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**APPENDIX C**

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

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**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 populated 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. As in Chapter 5, ten toxic air contaminants are included: acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, chromium (hexavalent), *para*-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (diesel PM). These are the ten TACs for which ambient air quality data, primarily, indicate the most substantial health risk in California. There may be other TACs that pose a substantial risk, but for which data are not available, or which have not been identified as a concern.

The countywide emissions data represent tons per year for the 2002 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 air pollution control 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 usually developed by ARB staff. Finally, the on-road mobile source emission estimates are based on the current model, EMFAC 2002, version 2.2. Again, the emission estimates have been speciated for toxics.

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Readers may note that the diesel PM emission estimates differ from those presented in the ARB's October 2000 report titled: "*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. We will continue to refine estimates of diesel PM emissions as we develop the regulations identified in the Diesel Risk Reduction Plan. Even with these differences, the statewide emission estimates for diesel PM compare favorably.

In addition to the emissions data, the air quality and health risk data cover the time period of 1990 through 2001. 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 reflect data collected only at monitoring sites operated by the Air Resources Board.

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

**Great Basin Valleys Air Basin**

<b>TAC</b>	<b>Alpine</b>	<b>Inyo</b>	<b>Mono</b>
Acetaldehyde	7	15	31
Benzene	24	17	55
1,3-Butadiene	6	4	14
Carbon Tetrachloride	0	0	0
Chromium (Hexavalent)	< .01	0.02	0.02
para-DiChlorobenzene	< 1	< 1	< 1
Formaldehyde	24	28	72
Methylene Chloride	< 1	2	1
Perchloroethylene	< 1	4	3
Diesel PM	0	18	14

Table C-1

**Lake County Air Basin**

<b>TAC</b>	<b>Lake</b>
Acetaldehyde	41
Benzene	80
1,3-Butadiene	20
Carbon Tetrachloride	0
Chromium (Hexavalent)	< .01
para-DiChlorobenzene	3
Formaldehyde	93
Methylene Chloride	8
Perchloroethylene	12
Diesel PM	54

Table C-2

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

### Lake Tahoe Air Basin

TAC	El Dorado <sup>1</sup>	Placer <sup>1</sup>
Acetaldehyde	38	18
Benzene	37	13
1,3-Butadiene	10	3
Carbon Tetrachloride	< .01	0
Chromium (Hexavalent)	< .01	< .01
para-DiChlorobenzene	2	< 1
Formaldehyde	75	28
Methylene Chloride	5	3
Perchloroethylene	6	2
Diesel PM	32	5

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

Table C-3

### Mojave Desert Air Basin

TAC	Kern <sup>1</sup>	Los Angeles <sup>1</sup>	Riverside <sup>1</sup>	San Bernardino <sup>1</sup>
Acetaldehyde	110	64	7	149
Benzene	95	90	9	249
1,3-Butadiene	42	21	2	52
Carbon Tetrachloride	< .01	0	0	< .01
Chromium (Hexavalent)	0.30	0.04	< .01	0.05
para-DiChlorobenzene	6	18	1	23
Formaldehyde	333	170	18	426
Methylene Chloride	14	95	4	76
Perchloroethylene	14	51	5	112
Diesel PM	132	241	13	398

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

Table C-4

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

<b>TAC</b>	<b>Amador</b>	<b>Calaveras</b>	<b>El Dorado<sup>1</sup></b>	<b>Mariposa</b>	<b>Nevada</b>	<b>Placer<sup>1</sup></b>	<b>Plumas</b>	<b>Sierra</b>	<b>Tuolumne</b>
Acetaldehyde	34	45	81	25	106	17	66	12	58
Benzene	52	79	90	44	89	23	149	38	103
1,3-Butadiene	17	24	21	11	22	6	47	11	27
Carbon Tetrachloride	0	0	0	0	0	0	0	0	0
Chromium (Hexavalent)	< .01	< .01	< .01	< .01	< .01	< .01	< .01	< .01	0.09
para-DiChlorobenzene	2	2	7	< 1	5	1	1	< 1	3
Formaldehyde	71	100	145	56	176	35	174	38	137
Methylene Chloride	5	5	16	2	20	6	3	< 1	9
Perchloroethylene	5	7	18	3	15	5	4	< 1	9
Diesel PM	34	38	60	17	70	28	49	4	55

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

Table C-5

**North Central Coast Air Basin**

<b>TAC</b>	<b>Monterey</b>	<b>San Benito</b>	<b>Santa Cruz</b>
Acetaldehyde	103	16	64
Benzene	204	22	94
1,3-Butadiene	61	13	18
Carbon Tetrachloride	< .01	0	0
Chromium (Hexavalent)	0.02	< .01	< .01
para-DiChlorobenzene	21	3	13
Formaldehyde	267	37	133
Methylene Chloride	75	8	53
Perchloroethylene	88	10	75
Diesel PM	302	62	146

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 <sup>1</sup>	Trinity
Acetaldehyde	22	91	67	29	20
Benzene	16	90	73	64	31
1,3-Butadiene	16	25	17	13	14
Carbon Tetrachloride	0	0	0	0	0
Chromium (Hexavalent)	< .01	0.01	0.01	0.04	< .01
para-DiChlorobenzene	2	7	5	3	< 1
Formaldehyde	36	164	127	71	41
Methylene Chloride	4	18	14	12	2
Perchloroethylene	6	29	21	14	3
Diesel PM	40	222	166	86	12

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

Table C-7

### Northeast Plateau Air Basin

TAC	Lassen	Modoc	Siskiyou
Acetaldehyde	60	21	80
Benzene	98	11	99
1,3-Butadiene	23	5	64
Carbon Tetrachloride	0	0	0
Chromium (Hexavalent)	< .01	< .01	< .01
para-DiChlorobenzene	2	< 1	2
Formaldehyde	133	34	156
Methylene Chloride	4	1	6
Perchloroethylene	6	2	9
Diesel PM	56	49	105

