

Table – 1A

**Screening Emission Levels**

**THESE ARE NOT EMISSION LIMITS. Exceedances of these levels indicate that a screening risk assessment should be performed.**

Original Date of Listing	Toxic Air Contaminant	CAS NO	Screening Emission Level (lbs/yr) 25 meters	Screening Emission Level (lbs/yr) 50 meters	Screening Emission Level (lbs/yr) 100 meters
December 7, 1990 <i>September 8, 1998</i>	Acetaldehyde	75-07-0	12.25	32.11	95.70
December 7, 1990	Acrylamide (or propenamide)	79-06-1	0.03	0.07	0.20
December 7, 1990	Acrylonitrile (or vinyl cyanide)	107-13-1	0.11	0.30	0.89
December 7, 1990	Arsenic and arsenic compounds*, inorganic	7440-38-2	0.004	0.01	0.03
June 1, 1990	Asbestos	1332-21-4	0.0005	0.001	0.004
June 1, 1990	Benzene (including benzene from gasoline)	71-43-2	1.14	2.99	8.91
December 7, 1990	Benzidine (and its salts)	92-87-5	0.0002	0.0006	0.0018
December 7, 1990	Beryllium and beryllium compounds*	7440-41-7	0.002	0.005	0.016
December 7, 1990	Bis(2-chloroethyl)ether (DCEE)	111-44-4	0.10	0.26	0.78
December 7, 1990	Bis(chloromethyl)ether	542-88-1	0.003	0.007	0.020
September 8, 1998	Bis(2-ethylhexyl)phthalate (DEHP)	117-81-7	14	36	108
December 7, 1990	Butadiene, 1,3-	106-99-0	0.19	0.51	1.52
June 1, 1990	Cadmium and cadmium compounds*	7440-43-9	0.008	0.02	0.06
June 1, 1990	Carbon tetrachloride	56-23-5	0.79	2.06	6.15
June 1, 1990	Chlorinated dioxins & dibenzofurans		1.28E-07	3.35E-07	1.00E-06
September 8, 1998	Heptachlorodibenzofuran, 1,2,3,4,6,7,8-	67562-39-4	1.50E-04	3.94E-04	1.17E-03
September 8, 1998	Heptachlorodibenzofuran, 1,2,3,4,7,8,9-	55673-89-7	1.50E-04	3.94E-04	1.17E-03
September 8, 1998	Heptachlorodibenzofuran, Total	38998-75-3	1.50E-04	3.94E-04	1.17E-03
September 8, 1998	Heptachlorodibenzo-p-dioxin, 1,2,3,4,6,7,8-	35822-46-9	1.50E-04	3.94E-04	1.17E-03

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Original Date of Listing	Toxic Air Contaminant	CAS NO	Screening Emission Level (lbs/yr) 25 meters	Screening Emission Level (lbs/yr) 50 meters	Screening Emission Level (lbs/yr) 100 meters
September 8, 1998	Heptachlorodibenzo-p-dioxin, total	37871-00-4	1.50E-04	3.94E-04	1.17E-03
September 8, 1998	Hexachlorodibenzofuran, 1,2,3,4,7,8-	70648-26-9	1.50E-04	3.94E-04	1.17E-03
September 8, 1998	Hexachlorodibenzofuran, 1,2,3,6,7,8-	57117-44-9	1.50E-04	3.94E-04	1.17E-03
September 8, 1998	Hexachlorodibenzofuran, 1,2,3,7,8,9-	72918-21-9	1.50E-04	3.94E-04	1.17E-03
September 8, 1998	Hexachlorodibenzofuran, 2,3,4,6,7,8-	60851-34-5	1.50E-04	3.94E-04	1.17E-03
September 8, 1998	Hexachlorodibenzofuran, Total	55684-94-1	1.50E-04	3.94E-04	1.17E-03
September 8, 1998	Hexachlorodibenzo-p-dioxin, 1,2,3,4,7,8-	39227-28-6	1.50E-04	3.94E-04	1.17E-03
September 8, 1998	Hexachlorodibenzo-p-dioxin 1,2,3,6,7,8	57653-85-7	1.50E-04	3.94E-04	1.17E-03
September 8, 1998	Hexachlorodibenzo-p-dioxin 1,2,3,7,8,9-	19408-74-3	1.50E-04	3.94E-04	1.17E-03
September 8, 1998	Hexachlorodibenzo-p-dioxin, total	34465-46-8	1.50E-04	3.94E-04	1.17E-03
September 8, 1998	Pentachlorodibenzofuran, 1,2,3,7,8-	57117-41-6	1.28E-07	3.35E-07	1.00E-06
September 8, 1998	Pentachlorodibenzofuran, 2,3,4,7,8-	57117-31-4	1.28E-07	3.35E-07	1.00E-06
September 8, 1998	Pentachlorodibenzofuran, Total	30402-15-4	1.28E-07	3.35E-07	1.00E-06
September 8, 1998	Pentachlorodibenzo-p-dioxin 1,2,3,7,8-	40321-76-4	1.28E-07	3.35E-07	1.00E-06
September 8, 1998	Pentachlorodibenzo-p-dioxin, total	36088-22-9	1.28E-07	3.35E-07	1.00E-06
September 8, 1998	Tetrachlorodibenzofuran, 2,3,7,8-	51207-31-9	1.28E-07	3.35E-07	1.00E-06
September 8, 1998	Tetrachlorodibenzofuran, Total	55722-27-5	1.28E-07	3.35E-07	1.00E-06

