

California Toxic Inventory Based on The Almanac 2007 - tons/yr

POLLUTANT	Stationary Point	Stationary Aggregated	Areawide	Onroad Diesel	Onroad Gasoline	Offroad Gasoline	Offroad Diesel	Offroad Others	Natural	Total (tons/yr)
1,1,2,2-Tetrachloroethane	0.94	0.0007								0.94
1,1,2-Trichloroethane	0.10	0.0000002								0.10
1,1-Dichloroethane	0.97	39								40
1,2,4-Trimethylbenzene	36	47	228	162	3,279	1,191	255	26		5,225
1,2-Dichlorobenzene	5.8		0.7							6.56
1,2-Dichloropropane	0.08	0.0002								0.08
1,2-Epoxybutane	0.012		0.7							0.70
1,3-Butadiene	7.8	7.7	358	58	1,151	766	91	213	937	3,589
1,3-Dichloropropene	0.08	0.000002	2187							2,187
1,4-Dioxane	1.7	0.0002								1.69
2,2,4-Trimethylpentane	14	1,171	178	91	11,640	2,604	144	24		15,866
2,3,3',4,4',5,5'-Heptachlorobiphenyl {PCB 189}	0.000023									0.00002
2,3',4,4',5'-Pentachlorobiphenyl {PCB 123}	0.00021									0.0002
2,3-Dibromo-1-propanol	0.029									0.029
2,4,5-Trichlorophenol	0.00030									0.0003
2-Methylaziridine {1,2-Propyleneimine}	0.000075									0.00008
2-Methylacetonitrile {Acetone cyanohydrin}	0.022									0.022
3,3',4,4',5,5'-Hexachlorobiphenyl {PCB 169}	0.00011									0.00011
3,3',4,4'-Tetrachlorobiphenyl {PCB 77}	0.00014									0.00014
3,3'-Dichlorobenzidine	0.000010									0.000010
3-Methylcholanthrene	0.000005									0.000005
4,4'-Isopropylidenediphenol	0.018									0.018
4,4'-Methylenedianiline (and its dichloride)	0.29									0.29
4-4-Methylene bis(2-chloroaniline) {MOCA}	0.037									0.04
7,12-Dimethylbenz[a]anthracene	0.00013									0.00013
Acetaldehyde	64	100	1653	2,240	919	905	3,534	610	9,619	19,644
Acetonitrile	0.019									0.019
Acrolein	10	1	6,630	171	229	166	239	262	250	7,958
Acrylamide	0.00009									0.00009
Acrylic acid	0.000008									0.000008
Acrylonitrile	2.0	40								42
Aluminum	15	1.5	96071	9			5	0.013	41	96,143
Aluminum oxide (fibrous)	0.000025									0.00003
Ammonia	8,709	20,556	218769	88	22,254				32,030	302,407
Ammonium nitrate	0.25									0.25
Ammonium sulfate	0.033									0.033
Aniline	0.0015									0.0015
Antimony	0.025	0.04	49	2			2.3	0.006		54
Antimony trioxide	0.00032									0.0003
Arsenic	1.9	10	17	0.12			0.06	15	2.2	47
Arsenic compounds (inorganic)	0.10									0.10
Arsine	0.00010									0.00010
Asbestos	0.14									0.14
Barium	12	10	889	284			8	0.02		1,204
Benzene	174	1,057	122	609	5,426	3,322	962	342	46	12,061
Benzidine (and its salts)	0.000011									0.000011