Table C-8

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

<b>TAC</b>	<b>Butte</b>	<b>Colusa</b>	<b>Glenn</b>	<b>Placer<sup>1</sup></b>	<b>Sacramento</b>	<b>Shasta</b>	<b>Solano<sup>1</sup></b>	<b>Sutter</b>	<b>Tehama</b>	<b>Yolo</b>	<b>Yuba</b>
Acetaldehyde	101	16	24	81	221	140	32	40	48	63	44
Benzene	135	35	41	118	372	157	88	68	38	73	53
1,3-Butadiene	39	19	17	25	75	44	13	11	11	15	20
Carbon Tetrachloride	0	0	0	0	0.06	0	< .01	0	< .01	0	0
Chromium (Hexavalent)	< .01	< .01	0.03	< .01	0.04	0.03	< .01	0.03	< .01	0.02	0.02
para-DiChlorobenzene	11	1	1	11	65	9	6	4	3	9	3
Formaldehyde	256	59	87	195	537	274	82	108	80	134	117
Methylene Chloride	33	2	3	48	182	22	16	10	7	25	8
Perchloroethylene	32	3	4	34	197	32	14	12	10	25	9
Diesel PM	230	75	89	182	784	211	129	206	112	320	79

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

Table C-9

**Salton Sea Air Basin**

<b>TAC</b>	<b>Imperial</b>	<b>Riverside<sup>1</sup></b>
Acetaldehyde	95	39
Benzene	129	76
1,3-Butadiene	39	17
Carbon Tetrachloride	0	0
Chromium (Hexavalent)	0.04	< .01
para-DiChlorobenzene	8	17
Formaldehyde	280	102
Methylene Chloride	19	62
Perchloroethylene	26	43
Diesel PM	240	153

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

Table C-10

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

### San Diego Air Basin

TAC	San Diego
Acetaldehyde	526
Benzene	947
1,3-Butadiene	224
Carbon Tetrachloride	0.09
Chromium (Hexavalent)	0.22
para-DiChlorobenzene	154
Formaldehyde	1362
Methylene Chloride	393
Perchloroethylene	624
Diesel PM	1800

Table C-11

### San Francisco Bay Area Air Basin

TAC	Alameda	Contra Costa	Marin	Napa	San Francisco	San Mateo	Santa Clara	Solano <sup>1</sup>	Sonoma <sup>1</sup>
Acetaldehyde	280	172	55	35	150	162	268	174	95
Benzene	438	353	127	69	214	260	545	153	142
1,3-Butadiene	90	66	27	14	40	65	107	67	28
Carbon Tetrachloride	< .01	1.31	< .01	< .01	0	< .01	< .01	0	< .01
Chromium (Hexavalent)	0.06	0.02	0.01	< .01	< .01	0.05	0.04	0.20	< .01
para-DiChlorobenzene	76	49	13	7	42	38	91	15	21
Formaldehyde	631	480	143	87	351	435	720	527	205
Methylene Chloride	265	142	37	20	130	140	458	51	57
Perchloroethylene	191	108	39	13	114	109	226	26	45
Diesel PM	976	732	176	117	848	429	971	169	317

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

Table C-12

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

#### San Joaquin Valley Air Basin

TAC	Fresno	Kern	Kings	Madera	Merced	San Joaquin	Stanislaus	Tulare
Acetaldehyde	254	283	109	63	81	169	127	149
Benzene	342	821	74	89	107	252	173	171
1,3-Butadiene	84	90	40	25	38	57	53	109
Carbon Tetrachloride	< .01	< .01	0	0	0	0	0	0
Chromium (Hexavalent)	0.08	0.05	0.02	0.08	< .01	0.04	0.03	0.03
para-DiChlorobenzene	44	35	7	7	12	31	25	20
Formaldehyde	599	1530	320	169	191	415	298	351
Methylene Chloride	150	74	15	18	31	93	72	54
Perchloroethylene	136	83	20	20	38	92	74	60
Diesel PM	1157	898	232	244	342	734	494	566

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

Table C-13

#### South Central Coast Air Basin

TAC	San Luis Obispo	Santa Barbara	Ventura
Acetaldehyde	84	115	127
Benzene	127	352	290
1,3-Butadiene	36	44	47
Carbon Tetrachloride	0	< .01	0.05
Chromium (Hexavalent)	< .01	0.02	0.03
para-DiChlorobenzene	13	22	40
Formaldehyde	206	597	385
Methylene Chloride	43	104	169
Perchloroethylene	61	81	109
Diesel PM	270	354	500

Table C-14

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

### South Coast Air Basin

TAC	Los Angeles <sup>1</sup>	Orange	Riverside <sup>1</sup>	San Bernardino <sup>1</sup>
Acetaldehyde	923	327	187	196
Benzene	2628	883	403	431
1,3-Butadiene	509	159	87	97
Carbon Tetrachloride	1.83	0.08	0.02	< .01
Chromium (Hexavalent)	0.45	0.06	0.04	0.02
para-DiChlorobenzene	489	153	66	70
Formaldehyde	3173	1019	567	561
Methylene Chloride	2580	1021	253	456
Perchloroethylene	1783	625	173	199
Diesel PM	4563	1822	907	741

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

Table C-15

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## *Air Quality and Health Risk*

The air quality and health risk data in the following tables cover the time period of 1990 through 2001. Annual average concentrations and health risks are listed by site for California's five most populated air basins. Data are included for the ten TACs posing the most substantial health risk in California, based primarily on ambient air quality data. These compounds are: acetaldehyde, benzene, 1,3-butadiene, carbon tetrachloride, chromium (hexavalent), *para*-dichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter.