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**THESE ARE NOT EMISSION LIMITS. Exceedances of these levels indicate that a screening risk assessment should be performed.**

Original Date of Listing	Toxic Air Contaminant	CAS NO	Screening Emission Level (lbs/yr) 25 meters	Screening Emission Level (lbs/yr) 50 meters	Screening Emission Level (lbs/yr) 100 meters
September 8, 1998	Tetrachlorodibenzo-p-dioxin,2,3,7,8-	1746-01-6	1.28E-07	3.35E-07	1.00E-06
September 8, 1998	Tetrachlorodibenzo-p-dioxin, total	41903-57-5	1.28E-07	3.35E-07	1.00E-06
December 7, 1990	Chloroform	67-66-3	6.24	16.36	48.75
September 8, 1998	Chlorophenols				
	Pentachlorophenol	87-86-5	1.80	4.71	14.0
December 7, 1990	Trichlorophenol, 2,4,6	88-06-2	0.46	1.20	3.59
September 8, 1998	Chloroprene	126-99-8	254	667	1988
June 1, 1990	Chromium, hexavalent	18540-29-9	0.0002	0.0006	0.0018
September 8, 1998	Coke oven emissions		0.05	0.13	0.42
September 8, 1998	Dibromo-3-chloropropane, 1,2- (DBCP)	96-12-8	0.02	0.04	0.13
September 8, 1998	Dichlorobenzene, 1,4- (or p-dichlorobenzene)	106-46-7	0.75	1.97	5.87
December 7, 1990	Dichlorobenzidine, 3,3-	91-94-1	0.097	0.26	0.76
December 7, 1990	Dinitrotoluene, 2,4-	121-14-2	0.17	0.46	1.36
December 7, 1990	Dioxane, 1,4-	123-91-1	4.29	11.26	33.56
December 7, 1990	Diphenylhydrazine (or hydrazobenzene)	12-2-66-7	0.15	0.39	1.17
December 7, 1990	Epichlorohydrin	106-89-8	1.44	3.77	11.23
June 1, 1990	Ethylene dibromide	106-93-4	0.47	1.22	3.64
June 1, 1990	Ethylene dichloride (or 1,2-dichloroethane)	107-06-2	1.65	4.33	12.92
June 1, 1990	Ethylene oxide	75-21-8	0.38	0.99	2.94
December 7, 1990	Formaldehyde	50-00-0	5.51	14.45	43.07
December 7, 1990	Hexachlorobenzene	118-74-1	0.007	0.02	0.05
December 7, 1990	Hexachlorocyclohexane: technical grade	608-73-1	0.008	0.02	0.06
December 7, 1990	alpha isomer	319-84-6	0.008	0.02	0.06
September 8, 1998	beta-	319-85-7	0.008	0.02	0.06
September 8, 1998	gamma- (lindane)	58-89-9	0.008	0.02	0.06
September 8, 1998	Hydrazine	302-01-2	0.007	0.02	0.05

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Original Date of Listing	Toxic Air Contaminant	CAS NO	Screening Emission Level (lbs/yr) 25 meters	Screening Emission Level (lbs/yr) 50 meters	Screening Emission Level (lbs/yr) 100 meters
September 8, 1998	Lead and lead compounds*, including but not limited to:	7439-92-1	2.76	7.22	21.53
September 8, 1998	Lead compounds (inorganic)		*	*	*
September 8, 1998	Lead compounds (other than inorganic)		*	*	*
September 8, 1998	Lead acetate	301-04-2	*	*	*
September 8, 1998	Lead chromate	7758-97-6	*	*	*
September 8, 1998	Lead phosphate	7446-27-7	*	*	*
September 8, 1998	Lead subacetate	1335-32-6	*	*	*
June 1, 1990	Methylene chloride	75-09-2	33.06	86.69	258.40
December 7, 1990	Nickel refinery dust from the pyrometallurgical process		0.13	0.33	0.99
December 7, 1990	Nickel subsulfide	120-35-72-2	*	*	*
December 7, 1990	N-Nitroso- Compounds				
December 7, 1990	n-Nitroso-n-ethylurea	759-73-9	0.001	0.003	0.008
December 7, 1990	n-Nitroso-n-methylurea	684-93-5	0.0003	0.0007	0.0020
December 7, 1990	n-Nitrosodi-n-butylamine	924-16-3	0.003	0.007	0.021
December 7, 1990	n-Nitrosodiethylamine	55-18-5	0.001	0.002	0.007
December 7, 1990	n-Nitrosodimethylamine	62-75-9	0.002	0.005	0.014
December 7, 1990	n-Nitrosodiphenylamine	86-30-6	3.18	8.34	24.85
September 8, 1998	n-Nitrosodiphenylamine, p-	156-10-5	3.74	9.81	29.23
September 8, 1998	n-Nitrosodi-n-propylamine	621-64-7	0.004	0.011	0.032
September 8, 1998	Nitrosomethylethylamine,n-	10595-95-6	0.001	0.003	0.010
December 7, 1990	N-Nitrosopyrrolidine	930-55-2	0.01	0.04	0.11
September 8, 1998 <i>September 8, 1998</i>	Perchloroethylene (or tetrachloroethylene)	127-18-4	5.60	14.69	43.80
December 7, 1990	Polycyclic Aromatic Hydrocarbons (PAHs):				
	Benz(a)anthracene	56-55-3	0.002	0.004	0.012
	Benzo(a)pyrene	50-32-8	0.002	0.004	0.012
	Benzo(b)fluoranthene	205-99-2	0.002	0.004	0.012
	Benzo(k)fluoranthene	207-08-9	0.002	0.004	0.012