POLLUTANT	Stationary Point	Stationary Aggregated	Areawide	Onroad Diesel	Onroad Gasoline	Offroad Gasoline	Offroad Diesel	Offroad Others	Natural	Total (tons/yr)
Benzoyl peroxide	0.0088									0.009
Benzyl chloride	0.35									0.35
Beryllium	0.11	0.0000015								0.11
Biphenyl	0.22	0.00002								0.22
Bis(2-chloroethyl) ether {DCEE}	0.000000009									0.000000009
Bromine	0.68	0.028	34	0.44	3	2.6	0.18	0.05	3.5	45
Bromoform	0.0026									0.0026
Butyl acrylate			0.2							0.24
Butyl benzyl phthalate	0.20		9							9.43
Cadmium	0.55	1.7	15	1			1.1	1.45		21
Carbon black extracts	0.35									0.35
Carbon disulfide	0.73	0.0015								0.73
Carbon monoxide	313									313
Carbon tetrachloride	2.0	0.00007								1.96
Carbonyl sulfide	0.14	0.0007								0.14
Chlorinated Fluorocarbon {CFC-113} {1,1,2-Trichloroethane}	12	1,852								1,863
Chlorine	26	8.6	4216	40	424	365	4	6	355	5,445
Chlorine dioxide	0.57									0.57
Chlorobenzene	1.9	9.6	4					1.37		17
Chlorobenzenes	0.20									0.20
Chlorobenzilate	0.35									0.35
Chlorodifluoromethane {Freon 22}	2.2	0.29								2.47
Chloroform	19	0.0002								19
Chlorophenols	0.0023									0.0023
Chloropicrin			1687							1,687
Chloroprene	0.033									0.033
Chromium	2.2	19	112	6	3	2.6	0.16	15		161
Chromium, hexavalent (& compounds)	0.10	0.12	0.01	0.01	0.15	0.13	0.008	0.00059		0.53
Coal tars	0.0101									0.010
Cobalt	0.05	0.14	58	0.10	3	2.6	0.10	0.05		64
Copper	13	13	130	60	3	2.6	0.5	0.05	1.8	225
Cresols (mixtures of) {Cresylic acid}	0.34		2							2.20
Crotonaldehyde	0.0120	0.97			110	120		303		534
Cumene	0.23	3.8	19	6	106	52	10	1.01		197
Cumene hydroperoxide	0.00019									0.0002
Cyclohexane	1.6	433	158	9	1,341	1,000	14	1.32		2,958
Cyclohexanol			14							14
Decabromodiphenyl Oxide			1.0							1.00
Di(2-ethylhexyl) phthalate	0.44		1.0							1.44
Dibenz[a,j]acridine	0.000037									0.00004
Dibutyl phthalate	0.65		5							5.25
Dichlorobenzenes (mixed isomers)	0.21									0.21
Dichlorodifluoromethane {Freon 12}	0.026									0.026
Dichlorofluoromethane {Freon 21}	8.4									8.35
Diesel engine exhaust, particulate matter (Diesel)	293	936		17,003			16,228	7935		42,395
Diesel engine exhaust, total organic gas	16	0.08								16
Diethanolamine	0.98		0.6							1.57
Diethylene glycol	2.6		195							198

POLLUTANT	Stationary Point	Stationary Aggregated	Areawide	Onroad Diesel	Onroad Gasoline	Offroad Gasoline	Offroad Diesel	Offroad Others	Natural	Total (tons/yr)
Diethylene glycol dimethyl ether	0.00015									0.0002
Diethylene glycol monobutyl ether	25	95	740							861
Diethylene glycol monoethyl ether	1.4	6.2	418							426
Diethylene glycol monomethyl ether	2.0	24	266							292
Dimethyl formamide	3.1		2							4.61
Dimethyl phthalate	1.4									1.36
Dioxins/Benzofurans	0.019									0.019
Dipropylene glycol	0.15		64							65
Dipropylene glycol monomethyl ether	1.7	16	320							338
Epichlorohydrin	1.5		0.6							2.09
Epoxy resins	2.8									2.82
Ethyl acrylate	0.18									0.18
Ethyl benzene	63	186	411	94	3,680	1,489	149	39		6,112
Ethyl chloride {Chloroethane}	0.89	18								19
Ethylene	1.7	871	14693	4,382	12,251	8,457	6,914	2558	35,823	85,953
Ethylene dibromide {EDB}	0.44	0.0005								0.44
Ethylene dichloride {EDC}	2.0	0.0007								1.97
Ethylene glycol	20	27	2561							2,608
Ethylene glycol dimethyl ether	0.0067									0.007
Ethylene glycol monobutyl ether	193	982	2706							3,881
Ethylene glycol monoethyl ether	8.8	13	6							28
Ethylene glycol monoethyl ether acetate	12	18	9							39
Ethylene glycol monomethyl ether	1.3		0.3							1.58
Ethylene glycol monomethyl ether acetate	0.33									0.33
Ethylene glycol monopropyl ether	6.2		37							43
Ethylene oxide	2.9	0.0001	23							26
Ethylene thiourea	0.022									0.022
Fluorides and compounds	0.036									0.04
Fluorocarbons (chlorinated)	41									41
Formaldehyde	625	1,252	2005	4,483	3,052	2,770	7,073	1897		23,156
Gasoline engine exhaust, particulate matter	0.05									0.05
Gasoline engine exhaust, total organic gas	1.5									1.54
Gasoline vapors	447	0.007								447
Glutaraldehyde	0.07		26							26
Glycol ethers (and their acetates)	52									52
Hexachlorobenzene	0.000030									0.00003
Hexachlorobutadiene	0.025									0.025
Hexachlorocyclopentadiene	0.000000006									0.000000006
Hexamethylene-1,6-diisocyanate	0.08									0.08
Hexane	233	1,531	1564	49	3,558	2,098	77	55		9,164
Hydrochloric acid	420	0.10						0.10		420
Hydrocyanic acid	73									73
Hydrogen bromide	0.30	0.30								0.60
Hydrogen fluoride	3.1									3.11
Hydrogen sulfide	855									855
Hydroquinone	0.17									0.17
Iron pentacarbonyl	0.0072									0.007
Isocyanates	1.9									1.85