The ambient data for all TACs except diesel particulate matter are based on concentrations measured at sites in California's TAC monitoring network. For diesel particulate matter, the ARB made a preliminary estimation of concentrations for the State's fifteen air basins using a particulate matter-based exposure method. The method uses the ARB emission inventory's PM<sub>10</sub> database, ambient PM<sub>10</sub> 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 particulate matter. Details on the method and the resulting estimates can be found in the ARB report entitled: "*Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant -- Appendix III Part A Exposure Assessment,*" (April 1998).

Numerous factors influence the ambient measurements, and a number of assumptions are embodied in the summary statistics. These factors are described in Chapter I 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. Therefore, 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
Acetaldehyde	Annual Avg											1.10	1.31
	Health Risk											5	
Benzene	Annual Avg											0.69	
	Health Risk											64	
1,3-Butadiene	Annual Avg											0.14	
	Health Risk											55	
Carbon Tetrachloride	Annual Avg											0.09	
	Health Risk											24	
Chromium (Hexavalent)	Annual Avg											0.12	
	Health Risk											19	
<i>para</i> -Dichlorobenzene	Annual Avg											0.10	
	Health Risk											7	
Formaldehyde	Annual Avg											3.05	3.80
	Health Risk											22	28
Methylene Chloride	Annual Avg											1.32	
	Health Risk											5	
Perchloroethylene	Annual Avg											0.18	
	Health Risk											7	
Diesel PM	Annual Avg	No Monitoring Data Available											
	Health Risk	No Monitoring Data Available											
<b>Total Health Risk</b>												<b>208</b>	<b>34</b>

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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
Acetaldehyde	Annual Avg	3.16	3.89		3.06	2.46	0.79			1.94	2.70	1.70	1.93
	Health Risk	15	19		15	12	4			9	13	8	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
	Health Risk	444	362	319	244	308	227	177	137	154	151	117	98
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
	Health Risk	294	234	272	282	283	227	192	158	182	181	130	123
Carbon Tetrachloride	Annual Avg	0.14	0.13				0.10	0.08		0.11		0.09	0.09
	Health Risk	37	35				28	22		30		25	23
Chromium (Hexavalent)	Annual Avg			0.65	0.37	0.43	1.24			0.23	0.20	0.19	
	Health Risk			97	55	64	186			34	29	28	
<i>para</i> -Dichlorobenzene	Annual Avg		0.23	0.22	0.19	0.14	0.20	0.10	0.11			0.13	0.15
	Health Risk		15	15	12	9	13	7	7			8	10
Formaldehyde	Annual Avg	4.05	3.59		3.66	3.92	4.58			4.72	6.07	4.14	4.87
	Health Risk	30	26		27	29	34			35	45	30	36
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
	Health Risk	11	6	5	7	7	6	5	4	4		3	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
	Health Risk	48	31	24	25	26	19	18	15	20		15	12
Diesel PM	Annual Avg	No Monitoring Data Available											
	Health Risk	No Monitoring Data Available											
<b>Total Health Risk</b>		<b>879</b>	<b>728</b>	<b>732</b>	<b>667</b>	<b>738</b>	<b>744</b>	<b>421</b>	<b>321</b>	<b>468</b>	<b>419</b>	<b>364</b>	<b>313</b>

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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
Acetaldehyde	Annual Avg	2.68	2.78	2.50	2.89	2.35	1.28	2.33			1.43	0.84	1.45
	Health Risk	13	13	12	14	11	6	11			7	4	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
	Health Risk	324	301	275	235	227	207	173		126	139	97	95
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
	Health Risk	226	206	242	276	221	225	204		158	162	111	118
Carbon Tetrachloride	Annual Avg	0.14	0.13				0.10	0.08		0.11		0.10	0.09
	Health Risk	36	35				27	21		30		26	23
Chromium (Hexavalent)	Annual Avg				0.24	0.27	0.23	0.17			0.11	0.13	
	Health Risk				36	40	35	25			16	19	
<i>para</i> -Dichlorobenzene	Annual Avg		0.19	0.22	0.19	0.16	0.19	0.12				0.16	0.17
	Health Risk		13	14	12	10	13	8				11	11
Formaldehyde	Annual Avg	3.50	3.00	2.30	3.23	3.54	4.13	5.87			3.88	2.42	4.30
	Health Risk	26	22	17	24	26	30	43			29	18	32
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
	Health Risk	4	9	2	4	4	5	4		3	4	2	3
Perchloroethylene	Annual Avg	0.55	0.60	0.54	0.59	0.50	0.57	0.50		0.23		0.19	0.18
	Health Risk	22	24	21	24	20	23	20		9		7	7
Diesel PM	Annual Avg	No Monitoring Data Available											
	Health Risk	No Monitoring Data Available											
<b>Total Health Risk</b>		<b>651</b>	<b>623</b>	<b>583</b>	<b>625</b>	<b>559</b>	<b>571</b>	<b>509</b>		<b>326</b>	<b>357</b>	<b>295</b>	<b>296</b>