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Original Date of Listing	Toxic Air Contaminant	CAS NO	Screening Emission Level (lbs/yr) 25 meters	Screening Emission Level (lbs/yr) 50 meters	Screening Emission Level (lbs/yr) 100 meters
	Chrysene	218-01-9	0.002	0.004	0.012
	Dibenzo(a,h)anthracene	53-70-3	0.002	0.004	0.012
	Indenopyrene	193-39-5	0.002	0.004	0.012
September 8, 1998	Polycyclic aromatic hydrocarbons (PAHs), total		0.002	0.004	0.012
December 7, 1990	Polychlorinated biphenyls (PCBs)	1336-36-3	0.001	0.003	0.008
September 8, 1998	Propylene oxide (or 1,2-epoxy propane)	75-56-9	8.94	23.43	69.84
December 7, 1990	Trichloroethylene	79-01-6	16.53	43.35	129.20
September 8, 1998	Urethane (or ethyl carbamate)	51-79-6	0.11	0.30	0.89
December 7, 1990	Vinyl chloride	75-01-4	0.42	1.11	3.31

Notes:

The original dates of listing for chronic values are listed in italics.

Screening values are calculated using risk factors from the July 1998 Rule 1401 Staff Report.

\*For metal compounds, use the corresponding risk values from Table 8 and apply the metal fractions in the substances.

Example 1: For Nickel Acetate, use the corresponding risk value for nickel from Table 8 and apply nickel fraction in the substance.

$$\text{Nickel} = (59 \text{ lb of Ni} / 249 \text{ lb of Ni}(\text{OOCCH}_3)_2 \cdot 4\text{HOH}) \times 100 = 23.7\%$$

Example 2: For Lead Chromate, use the corresponding risk values for Lead and Chromium from Table 8 and apply metal equivalents for each metal obtained from the following for:

$$\text{Lead} = (207 \text{ lb Pb} / 323 \text{ lb PbCrO}_4) \times 100 = 64.1\%$$

$$\text{Chromium (hexavalent)} = (52 \text{ lb Cr} / 323 \text{ lb PbCrO}_4) \times 100 = 16.1\%$$

**Table – 1B  
 DRY CLEANING LOOK-UP TABLE (residential receptor)**

**Dry Cleaning Screening Levels**  
 (gallons per month, includes disposal losses  
 adjusted for meteorological station)

*Assumptions:*

- *The table represents a 15m x 15m x 6m (height) building as a volume source.*
- *There are no building vents or fans.*
- *The building contains a 55 lb. factory original, dry cleaning machine with primary and secondary controls.*
- *Usage includes perc lost through sludge and filter disposal.*
- *Operating hours are less than 24 hours per day.*

For any change in above conditions, e.g., bigger building, larger machine, presence of a building vent or fan, greater perc loss through sludge and filter disposal, the applicant is entitled to proceed to Tier 4 (refined risk assessment).

Meteorological Station	MET factor	(gallons per month)				
		25m	50m	75m	100m	200m
Pomona, Santa Ana Canyon, West Los Angeles	1.00	3.9	11.1	22.1	36.9	78.5
Anaheim, La Habra Malibu, Redlands, Riverside	0.90	4.3	12.3	24.6	41.0	87.2
Azusa, Costa Mesa, Fontana, Indio, La Canada, Norco, Pasadena, Reseda	0.80	4.9	13.9	27.6	46.2	98.1
Canoga Park, Compton, El Toro, King Harbor, Lennox, Los Alamitos, Lynwood, Pico Rivera, Walnut, Whittier, Upland	0.70	5.6	15.9	31.6	52.8	112
Banning, Burbank, Downtown Los Angeles, Long Beach, Newhall, Palm Springs, Vernon	0.60	6.5	18.5	36.8	61.5	130

**DRY CLEANING LOOK-UP TABLE (occupational receptor)**

**Dry Cleaning Screening Levels**  
(gallons per month, includes disposal losses  
adjusted for meteorological station)

*Assumptions:*

- *The table represents a 15m x 15m x 6m (height) building as a volume source.*
- *There are no building vents or fans.*
- *The building contains a 55 lb. factory original, dry cleaning machine with primary and secondary controls.*
- *Usage includes perc lost through sludge and filter disposal.*
- *Operating hours are less than 24 hours per day.*

For any change in above conditions, e.g., bigger building, larger machine, presence of a building vent or fan, greater perc loss through sludge and filter disposal, the applicant is entitled to proceed to Tier 4 (refined risk assessment).

