
	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	0.50											
	Health Risk	3	2	2											
Perchloroethylene	Annual Avg	0.10	0.09	0.08											
	Health Risk	4	4	3											
Diesel PM	Annual Avg	No Monitoring Data Available													
	Health Risk	No Monitoring Data Available													
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-45

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
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
	Health Risk	6			7	5	2	5	5	4	6	4	4	6	5
Benzene	Annual Avg	2.02	1.88	1.35	1.00	1.02	0.80	0.56	0.55	0.50	0.56	0.45	0.42	0.44	0.41
	Health Risk	187	174	125	92	95	74	51	51	47	52	42	39	41	38
1,3-Butadiene	Annual Avg	0.38	0.33	0.28	0.29	0.22	0.19	0.18	0.16	0.15	0.13	0.12	0.13	0.12	0.09
	Health Risk	142	125	106	108	83	70	66	60	58	48	45	47	44	35
Carbon Tetrachloride	Annual Avg	0.12	0.12		0.11		0.10	0.08				0.09	0.09	0.09	0.09
	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	0.10	0.10	0.10	0.10	0.10	0.05	0.05
	Health Risk			26	21	19	26	16	15	15	15	15	15	8	8
<i>para</i> -Dichlorobenzene	Annual Avg			0.11	0.10	0.20	0.14	0.11	0.14			0.10	0.13	0.15	0.15
	Health Risk			7	7	14	9	7	10			7	9	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
	Health Risk	12			13	13	14	20	22	19	27	18	18	28	26
Methylene Chloride	Annual Avg	0.65	0.56	0.55	0.98	0.66	0.53	0.54	0.52		0.60	0.57	0.29	0.08	0.08
	Health Risk	2	2	2	3	2	2	2	2		2	2	1	0	0
Perchloroethylene	Annual Avg	0.07	0.07	0.06	0.05	0.17	0.05	0.06	0.05			0.06	0.03	0.03	0.02
	Health Risk	3	3	3	2	7	2	2	2			2	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	148

* 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.

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