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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
Acetaldehyde	Annual Avg	2.49	2.52		2.36	2.18	0.81		1.43			1.16	1.11
	Health Risk	12	12		11	11	4		7			6	5
Benzene	Annual Avg	3.53	2.45	2.60	1.99	2.04	1.69		1.24	1.16	1.11	1.00	
	Health Risk	327	227	241	185	188	157		115	108	103	92	
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	
	Health Risk	223	165	197	216	168	169		137	127	121	104	
Carbon Tetrachloride	Annual Avg	0.14	0.13				0.10			0.12		0.10	
	Health Risk	37	34				26			31		26	
Chromium (Hexavalent)	Annual Avg			0.44	0.34	0.22	0.25		0.15	0.11	0.12	0.12	
	Health Risk			66	51	33	38		22	16	18	18	
<i>para</i> -Dichlorobenzene	Annual Avg		0.17	0.26	0.19	0.12	0.17		0.16			0.13	
	Health Risk		11	17	13	8	11		10			8	
Formaldehyde	Annual Avg	2.97	2.76		3.22	3.06	3.29		3.68			2.88	2.96
	Health Risk	22	20		24	23	24		27			21	22
Methylene Chloride	Annual Avg	2.05	0.88	1.00	1.15	0.84	0.98		0.74	0.60		0.65	
	Health Risk	7	3	3	4	3	3		3	2		2	
Perchloroethylene	Annual Avg	0.48	0.36	0.35	0.43	0.32	0.32		0.23	0.19		0.17	
	Health Risk	19	14	14	17	13	13		9	8		7	
Diesel PM	Annual Avg	No Monitoring Data Available											
	Health Risk	No Monitoring Data Available											
<b>Total Health Risk</b>		<b>647</b>	<b>486</b>	<b>538</b>	<b>521</b>	<b>447</b>	<b>445</b>		<b>330</b>	<b>292</b>	<b>242</b>	<b>284</b>	<b>27</b>

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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
Acetaldehyde	Annual Avg	1.87	2.54	1.86	2.19	2.08	0.89	1.84			1.36	1.49	1.58
	Health Risk	9	12	9	11	10	4	9			7	7	8
Benzene	Annual Avg	2.55	2.22	1.90	1.77	2.01	1.45	1.03			0.87	0.85	0.69
	Health Risk	236	206	176	164	186	134	95			80	79	63
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
	Health Risk	128	117	110	143	136	125	100			78	72	66
Carbon Tetrachloride	Annual Avg	0.13	0.14				0.10	0.08				0.10	0.09
	Health Risk	34	36				27	21				25	23
Chromium (Hexavalent)	Annual Avg			0.33	0.33	0.36	0.38	0.22			0.19	0.35	
	Health Risk			50	50	55	56	33			29	52	
<i>para</i> -Dichlorobenzene	Annual Avg		0.13	0.13	0.16	0.12	0.17	0.11				0.14	0.15
	Health Risk		9	8	10	8	11	7				9	10
Formaldehyde	Annual Avg	1.75	2.70	1.53	2.73	2.50	2.65	4.15			3.55	3.17	4.73
	Health Risk	13	20	11	20	18	19	31			26	23	35
Methylene Chloride	Annual Avg		0.69	0.60	1.10	0.93	0.98	0.83			0.58	0.69	0.44
	Health Risk		2	2	4	3	3	3			2	2	2
Perchloroethylene	Annual Avg	0.24	0.28	0.20	0.20	0.19	0.18	0.18				0.13	0.11
	Health Risk	9	11	8	8	8	7	7				5	4
Diesel PM	Annual Avg	No Monitoring Data Available											
	Health Risk	No Monitoring Data Available											
<b>Total Health Risk</b>		<b>429</b>	<b>413</b>	<b>374</b>	<b>410</b>	<b>424</b>	<b>386</b>	<b>306</b>			<b>222</b>	<b>274</b>	<b>211</b>

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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
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											
<b>Total Health Risk</b>										<b>222</b>			

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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
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											
<b>Total Health Risk</b>		<b>468</b>	<b>499</b>	<b>400</b>	<b>442</b>	<b>402</b>	<b>376</b>	<b>302</b>	<b>221</b>				

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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
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
	Health Risk	12	15	12	13	11	5	10	9	7	8	6	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
	Health Risk	317	269	242	201	222	175	134	124	116	111	90	80
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
	Health Risk	200	170	187	212	187	173	146	142	133	123	94	94
Carbon Tetrachloride	Annual Avg	0.14	0.13		0.11		0.10	0.08		0.11		0.10	0.09
	Health Risk	36	35		28		27	21		30		25	23
Chromium (Hexavalent)	Annual Avg			0.39	0.29	0.29	0.46	0.18	0.17	0.15	0.14	0.18	
	Health Risk			59	43	43	69	27	25	22	22	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
	Health Risk		11	13	11	8	11	7	9			9	10
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
	Health Risk	22	23	16	24	23	26	37	33	28	30	23	30
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
	Health Risk	6	5	3	4	4	4	3	4	3	3	3	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
	Health Risk	23	22	16	18	16	15	13	11	10		8	7
Diesel PM***	Annual Avg	(3.6)					(2.7)					(2.4)	
	Health Risk	(1080)					(810)					(720)	
<b>Average Basin Health Risk</b>		<b>616</b>	<b>550</b>	<b>548</b>	<b>554</b>	<b>514</b>	<b>505</b>	<b>398</b>	<b>357</b>	<b>349</b>	<b>297</b>	<b>285</b>	<b>253</b>