Meteorological Station	MET factor	(gallons per month)				
		25m	50m	75m	100m	200m
Pomona, Santa Ana Canyon, West Los Angeles	1.00	5.9	16.8	33.5	55.9	118
Anaheim, La Habra Malibu, Redlands, Riverside	0.90	6.6	18.7	37.2	62.2	132
Azusa, Costa Mesa, Fontana, Indio, La Canada, Norco, Pasadena, Reseda	0.80	7.4	21.0	41.9	69.9	148
Canoga Park, Compton, El Toro, King Harbor, Lennox, Los Alamitos, Lynwood, Pico Rivera, Walnut, Whittier, Upland	0.70	8.5	24.0	47.8	79.9	169
Banning, Burbank, Downtown Los Angeles, Long Beach, Newhall, Palm Springs, Vernon	0.60	9.9	28.0	55.8	93.2	198

**Source Screening Levels**

**Natural Gas-Fired Boilers for Cancer Risk of  $<1 \times 10^{-6}$**

**Assumptions:**

- ⇒ Stack Height: <24 ft
- ⇒ HP = 41,843 btu/hr based on 80% efficiency
- ⇒ Cu.ft of natural gas = 1,000 btu
- ⇒ Source is located in West Los Angeles

**Operating more than 12 hours/day**

	Size	Downwind Distance to Receptor					
	Unit	25m	50m	75m	100m	200m	300m
<b>Natural Gas Usage</b>	MMCU.FT/YR	≤ 22	≤ 48	≤ 89	≤ 143	≤ 494	≤ 1044
<b>Boiler Rated Capacity</b>	MMBTU/HR	≤ 3	≤ 5	≤ 10	≤ 16	≤ 56	≤ 119
<b>Boiler Rated Capacity</b>	HP	≤ 76	≤ 164	≤ 302	≤ 487	≤ 1684	≤ 3560

**Operating 12 hours/day or less**

	Size	Downwind Distance to Receptor				
	Unit	25m	50m	75m	100m	200m
<b>Natural Gas Usage</b>	MMCU.FT/YR	≤ 21	≤ 65	≤ 140	≤ 245	≤ 970
<b>Boiler Rated Capacity</b>	MMBTU/HR	≤ 7	≤ 21	≤ 45	≤ 78	≤ 311
<b>Boiler Rated Capacity</b>	HP	≤ 207	≤ 628	≤ 1343	≤ 2349	≤ 9293

**Please note that:**

- The emission factors used for the toxic substances were based upon the boiler being less than 10 MMBtu/hr, and therefore the most conservative for toxic review. However, emission factors exist for boilers rated between 10-100 MMBtu/hr and > 100 MMBtu/hr, which are lower than the emission factors used to derive the values in this table.
- The emission factors do not take into consideration the possible BACT equipment such as SCR, low NO<sub>x</sub> burners, flue gas recirculation, staged combustion, etc., which may increase the value of the hydrocarbon based pollutants.



Table – 1D

**Source Screening Levels**

**Natural Gas-Fired Internal Combustion Engines for Cancer Risk of  $<1 \times 10^{-6}$**

**Assumptions:**

- ⇒ *Stack Height: <24 ft*
- ⇒ *HP = 8,483 btu/hr based on 30% efficiency*
- ⇒ *Cu.ft of natural gas = 1,000 btu*
- ⇒ *Source is located in West Los Angeles*

**Operating more than 12 hours/day**

	Size	Downwind Distance to Receptor		
	Unit	200m	300m	500m
<b>Natural Gas Usage</b>	MMCU.FT/YR	≤ 1.613	≤ 3.408	≤ 8.601
<b>I.C. Engine Rated Capacity</b>	MMBTU/HR	≤ 0.184	≤ 0.389	≤ 0.982
<b>I.C. Engine Rated Capacity</b>	HP	≤ 72	≤ 153	≤ 386

**Operating 12 hours/day or less**

	Size	Downwind Distance to Receptor			
	Unit	75m	100m	200m	300m
<b>Natural Gas Usage</b>	MMCU.FT/YR	≤ 0.458	≤ 0.8	≤ 3.168	≤ 7.22
<b>I.C. Engine Rated Capacity</b>	MMBTU/HR	≤ 0.147	≤ 0.256	≤ 1.015	≤ 2.315
<b>I.C. Engine Rated Capacity</b>	HP	≤ 58	≤ 101	≤ 399	≤ 910

**Please note that:**

- The emission factors used for the toxic substances were based upon the internal combustion engine (ICE) being less than 1,000 BHP, and therefore the most conservative for toxic review. However, emission factors exist for ICEs rated >1,000 BHP which are lower than the emission factors used to derive the values in this table.
- The emission factors do not take into consideration the possible BACT equipment such as a catalytic oxidation unit.