POLLUTANT	Stationary Point	Stationary Aggregated	Areawide	Onroad Diesel	Onroad Gasoline	Offroad Gasoline	Offroad Diesel	Offroad Others	Natural	Total (tons/yr)
Isophorone	0.22									0.22
Isoprene, except from vegetative emission source	0.00016	1.3			302	129			280,591	281,023
Isopropyl alcohol	486	3,189	17721							21,396
Lead	6.8	2.5	242	1			0.5	16	4	274
Lead compounds (inorganic)	0.19									0.19
Lead compounds (other than inorganic)	0.000025									0.00002
Maleic anhydride	0.07									0.07
Manganese	20	1.5	966	9	3	2.6	0.4	0.05	7	1,010
Mercury	0.91	0.0062	13	0.44			0.4	0.002		15
Methanol	248	286	2856	9	409	323	14	0.28	55,201	59,347
Methyl bromide {Bromomethane}	34		4900							4,934
Methyl chloride {Chloromethane}	2.9	15								18
Methyl chloroform {1,1,1-Trichloroethane}	74	15,267	884							16,225
Methyl ethyl ketone {2-Butanone}	210	2,263	1162	451	82	55	712	15		4,951
Methyl isobutyl ketone {Hexone}	54	359	355							769
Methyl methacrylate	4.5		4							8.41
Methyl tert-butyl ether	237	0.018						3		240
Methylene bromide	0.0026	0.0000001								0.0026
Methylene chloride {Dichloromethane}	151	2,776	3599							6,527
Methylene diphenyl diisocyanate {MDI}	0.16		3							3.15
Mineral oils (untreated and mildly treated oils)	20									20
Molybdenum trioxide	0.00009									0.00009
m-Xylene	2.6	254	123	186	9,792	4,400	293	18		15,068
N,N-Dimethylaniline	0.0008									0.0008
n-Butyl alcohol	101	583	104							789
Nickel	11	15	40	4	3	2.6	0.3	1.50		77
Nitric acid	6.1	0.00001								6.06
Nitrobenzene	0.000000006									0.000000006
N-Nitrosodimethylamine	0.000005									0.000005
N-Nitrosodi-n-propylamine	0.000000009									0.000000009
o-Cresol			3							3.11
o-Xylene	0.65	735	295	104	3,948	1,541	163	55		6,841
PAHs, total, with individ. components also reported	19	43	762	953	1,740	676	789	68	2.9	5,053
PCBs {Polychlorinated biphenyls}	0.0023									0.0023
p-Dichlorobenzene	1.9	0.015	1467							1,469
Pentachlorophenol	0.000000001									0.000000001
Perchloroethylene {Tetrachloroethene}	721	2,021	2123							4,865
Phenol	29	0.000002	52					27		109
Phosphine	2.0									1.97
Phosphoric acid	20									20
Phosphorus	2.1	0.06	1817	6			2.0	0.005	19	1,847
Phosphorus oxychloride	0.08									0.08
Phthalic anhydride	0.45									0.45
Polycyclic Organic Matter (POM): other than PAHs	0.000009									0.000009
Propionaldehyde	0.06	13	2598	296	120	120	466	119		3,732
Propylene	39	157	3188	792	6,131	4,635	1,250	821	7,859	24,872
Propylene glycol monomethyl ether	20	37	201							257
Propylene glycol monomethyl ether acetate	15	30	150							195