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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
Acetaldehyde	Annual Avg	1.28	1.60	1.02	1.28	1.23	0.35	0.88	0.65	0.72			
	Health Risk	6	8	5	6	6	2	4	3	4			
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
	Health Risk	178	155	112	125	116	115	54		71	57	49	41
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
	Health Risk	106	97	72	120	95	101	75		90	66	51	50
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.11		0.10	0.08				0.10	0.09
	Health Risk	35	34		28		27	20				25	23
Chromium (Hexavalent)	Annual Avg			0.20	0.19	0.21	0.20	0.11		0.10	0.10	0.10	
	Health Risk			30	28	32	30	16		15	15	16	
<i>para</i> -Dichlorobenzene	Annual Avg			0.11	0.11	0.10	0.12	0.10				0.10	0.13
	Health Risk			7	7	7	8	7				7	9
Formaldehyde	Annual Avg	1.84	1.98	1.30	1.37	1.78	2.02	2.16	1.79	1.96			
	Health Risk	14	15	10	10	13	15	16	13	14			
Methylene Chloride	Annual Avg	0.76	0.58	0.52	0.83	0.50	0.62	0.50				0.50	0.28
	Health Risk	3	2	2	3	2	2	2				2	1
Perchloroethylene	Annual Avg	0.19	0.21	0.13	0.11	0.09	0.12	0.07				0.08	0.06
	Health Risk	8	8	5	5	3	5	3				3	2
Diesel PM	Annual Avg	No Monitoring Data Available											
	Health Risk	No Monitoring Data Available											
<b>Total Health Risk</b>		<b>350</b>	<b>319</b>	<b>243</b>	<b>332</b>	<b>274</b>	<b>305</b>	<b>197</b>	<b>16</b>	<b>194</b>	<b>138</b>	<b>153</b>	<b>126</b>

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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
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											
<b>Total Health Risk</b>		<b>360</b>	<b>299</b>	<b>253</b>	<b>316</b>	<b>248</b>	<b>287</b>	<b>172</b>	<b>169</b>	<b>125</b>	<b>149</b>		

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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 - 13<sup>th</sup> Street

Annual Average Concentrations and Health Risks													
TAC	Conc./ Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
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											
<b>Total Health Risk</b>			<b>329</b>	<b>295</b>	<b>354</b>	<b>321</b>	<b>340</b>	<b>276</b>					

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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
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											
<b>Total Health Risk</b>										<b>108</b>	<b>111</b>		

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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

Annual Average Concentrations and Health Risks													
TAC	Conc./ Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Acetaldehyde	Annual Avg	1.32				0.98	0.40		0.75	0.54			0.57
	Health Risk	6				5	2		4	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
	Health Risk		138	116		99	88	49	48	59	61	45	35
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
	Health Risk		95	88		97	85	68	62	81	65	48	42
Carbon Tetrachloride	Annual Avg		0.12				0.10	0.08				0.10	0.09
	Health Risk		33				26	21				25	23
Chromium (Hexavalent)	Annual Avg				0.19	0.18	0.25	0.12	0.13	0.10		0.12	
	Health Risk				29	26	37	18	19	15		18	
<i>para</i> -Dichlorobenzene	Annual Avg		0.15	0.13		0.10	0.15	0.12	0.12			0.11	0.14
	Health Risk		10	9		7	10	8	8			7	9
Formaldehyde	Annual Avg	1.71				1.33	1.58		1.62	1.45			1.51
	Health Risk	13				10	12		12	11			11
Methylene Chloride	Annual Avg		3.22	0.88		0.60	0.63	0.66	0.50			0.60	0.26
	Health Risk		11	3		2	2	2	2			2	1
Perchloroethylene	Annual Avg		0.23	0.13		0.11	0.09	0.08	0.07			0.07	0.07
	Health Risk		9	5		4	4	3	3			3	3
Diesel PM	Annual Avg	No Monitoring Data Available											
	Health Risk	No Monitoring Data Available											
<b>Total Health Risk</b>		<b>19</b>	<b>296</b>	<b>221</b>	<b>29</b>	<b>250</b>	<b>266</b>	<b>169</b>	<b>158</b>	<b>169</b>	<b>126</b>	<b>148</b>	<b>127</b>

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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 - 4<sup>th</sup> Street

Annual Average Concentrations and Health Risks													
TAC	Conc./ Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
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											
<b>Total Health Risk</b>		<b>553</b>	<b>457</b>	<b>431</b>	<b>457</b>	<b>392</b>	<b>383</b>	<b>291</b>	<b>253</b>	<b>244</b>	<b>192</b>	<b>215</b>	<b>21</b>

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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

### Air Basin Summary

Annual Average Concentrations and Health Risks													
TAC	Conc./ Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
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
	Health Risk	6	7	5	6	6	2	4	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
	Health Risk	202	169	138	138	129	116	66	56	66	55	52	39
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
	Health Risk	135	108	103	138	108	104	82	70	82	64	56	50
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.11		0.10	0.08				0.09	0.09
	Health Risk	34	33		29		26	21				25	23
Chromium (Hexavalent)	Annual Avg			0.23	0.20	0.19	0.25	0.13	0.12	0.10	0.10	0.12	
	Health Risk			34	29	29	37	19	17	15	15	18	
<i>para</i> -Dichlorobenzene	Annual Avg		0.12	0.12	0.12	0.11	0.13	0.14	0.12			0.11	0.14
	Health Risk		8	8	8	7	8	9	8			7	9
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
	Health Risk	14	13	11	11	12	15	19	14	13	15	13	17
Methylene Chloride	Annual Avg	1.04	2.32	0.65	0.72	0.59	0.60	0.58	0.55			0.53	0.27
	Health Risk	4	8	2	2	2	2	2	2			2	1
Perchloroethylene	Annual Avg	0.20	0.23	0.17	0.13	0.08	0.09	0.07	0.07			0.08	0.06
	Health Risk	8	9	7	5	3	4	3	3			3	2
Diesel PM***	Annual Avg	(2.5)					(1.9)					(1.6)	
	Health Risk	(750)					(570)					(480)	
<b>Average Basin Health Risk</b>		<b>403</b>	<b>355</b>	<b>308</b>	<b>366</b>	<b>296</b>	<b>314</b>	<b>225</b>	<b>174</b>	<b>179</b>	<b>153</b>	<b>179</b>	<b>145</b>