**Table – 2A**

**Point Source  
Operating 12 hours/Day or Less**

Carcinogenic and Chronic X/Q Values ( $[\mu\text{g}/\text{m}^3]/[\text{tons}/\text{yr.}]$ )

Stack Height (ft)	Downwind Distance (meters)							
	25	50	75	100	200	300	500	1000
≥ 14 to 24	51.18	16.88	7.89	4.51	1.14	0.50	0.18	0.05
> 24 to 49	19.14	12.74	6.94	4.19	1.12	0.50	0.18	0.05
> 49	5.13	5.13	4.31	3.08	0.97	0.45	0.16	0.04

**Table – 2B**

**Meteorological Correction Factors (MET)**

<u>STATION</u>	<u>MET</u>	<u>STATION</u>	<u>MET</u>
Anaheim	0.84	Lynwood	0.58
Azusa	0.77	Malibu	0.84
Banning	0.52	Newhall	0.50
Burbank	0.57	Norco	0.73
Canoga Park	0.65	Palm Springs	0.55
Compton	0.63	Pasadena	0.74
Costa Mesa	0.69	Pico Rivera	0.70
Downtown L.A.	0.51	Pomona	0.86
El Toro	0.65	Redlands	0.86
Fontana	0.77	Reseda	0.68
Indio	0.69	Riverside	0.82
King Harbor	0.60	Santa Ana Canyon	0.89
La Canada	0.73	Upland	0.60
La Habra	0.78	Vernon	0.54
Lancaster	0.47	Walnut	0.60
Lennox	0.67	West L.A.	1.00
Long Beach	0.59	Whittier	0.63
Los Alamitos	0.60		

**Table – 3A**

**Point Source  
Operating More Than 12 hours/day**

Carcinogenic and Chronic X/Q Values ( $[\mu\text{g}/\text{m}^3]/[\text{tons}/\text{yr.}]$ )

Stack Height (ft)	Downwind Distance (meters)							
	25	50	75	100	200	300	500	1000
≥ 14 to 24	49.68	23.07	12.50	7.74	2.24	1.06	0.42	0.12
> 24 to 49	10.70	10.70	7.46	5.32	1.92	0.97	0.40	0.12
> 49	2.38	2.38	2.38	2.12	1.27	0.75	0.33	0.10

**Table – 3B**

**Meteorological Correction Factors (MET)**

<u>STATION</u>	<u>MET</u>	<u>STATION</u>	<u>MET</u>
Anaheim	0.69	Lynwood	0.68
Azusa	0.64	Malibu	0.84
Banning	0.63	Newhall	0.92
Burbank	0.64	Norco	0.60
Canoga Park	0.71	Palm Springs	0.88
Compton	0.60	Pasadena	0.88
Costa Mesa	0.69	Pico Rivera	0.68
Downtown L.A.	0.60	Pomona	1.28
El Toro	0.65	Redlands	1.74
Fontana	1.19	Reseda	0.64
Indio	0.60	Riverside	0.81
King Harbor	0.53	Santa Ana Canyon	0.80
La Canada	1.33	Upland	0.71
La Habra	0.78	Vernon	0.92
Lancaster	0.76	Walnut	0.71
Lennox	0.68	West L.A.	1.00
Long Beach	1.00	Whittier	0.55
Los Alamitos	0.69		

**Table – 4A**

**Volume Source  
Operating 12 hours/day or Less**

Carcinogenic and Chronic X/Q Values ( $[\mu\text{g}/\text{m}^3]/[\text{tons}/\text{yr.}]$ )

Source Dimensions		Downwind Distance (meters)							
Area (ft <sup>2</sup> )	Height (ft)	25	50	75	100	200	300	500	1000
< 3,000	≤ 20	41.45	13.68	6.70	3.95	1.06	0.48	0.17	0.04
3,000 to 10,000	≤ 20	36.93	12.83	6.41	3.82	1.04	0.47	0.17	0.04
3,000 to 10,000	> 20	26.52	10.54	5.58	3.44	0.98	0.46	0.17	0.04
>10,000 to 30,000	> 20	21.59	9.51	5.20	3.26	0.96	0.46	0.17	0.04
> 30,000	> 20	-	8.19	4.65	2.98	0.91	0.43	0.16	0.04