POLLUTANT	Stationary Point	Stationary Aggregated	Areawide	Onroad Diesel	Onroad Gasoline	Offroad Gasoline	Offroad Diesel	Offroad Others	Natural	Total (tons/yr)
Propylene oxide	44		0.1							44
p-Xylene	0.12	54	25	30	1,168	61	48	0.95		1,388
Quinone	0.37									0.37
Radionuclides	0.48									0.48
Radon and its decay products	0.06									0.06
Saccharin	0.0000006									0.0000006
sec-Butyl alcohol	0.17	105	39							144
Selenium	0.55	1.4	3	0.26			0.08	1.45	0.29	6.63
Silica, crystalline (respirable)	762	0.0055								762
Silver	0.041	2.6	4	0.26			0.24	0.0006	1.0	8.03
Sodium hydroxide	94	0.008								94
Sodium o-phenylphenate	0.0007									0.0007
Styrene	254	4.0	27	18	284	120	29	49		786
Sulfuric acid	25	1.4								26
tert-Butyl alcohol	0.027									0.027
Thallium	0.07		13						0.19	13
Thiourea	0.00010									0.00010
Tobacco products, smokeless	0.0086									0.009
Toluene	1,852	9,972	5058	448	15,794	7,376	707	209	46	41,462
Toluene diisocyanates	0.12									0.12
Toluene-2,4-diisocyanate	0.19									0.19
Toluene-2,6-diisocyanate	0.07									0.07
Tributyl phosphate			1.4							1.38
Trichloroethylene	21	61	266							348
Trichlorofluoromethane {Freon 11}	18									18
Triethyl phosphine	0.0017									0.0017
Triethylamine	0.40		3							3.37
Trifluralin			41							41
Trimethylbenzenes	0.00023									0.0002
Urethane	0.00031									0.0003
Vanadium (fume or dust)	0.52	5.7	174	4			0.24	45		229
Vinyl acetate	7.6	0.08	6							14
Vinyl chloride	8.6	35								44
Vinylidene chloride	0.56	0.0006								0.56
Xylenes (mixed)	531	0.25						0.04		531
Zinc	18	3.1	683	27	3	2.6	6	16	184	943
Zinc oxide	2.7									2.71

Dioxins/Furans (Equivalency Calculation)

Pollutant Name	Factor (Toxic Equivalency to 2,3,7,8-TCDD)	Mass of Congener (in tons/yr for point sources)	Adjusted 2378-TCDD Mass Equiv (tons/yr)
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	0.0001	0.000004	0.000000004
1,2,3,4,6,7,8-Heptachlorodibenzofuran	0.01	0.000006	0.00000006
1,2,3,4,7,8,9-Heptachlorodibenzofuran	0.01	0.0000002	0.000000002
1,2,3,4,7,8-Hexachlorodibenzofuran	0.1	0.0000003	0.00000003
1,2,3,6,7,8-Hexachlorodibenzofuran	0.1	0.000002	0.00000023
1,2,3,7,8,9-Hexachlorodibenzofuran	0.1	0.0000001	0.00000001
1,2,3,7,8-Pentachlorodibenzofuran	0.05	0.000003	0.00000017
2,3,4,6,7,8-Hexachlorodibenzofuran	0.1	0.0000002	0.00000002
2,3,4,7,8-Pentachlorodibenzofuran	0.5	0.0000006	0.0000003
2,3,7,8-Tetrachlorodibenzofuran	0.1	0.000007	0.0000007
Total Tetrachlorodibenzofuran		0.0000003	
Total Pentachlorodibenzofuran		0.0000002	
Total Hexachlorodibenzofuran		0.0000003	
Total Heptachlorodibenzofuran		0.0000002	
Dibenzofurans (chlorinated) {PCDFs} [Treated as 2378TCDD for HRA]		0.017	0.017
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	0.0001	0.000006	0.000000001
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	0.01	0.000006	0.00000006
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	0.1	0.0000002	0.00000002
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	0.1	0.000003	0.00000031
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	0.1	0.0000002	0.00000002
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	1	0.000003	0.000003
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1	0.0007	0.0007
Total Tetrachlorodibenzo-p-dioxin		0.00000004	
Total Pentachlorodibenzo-p-dioxin		0.00000006	
Total Hexachlorodibenzo-p-dioxin		0.00000002	
Total Heptachlorodibenzo-p-dioxin		0.00000002	
Dioxins, total, with individ. isomers also reported {PCDDs}		0.0016	
Dioxins, total, w/o individ. isomers reported {PCDDs} [Treat as 2378TCDD for HRA]		0.000003	0.000003
Total Dioxin/Furan as 2378-TCDD Equivalent			0.018

Note: Dioxin/furan groups are reported directly by facilities. These subtotals may not reflect the total mass of individual reported dioxin/furans.