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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-30

## 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
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												
<b>Total Health Risk</b>		<b>460</b>	<b>381</b>	<b>295</b>	<b>414</b>								

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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 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
Acetaldehyde	Annual Avg						0.49	1.59	1.22	1.27	1.69	1.19	1.27
	Health Risk						2	8	6	6	8	6	6
Benzene	Annual Avg						1.14	0.78	0.57	0.70	0.71	0.58	0.55
	Health Risk						106	72	53	65	66	54	51
1,3-Butadiene	Annual Avg						0.21	0.21	0.16	0.20	0.15	0.13	0.14
	Health Risk						78	79	60	75	58	47	52
Carbon Tetrachloride	Annual Avg						0.10	0.08				0.09	0.09
	Health Risk						26	21				25	23
Chromium (Hexavalent)	Annual Avg						0.26	0.13	0.10	0.10	0.10	0.10	
	Health Risk						39	19	15	15	16	16	
<i>para</i> -Dichlorobenzene	Annual Avg						0.11	0.11	0.12			0.11	0.13
	Health Risk						7	7	8			7	9
Formaldehyde	Annual Avg						1.92	3.48	3.12	2.99	3.67	2.79	3.44
	Health Risk						14	26	23	22	27	21	25
Methylene Chloride	Annual Avg						0.54	0.64	0.50		0.50	0.58	0.26
	Health Risk						2	2	2		2	2	1
Perchloroethylene	Annual Avg						0.09	0.12	0.04			0.07	0.06
	Health Risk						4	5	2			3	2
Diesel PM	Annual Avg	No Monitoring Data Available											
	Health Risk	No Monitoring Data Available											
<b>Total Health Risk</b>							<b>278</b>	<b>239</b>	<b>169</b>	<b>183</b>	<b>177</b>	<b>181</b>	<b>169</b>

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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

Fresno County: Fresno - 1<sup>st</sup> Street

Annual Average Concentrations and Health Risks													
TAC	Conc.*/ Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Acetaldehyde	Annual Avg		2.29		1.89	1.40	0.67			1.50		1.43	1.60
	Health Risk		11		9	7	3			7		7	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
	Health Risk		224	124	125	133	115	73	92	76	74	68	56
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
	Health Risk		173	99	129	134	113	88	87	100	80	73	68
Carbon Tetrachloride	Annual Avg		0.12		0.11		0.10	0.08				0.10	0.09
	Health Risk		32		28		26	21				25	23
Chromium (Hexavalent)	Annual Avg			0.21	0.15	0.14	0.22	0.10	0.11	0.10	0.10	0.13	
	Health Risk			31	22	21	33	16	16	15	15	20	
<i>para</i> -Dichlorobenzene	Annual Avg			0.10	0.10	0.14	0.13	0.11	0.14			0.10	0.14
	Health Risk			7	7	9	8	7	9			7	9
Formaldehyde	Annual Avg		2.32		1.64	2.01	2.41			3.42		3.56	4.32
	Health Risk		17		12	15	18			25		26	32
Methylene Chloride	Annual Avg		0.62	0.54	0.69	0.59	0.58	0.50	0.52			0.50	0.27
	Health Risk		2	2	2	2	2	2	2			2	1
Perchloroethylene	Annual Avg		0.14	0.10	0.10	0.06	0.07	0.04	0.04			0.06	0.05
	Health Risk		6	4	4	2	3	2	2			2	2
Diesel PM	Annual Avg	No Monitoring Data Available											
	Health Risk	No Monitoring Data Available											
<b>Total Health Risk</b>			<b>465</b>	<b>267</b>	<b>338</b>	<b>323</b>	<b>321</b>	<b>209</b>	<b>208</b>	<b>223</b>	<b>169</b>	<b>230</b>	<b>199</b>

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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

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
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	No Monitoring Data Available											
<b>Total Health Risk</b>			<b>18</b>	<b>57</b>	<b>55</b>	<b>54</b>	<b>66</b>	<b>50</b>	<b>41</b>				

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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 - 14<sup>th</sup> Street

Annual Average Concentrations and Health Risks													
TAC	Conc./ Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
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	0.30	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											
<b>Total Health Risk</b>		<b>392</b>	<b>355</b>	<b>209</b>	<b>289</b>	<b>227</b>	<b>259</b>	<b>185</b>	<b>163</b>	<b>209</b>	<b>163</b>		

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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*

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
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
	Health Risk	7	9	5	6	5		4	4	5	5	3	3
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
	Health Risk	186	181	127		113	97	60	48	64	60	54	42
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
	Health Risk	126	121	82		106	94	77	68	77	68	58	49
Carbon Tetrachloride	Annual Avg	0.13	0.14				0.10	0.08		0.12		0.10	0.09
	Health Risk	35	36				26	20		30		26	23
Chromium (Hexavalent)	Annual Avg			0.22	0.25	0.25		0.14			0.10	0.12	
	Health Risk			33	37	37		21			15	18	
<i>para</i> -Dichlorobenzene	Annual Avg		0.10	0.10		0.10	0.11	0.10	0.11			0.11	0.13
	Health Risk		7	7		7	7	7	7			7	9
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
	Health Risk	13	14	9	10	12		17	16	17	20	12	11
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
	Health Risk	2	2	2		2	3	2	2	2	2	2	1
Perchloroethylene	Annual Avg	0.13	0.11	0.12		0.07	0.06	0.07	0.09	0.03		0.11	0.05
	Health Risk	5	5	5		3	2	3	4	1		4	2
Diesel PM	Annual Avg	No Monitoring Data Available											
	Health Risk	No Monitoring Data Available											
<b>Total Health Risk</b>		<b>374</b>	<b>375</b>	<b>270</b>	<b>53</b>	<b>285</b>	<b>229</b>	<b>211</b>	<b>149</b>	<b>196</b>	<b>170</b>	<b>184</b>	<b>140</b>