**Table – 4B**

**Meteorological Correction Factors (MET)**

<u>STATION</u>	<u>MET</u>	<u>STATION</u>	<u>MET</u>
Anaheim	0.86	Lynwood	0.63
Azusa	0.80	Malibu	0.88
Banning	0.54	Newhall	0.53
Burbank	0.60	Norco	0.75
Canoga Park	0.68	Palm Springs	0.60
Compton	0.63	Pasadena	0.75
Costa Mesa	0.71	Pico Rivera	0.70
Downtown L.A.	0.51	Pomona	0.91
El Toro	0.68	Redlands	0.90
Fontana	0.80	Reseda	0.71
Indio	0.72	Riverside	0.82
King Harbor	0.63	Santa Ana Canyon	0.92
La Canada	0.76	Upland	0.62
La Habra	0.81	Vernon	0.55
Lancaster	0.49	Walnut	0.63
Lennox	0.66	West L.A.	1.00
Long Beach	0.58	Whittier	0.66
Los Alamitos	0.64		

**Table – 5A**

**Volume Source  
Operating More Than 12 hours/day**

Carcinogenic and Chronic X/Q Values ( $[\mu\text{g}/\text{m}^3]/[\text{tons}/\text{yr.}]$ )

Source Dimensions		Downwind Distance (meters)							
Area (ft <sup>2</sup> )	Height(ft)	25	50	75	100	200	300	500	1000
< 3,000	≤ 20	60.49	22.40	11.68	7.18	2.12	1.02	0.41	0.12
3,000 to 10,000	≤ 20	55.80	21.35	11.30	7.01	2.09	1.01	0.40	0.12
3,000 to 10,000	> 20	35.18	15.50	8.87	5.78	1.89	0.94	0.39	0.12
>10,000 to 30,000	> 20	29.58	14.43	8.41	5.55	1.85	0.93	0.39	0.12
> 30,000	> 20	--	13.05	7.81	5.22	1.79	0.91	0.38	0.12

**Table – 5B**

**Meteorological Correction Factors (MET)**

<u>STATION</u>	<u>MET</u>	<u>STATION</u>	<u>MET</u>
Anaheim	0.56	Lynwood	0.69
Azusa	0.64	Malibu	0.86
Banning	0.65	Newhall	0.93
Burbank	0.66	Norco	0.58
Canoga Park	0.73	Palm Springs	0.89
Compton	0.55	Pasadena	0.91
Costa Mesa	0.63	Pico Rivera	0.66
Downtown L.A.	0.63	Pomona	1.27
El Toro	0.66	Redlands	1.76
Fontana	1.22	Reseda	0.59
Indio	0.56	Riverside	0.78
King Harbor	0.46	Santa Ana Canyon	0.81
La Canada	1.34	Upland	0.76
La Habra	0.79	Vernon	0.91
Lancaster	0.78	Walnut	0.74
Lennox	0.66	West L.A.	1.00
Long Beach	0.99	Whittier	0.53
Los Alamitos	0.73		

**Table – 6**

**Reserved**

**Table – 7**

**Reserved**

Table – 8

**Unit Risk Factor (U), Reference Exposure Level (REL) and Multi Pathway Adjustment Factors (MP)**

Toxic Air Contaminant	Unit Risk Factor	MP (MICR)	REL (Chronic)	MP (Chronic)
Acetaldehyde	2.70E-06	1.00	9.00E+00	1.00
Acrylamide (or propenamide)	1.30E-03	1.00		
Acrylonitrile (or vinyl cyanide)	2.90E-04	1.00		
Arsenic and arsenic compounds, inorganic	3.30E-03	2.70		
Asbestos	6.30E-02	1.00		
Benzene (including benzene from gasoline)	2.90E-05	1.00		
Benzidine (and its salts)	1.40E-01	1.00		
Beryllium (and beryllium compounds)	2.40E-03	6.90		
Bis(2-chloroethyl)ether (DCEE)	3.30E-04	1.00		
Bis(chloromethyl)ether	1.30E-02	1.00		
Bis(2-ethylhexyl)phthalate (DEHP)	2.40E-06	1.00		
Butadiene, 1,3-	1.70E-04	1.00		
Cadmium and cadmium compounds	4.20E-03	1.00		
Carbon tetrachloride	4.20E-05	1.00		
Chlorinated dioxins & dibenzofurans	3.80E+01	6.80		
Heptachlorodibenzofuran, 1,2,3,4,6,7,8-	1.10E+00	1.00		
Heptachlorodibenzofuran, 1,2,3,4,7,8,9-	1.10E+00	1.00		
Heptachlorodibenzofuran, total	1.10E+00	1.00		
Heptachlorodibenzo-p-dioxin, 1,2,3,4,6,7,8-	1.10E+00	1.00		
Heptachlorodibenzo-p-dioxin, total	1.10E+00	1.00		
Hexachlorodibenzofuran, 1,2,3,4,7,8-	1.10E+00	1.00		
Hexachlorodibenzofuran, 1,2,3,6,7,8-	1.10E+00	1.00		
Hexachlorodibenzofuran, 1,2,3,7,8,9-	1.10E+00	1.00		
Hexachlorodibenzofuran, 2,3,4,6,7,8-	1.10E+00	1.00		
Hexachlorodibenzofuran, total	1.10E+00	1.00		
Hexachlorodibenzo-p-dioxin, 1,2,3,4,7,8-	1.10E+00	1.00		
Hexachlorodibenzo-p-dioxin 1,2,3,6,7,8	1.10E+00	1.00		
Hexachlorodibenzo-p-dioxin 1,2,3,7,8,9-	1.10E+00	1.00		
Hexachlorodibenzo-p-dioxin, total	1.10E+00	1.00		
Pentachlorodibenzofuran, 1,2,3,7,8-	3.80E+01	6.80		
Pentachlorodibenzofuran, 2,3,4,7,8-	3.80E+01	6.80		
Pentachlorodibenzofuran, total	3.80E+01	6.80		