PAHs (B[a]P (Equivalency Calculation))												
	Factor (B[a]P Equivalent)	Reported Mass of Congener (for point sources)	Stationary Aggregated	Areawide	Onroad Diesel	Onroad Gasoline	Offroad Gasoline	Offroad Diesel	Offroad Others	Natural	Total	Adjusted B[a]P Mass
Benzo[a]pyrene	1	0.0027	0.000000009								0.0027	0.0027
Dibenz[a,h]anthracene	1.05	0.0027	0.000000001								0.0027	0.0028
Benz[a]anthracene	0.1	0.0036	0.000000003								0.0036	0.0004
Acenaphthene		0.043	0.0000005								0.04	0.0000
Phenanthrene		0.10	0.000002								0.10	0.0000
Fluorene		0.10	0.000001								0.10	0.0000
Naphthalene	0.0309	17	40	267	218	532	180	155	68		1,477	45.6365
2-Methyl naphthalene		0.16	2.4	2		91					96	0.0000
Anthracene		0.0086	0.0000002								0.009	0.0000
Pyrene		0.017	0.0000004								0.017	0.0000
Dibenzo[a,h]pyrene	10	0.000017									0.00002	0.0002
Benzo[g,h,i]perylene		0.0048	0.0000002								0.0048	0.0000
Dibenzo[a,e]pyrene	1	0.00000003									0.0000003	0.0000
Benzo[e]pyrene		0.00038	0.000000003								0.0004	0.0000
Indeno[1,2,3-cd]pyrene	0.1	0.0044	0.000000002								0.0044	0.0004
Perylene		0.000065									0.00007	0.0000
Benzo[j]fluoranthene	0.1	0.00027									0.0003	0.0000
Benzo[b]fluoranthene	0.1	0.0041	0.000000003								0.0041	0.0004
Fluoranthene		0.0079	0.0000002								0.008	0.0000
Benzo[k]fluoranthene	0.1	0.0033	0.000000004								0.0033	0.0003
Acenaphthylene		0.041	0.0000004								0.04	0.0000
Chrysene	0.01	0.016	0.0000002								0.016	0.0002
Total Sum of B[a]P equivalent												45.6439

Hexavalent Chromium (Equivalency Calculation)

	Pollutant	Factor (Mol. Weight Adj.)	Reported Mass for Point Sources (tons/yr)	Adjusted Cr(VI) Mass	Stationary Aggregated	Areawide	Onroad Diesel	Onroad Gasoline	Offroad Gasoline	Offroad Diesel	Offroad Others	Natural	Total
10294403	Barium chromate	0.21	0.0005	0.00011									
13765190	Calcium chromate	0.33	0.000084	0.000028									
1333820	Chromium trioxide	0.52	0.000002	0.000001									
7758976	Lead chromate	0.16	0.000025	0.000004									
10588019	Sodium dichromate	0.4	0.000019	0.000008									
7789062	Strontium chromate	0.26	0.044	0.012									
Cr6EQV	Hex Chrome Equivalent (sum from above)			0.01167									
	Directly Reported Chromium, hexavalent (as 18540299)			0.090									
	Total Cr				19	112	6	3	2.6	0.16	15		159
	Total Cr (not from liquid fuel combustion)				17	112	6	0	0	0	15		150
	Total Cr (from liquid fuel combustion)				2.40	0.24	0.17	3.03	2.61	0.16	0.01		8.63
	Chromium, hexavalent (5% of Total Cr from liquid fuel combustion)				0.12	0.01	0.01	0.15	0.13	0.01	0.00		0.43
18540299	Chromium, hexavalent			0.101	0.12	0.01	0.01	0.15	0.13	0.01	0.00		0.53

California Toxics Inventory

The 2006 CTI provides emissions data for more than 250 air toxics (depending on how you count pollutant groups). The top 10 toxics are reflected in the ARB's Almanac of Emissions and Air Quality 2007. Point sources are taken directly from the 2004 CEIDARS database reported by local air districts. Aggregated point, areawide, and natural sources are based on 2004 CEIDARS estimates grown to 2006 using CEFS growth surrogates. Mobile sources are based on EMFAC outputs for 2007.

```
select rpt_group, pol, poln, sum(spoin), sum(sarea), sum(areawide), sum(or_diesel), sum(or_gasoline), sum(or_dust),
sum(om_gasoline), sum(om_diesel), sum(om_other), sum(natural)
from ctibyEIC2006 left join pollutant using (pol)
group by rpt_group, pol, poln
```

```
select dis, co, pol, poln, sum(spoin), sum(sarea), sum(areawide), sum(or_diesel), sum(or_gasoline), sum(or_dust),
sum(om_gasoline), sum(om_diesel), sum(om_other), sum(natural)
from ctibyEIC2006 left join pollutant using (pol)
group by dis, co, pol, poln
```