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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

### Air Basin Summary

Annual Average Concentrations and Health Risks													
TAC	Conc./ Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
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
	Health Risk	9	9	7	8	6	3	6	6	6	8	5	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	0.54
	Health Risk	227	196	126	122	123	107	68	66	71	64	58	50
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
	Health Risk	154	135	89	127	121	99	83	73	88	67	59	56
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.11		0.10	0.08		0.11		0.10	0.09
	Health Risk	34	34		29		26	20		30		25	23
Chromium (Hexavalent)	Annual Avg			0.23	0.21	0.19	0.28	0.13	0.11	0.10	0.10	0.12	
	Health Risk			34	31	29	42	20	16	15	15	18	
<i>para</i> -Dichlorobenzene	Annual Avg		0.11	0.11	0.13	0.11	0.11	0.10	0.13			0.11	0.13
	Health Risk		7	7	9	7	8	7	9			7	9
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
	Health Risk	18	13	11	12	13	15	22	20	21	25	19	23
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
	Health Risk	3	2	2	3	2	2	2	2	2	2	2	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
	Health Risk	5	5	4	19	3	3	3	2	2		3	2
Diesel PM***	Annual Avg	(2.6)					(1.7)					(1.3)	
	Health Risk	(780)					(510)					(390)	
<b>Average Basin Health Risk</b>		<b>450</b>	<b>401</b>	<b>280</b>	<b>360</b>	<b>304</b>	<b>305</b>	<b>231</b>	<b>194</b>	<b>235</b>	<b>181</b>	<b>196</b>	<b>170</b>

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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-37

*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
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
	Health Risk	5	6	5	6	6	3	4	4	3	4	4	4
Benzene	Annual Avg	2.00	1.21	1.03	0.80	1.08	0.81		0.63	0.61		0.55	0.42
	Health Risk	186	112	95	74	100	75		58	56		51	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
	Health Risk	105	69	69	85	98	77		61	57		51	41
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.10		0.10					0.09	0.09
	Health Risk	35	34		27		26					25	23
Chromium (Hexavalent)	Annual Avg			0.24	0.20	0.17	0.20	0.11	0.10	0.10	0.11	0.10	
	Health Risk			37	30	25	29	16	15	15	16	16	
<i>para</i> -Dichlorobenzene	Annual Avg		0.10	0.11	0.13	0.12	0.11		0.13				0.15
	Health Risk		7	7	8	8	7		8				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
	Health Risk	9	10	8	11	15	13	15	17	15	18	16	19
Methylene Chloride	Annual Avg	0.58	0.59	0.81	1.01	0.57	0.57		0.62			0.65	0.16
	Health Risk	2	2	3	3	2	2		2			2	1
Perchloroethylene	Annual Avg	0.24	0.23	0.21	0.14	0.13	0.15		0.10			0.08	0.06
	Health Risk	9	9	8	6	5	6		4			3	2
Diesel PM	Annual Avg	No Monitoring Data Available											
	Health Risk	No Monitoring Data Available											
<b>Total Health Risk</b>		<b>351</b>	<b>249</b>	<b>232</b>	<b>250</b>	<b>259</b>	<b>238</b>	<b>35</b>	<b>169</b>	<b>146</b>	<b>38</b>	<b>168</b>	<b>139</b>

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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 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
Acetaldehyde	Annual Avg	1.56	1.78	1.46	1.66			1.23			1.17	0.92	1.11
	Health Risk	8	9	7	8			6			6	4	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
	Health Risk	231	203	179	140		106	79	82	84	91	69	54
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
	Health Risk	145	125	125	150		105	95	88	90	90	68	61
Carbon Tetrachloride	Annual Avg	0.13	0.13				0.10	0.08				0.10	0.09
	Health Risk	35	33				27	21				25	23
Chromium (Hexavalent)	Annual Avg			0.24	0.18			0.10	0.11		0.10	0.10	
	Health Risk			36	26			16	17		15	15	
<i>para</i> -Dichlorobenzene	Annual Avg			0.12	0.13		0.12	0.11	0.13				0.15
	Health Risk			8	8		8	7	8				10
Formaldehyde	Annual Avg	2.01	1.76	1.42	2.06			3.14			2.84	2.32	2.63
	Health Risk	15	13	10	15			23			21	17	19
Methylene Chloride	Annual Avg	0.59	1.07	1.87	1.25		0.70	0.61	0.52		0.52	0.87	0.19
	Health Risk	2	4	7	4		2	2	2		2	3	1
Perchloroethylene	Annual Avg	0.33	0.31	0.32	0.26		0.35	0.17	0.15			0.10	0.07
	Health Risk	13	12	13	10		14	7	6			4	3
Diesel PM	Annual Avg	No Monitoring Data Available											
	Health Risk	No Monitoring Data Available											
<b>Total Health Risk</b>		<b>449</b>	<b>399</b>	<b>385</b>	<b>361</b>		<b>262</b>	<b>256</b>	<b>203</b>	<b>174</b>	<b>225</b>	<b>205</b>	<b>176</b>

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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