Table – 8

**Unit Risk Factor (U), Reference Exposure Level (REL) and Multi Pathway Adjustment Factors (MP)**

Toxic Air Contaminant	Unit Risk Factor	MP (MICR)	REL (Chronic)	MP (Chronic)
Pentachlorodibenzo-p dioxin 1,2,3,7,8-	3.80E+01	6.80		
Pentachlorodibenzo-p-dioxin, total	3.80E+01	6.80		
Tetrachlorodibenzofuran, 2,3,7,8-	3.80E+01	6.80		
Tetrachlorodibenzofuran, total	3.80E+01	6.80		
Tetrachlorodibenzo-p-dioxin, 2,3,7,8-	3.80E+01	6.80		
Tetrachlorodibenzo-p-dioxin, total	3.80E+01	6.80		
Chloroform	5.30E-06	1.00		
Chlorophenols				
Pentachlorophenol	4.60E-06	4.00		
Trichlorophenol, 2,4,6-	2.00E-05	3.60		
Chloroprene	1.30E-07	1.00		
Chromium, hexavalent	1.40E-01	1.01		
Coke oven emissions	6.20E-04	1.00		
Dibromo-3-chloropropane, 1,2- (DBCP)	2.00E-03	1.00		
Dichlorobenzene, p- (or 1,4-dichlorobenzene)	1.10E-05	4.00		
Dichlorobenzidine, 3,3-	3.40E-04	1.00		
Dinitrotoluene, 2,4-	1.90E-04	1.00		
Dioxane, 1,4-	7.70E-06	1.00		
Diphenylhydrazine (or hydrazobenzene)	2.20E-04	1.00		
Epichlorohydrin	2.30E-05	1.00		
Ethylene dibromide	7.10E-05	1.00		
Ethylene dichloride (or 1,2 dichloroethane)	2.00E-05	1.00		
Ethylene oxide	8.80E-05	1.00		
Formaldehyde	6.00E-06	1.00		
Hexachlorobenzene	5.10E-04	9.40		
Hexachlorocyclohexanes:	1.10E-03	4.00		
technical grade	1.10E-03	4.00		
alpha isomer	1.10E-03	4.00		
beta-	1.10E-03	4.00		
gamma- (lindane)	1.10E-03	4.00		
Hydrazine	4.90E-03	1.00		



Table – 8

**Unit Risk Factor (U), Reference Exposure Level (REL) and Multi Pathway Adjustment Factors (MP)**

<b>Toxic Air Contaminant</b>	<b>Unit Risk Factor</b>	<b>MP (MICR)</b>	<b>REL (Chronic)</b>	<b>MP (Chronic)</b>
Lead and lead compounds, including but not limited to:	1.20E-05	1.00		
Lead compounds (inorganic)	1.20E-05	1.00		
Lead compounds (other than inorganic)	1.20E-05	1.00		
Lead acetate	1.20E-05	1.00		
Lead chromate	*	*		
Lead phosphate	1.20E-05	1.00		
Lead subacetate	1.20E-05	1.00		
Nickel:				
refinery dust from the pyrometallurgical process	2.60E-04	1.00		
subsulfide	2.60E-04	1.00		
N-Nitroso- Compounds:				
n-Nitroso-n-ethylurea	7.70E-03	4.00		
n-Nitroso-n-methylurea	3.30E-02	4.00		
n-Nitrosodi-n-butylamine	3.10E-03	4.00		
n-Nitrosodiethylamine	1.00E-02	4.00		
n-Nitrosodimethylamine	4.60E-03	4.00		
n-Nitrosodiphenylamine	2.60E-06	4.00		
n-Nitrosodiphenylamine, p-	2.60E-06	3.40		
n-Nitrosodi-n-propylamine	2.00E-03	4.00		
Nitrosomethylethylamine, n-	6.30E-03	4.00		
n-Nitrosopyrrolidine	6.00E-04	4.00		
Perchloroethylene (or tetrachloroethylene)	5.90E-06	1.00	3.50E+01	1.00
Polycyclic Aromatic Hydrocarbons (PAHs):	1.70E-03	12.70		
Benz(a)anthracene	1.70E-03	12.70		
Benzo(a)pyrene	1.70E-03	12.70		
Benzo(b)fluoranthene	1.70E-03	12.70		
Benzo(k)fluoranthene	1.70E-03	12.70		
Chrysene	1.70E-03	12.70		
Dibenzo(a,h)anthracene	1.70E-03	12.70		
Indenopyrene	1.70E-03	12.70		
Polycyclic aromatic hydrocarbons (PAHs) total	1.70E-03	12.70		
Polychlorinated biphenyls (PCBs)	1.40E-03	24.00		
Propylene oxide (or 1,2-epoxy propane)	3.70E-06	1.00		