### Air Basin Summary

Annual Average Concentrations and Health Risks													
TAC	Conc./ Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
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
	Health Risk	6	7	6	7	7	3	5	5	4	5	4	5
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	0.50
	Health Risk	208	158	137	107	129	90	71	70	70	79	60	47
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
	Health Risk	125	97	97	117	115	91	78	75	74	83	60	51
Carbon Tetrachloride	Annual Avg	0.13	0.13		0.10		0.10	0.08				0.10	0.09
	Health Risk	35	34		27		26	20				25	23
Chromium (Hexavalent)	Annual Avg			0.24	0.19	0.16	0.18	0.11	0.11	0.10	0.10	0.10	0.10
	Health Risk			36	28	23	27	16	16	15	15	15	
<i>para</i> -Dichlorobenzene	Annual Avg		0.10	0.11	0.13	0.15	0.12	0.11	0.13				0.15
	Health Risk		7	8	8	10	8	7	8				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
	Health Risk	12	11	9	13	17	16	19	19	17	20	16	19
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
	Health Risk	2	3	5	4	3	2	2	2		2	3	1
Perchloroethylene	Annual Avg	0.28	0.27	0.26	0.20	0.21	0.25	0.15	0.13			0.09	0.06
	Health Risk	11	11	11	8	8	10	6	5			4	2
Diesel PM***	Annual Avg	(2.9)					(1.9)					(1.4)	
	Health Risk	(870)					(570)					(420)	
<b>Average Basin Health Risk</b>		<b>399</b>	<b>328</b>	<b>309</b>	<b>319</b>	<b>312</b>	<b>273</b>	<b>224</b>	<b>200</b>	<b>180</b>	<b>204</b>	<b>187</b>	<b>158</b>

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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-40

## 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
Acetaldehyde	Annual Avg				1.55	1.11	0.54	1.15	1.17	0.96	1.41	0.89	1.10
	Health Risk				8	5	3	6	6	5	7	4	5
Benzene	Annual Avg				1.10	1.14	0.85	0.67		0.55	0.64	0.52	0.50
	Health Risk				102	106	78	62		51	59	48	46
1,3-Butadiene	Annual Avg				0.30	0.25	0.21	0.22		0.17	0.15	0.14	0.16
	Health Risk				111	94	77	81		64	56	54	59
Carbon Tetrachloride	Annual Avg				0.11		0.10	0.08					0.09
	Health Risk				29		26	21					23
Chromium (Hexavalent)	Annual Avg				0.15	0.13	0.16	0.10	0.10	0.10	0.10	0.10	0.10
	Health Risk				23	19	24	16	15	15	15	15	15
<i>para</i> -Dichlorobenzene	Annual Avg				0.10	0.13	0.10	0.12					0.13
	Health Risk				7	8	7	8					9
Formaldehyde	Annual Avg				2.08	1.78	2.04	2.99	3.42	2.63	4.15	2.76	3.25
	Health Risk				15	13	15	22	25	19	31	20	24
Methylene Chloride	Annual Avg				0.81	0.50	0.53	0.58					0.36
	Health Risk				3	2	2	2					1
Perchloroethylene	Annual Avg				0.06	0.27	0.05	0.05					0.02
	Health Risk				2	11	2	2					1
Diesel PM	Annual Avg	No Monitoring Data Available											
	Health Risk	No Monitoring Data Available											
<b>Total Health Risk</b>					<b>300</b>	<b>258</b>	<b>234</b>	<b>220</b>	<b>46</b>	<b>154</b>	<b>168</b>	<b>141</b>	<b>183</b>

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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-41

*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
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												
<b>Total Health Risk</b>		<b>386</b>	<b>350</b>										

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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

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

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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*

## 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
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												
<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	0.10	0.08									
	Health Risk	4	4	3									
Diesel PM	Annual Avg	No Monitoring Data Available											
	Health Risk	No Monitoring Data Available											
<b>Total Health Risk</b>		<b>383</b>	<b>323</b>	<b>257</b>									

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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

### Air Basin Summary

Annual Average Concentrations and Health Risks													
TAC	Conc./ Risk**	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Acetaldehyde	Annual Avg	1.29			1.37	1.04	0.39	1.03	1.05	0.92	1.23	0.83	0.74
	Health Risk	6			7	5	2	5	5	4	6	4	4
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
	Health Risk	187	174	125	92	95	74	51	51	47	52	42	39
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
	Health Risk	142	125	106	108	83	70	66	60	58	48	45	47
Carbon Tetrachloride	Annual Avg	0.12	0.12		0.11		0.10	0.08				0.09	0.09
	Health Risk	33	32		29		26	21				25	23
Chromium (Hexavalent)	Annual Avg			0.17	0.14	0.13	0.18	0.11	0.10	0.10	0.10	0.10	0.10
	Health Risk			26	21	19	26	16	15	15	15	15	15
<i>para</i> -Dichlorobenzene	Annual Avg			0.11	0.10	0.20	0.14	0.11	0.14			0.10	0.13
	Health Risk			7	7	14	9	7	10			7	9
Formaldehyde	Annual Avg	1.57			1.77	1.75	1.91	2.76	2.92	2.52	3.61	2.51	2.41
	Health Risk	12			13	13	14	20	22	19	27	18	18
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
	Health Risk	2	2	2	3	2	2	2	2		2	2	1
Perchloroethylene	Annual Avg	0.07	0.07	0.06	0.05	0.17	0.05	0.06	0.05			0.06	0.03
	Health Risk	3	3	3	2	7	2	2	2			2	1
Diesel PM***	Annual Avg	(2.5)					(1.6)					(1.2)	
	Health Risk	(750)					(480)					(360)	
<b>Average Basin Health Risk</b>		<b>385</b>	<b>336</b>	<b>269</b>	<b>282</b>	<b>238</b>	<b>225</b>	<b>190</b>	<b>167</b>	<b>143</b>	<b>150</b>	<b>160</b>	<b>157</b>

\* Concentrations for Chromium (Hexavalent) are expressed as ng/m<sup>3</sup>, and concentrations for Diesel PM are expressed as ug/m<sup>3</sup>. 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-45

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