Table – 8

**Unit Risk Factor (U), Reference Exposure Level (REL) and Multi Pathway Adjustment Factors (MP)**

<b>Toxic Air Contaminant</b>	<b>Unit Risk Factor</b>	<b>MP (MICR)</b>	<b>REL (Chronic)</b>	<b>MP (Chronic)</b>
Trichloroethylene	2.00E-06	1.00		
Urethane (or ethyl carbamate)	2.90E-04	1.00		
Vinyl chloride	7.80E-05	1.00		

\*For Lead Chromate, use the corresponding risk values for Lead and Chromium and apply metal equivalents for each metal obtained from the following for:

Lead =  $(207 \text{ lb Pb} / 323 \text{ lb PbCrO}_4) \times 100 = 64.1\%$

Chromium (hexavalent) =  $(52 \text{ lb Cr} / 323 \text{ lb PbCrO}_4) \times 100 = 16.1\%$

**Table – 9**

**Lifetime Exposure Adjustment (LEA) Factors**

Type of Receptor	LEA Factor
Sensitive	1.0
Residential	1.0
Off-site Worker	0.14, if permit unit operates 24 hr/day, 365 days/yr 0.66, if permit unit does not operate 24 hr/day, 365 days/yr

When performing a screening risk assessment for offsite worker receptors, only 0.14 and 0.66 may be used for the LEA. Do not prorate for other operating schedules.

**Table 10 – A**

**Table 10-A (Continued)  
Target Organs Affected by Toxic Air Contaminants (Chronic Toxicity)**

Toxic Air Contaminant	CV/BL	CNS/PNS	IMMUN	KIDN	GI/LV	REPR	RESP	SKIN
acetaldehyde							X	
perchloroethylene				X	X		X	

CV/BL: Cardiovascular or blood system  
 CNS/PNS: Central or peripheral nervous system  
 IMMUN: Immune system  
 KIDN: Kidney  
 GI/LV: Gastrointestinal system and liver  
 RESP: Respiratory system  
 REPR: Reproductive system  
 SKIN: Skin

**Table 10 – B**

**Reserved**

Table – 11

**Meteorological Monitoring Stations in the South Coast Air Basin**

STATION	UTM (KM) E-W	UTM (KM) N-S	LONGITUDE	LATITUDE
Anaheim	415.0	3742.5	117:55:07	33:49:16
Azusa	414.9	3777.4	117:55:23	34:08:09
Banning	510.5	3754.4	116:53:11	33:55:58
Burbank	379.5	3783.0	118:18:27	34:10:58
Canoga Park	352.9	3786.0	118:35:48	34:12:23
Compton	385.5	3750.3	118:14:17	33:53:19
Costa Mesa	413.8	3724.2	117:55:47	33:39:21
Downtown LA	386.9	3770.1	118:13:31	34:04:02
El Toro	436.0	3720.9	117:41:25	33:37:39
Fontana	455.4	3773.9	117:29:01	34:06:24
Indio	572.3	3731.0	116:13:11	33:43:06
King Harbor	371.2	3744.4	118:23:30	33:30:00
La Canada	388.2	3786.1	118:12:49	34:12:42
La Habra	412.0	3754.0	117:57:07	33:55:28
Lancaster	396.0	3839.5	118:08:08	34:41:38
Lennox (Hawthorne)	373.0	3755.0	118:22:26	33:55:46
Long Beach	390.0	3743.0	118:11:19	33:49:24
Los Alamitos	404.5	3739.8	118:01:54	33:47:45
Lynwood	388.0	3754.0	118:12:42	33:55:20
Malibu	344.0	3766.9	118:41:23	34:01:59
Newhall	355.5	3805.5	118:31:02	34:22:59
Norco	446.8	3749.0	117:34:31	33:52:54
Palm Springs	542.5	3742.5	116:32:27	33:49:25
Pasadena	396.0	3778.5	118:07:41	34:08:38
Pico Rivera	402.3	3764.1	118:03:29	34:00:53
Pomona	430.8	3769.6	117:44:60	34:03:60
Redlands	486.2	3769.4	117:09:00	34:04:00
Reseda	359.0	3785.0	118:31:49	34:11:54
Riverside	464.8	3758.6	117:22:50	33:58:10
Santa Ana Canyon	431.0	3748.4	117:44:46	33:52:32
Upland	440.0	3773.1	117:39:02	34:05:55
Vernon	387.4	3762.5	118:13:10	33:59:55
Walnut	420.0	3761.7	117:51:58	33:59:41
West LA	372.3	3768.6	118:23:01	34:03:08
Whittier	405.5	3754.0	118:01:28	33:55:26

Figure 1

Meteorological Monitoring Stations in the South Coast Air Basin

