

**TABLE 4.14.1.2–1.—Maximum Estimated^a Fence Line Concentration of Air Pollutants
Resulting from Existing Pantex Plant Sources**

POLLUTANT	AVERAGING TIME	ESL ($\mu\text{g}/\text{m}^3$)	MAXIMUM FENCE LINE CONCENTRATION ($\mu\text{g}/\text{m}^3$)	MAX. POTENTIAL CONCENTRATION AS A % OF ESL
CLEAN AIR ACT LISTED AIR POLLUTANTS^b				
1,1,2-trichloroethane	Annual 30-minute	5.50×10^1 5.50×10^2	8.07×10^{-2} 1.73×10^1	0.2 3.1
1,3-butadiene	Annual 30-minute	1.10×10^1 1.10×10^2	9.09×10^{-3} 3.76	0.1 3.4
2-nitropropane	Annual 30-minute	5.00 5.00×10^1	3.56×10^{-2} 8.55	0.7 17
Alcohols ^c	Annual 30-minute	NA 1.00×10^2	7.01×10^{-1} 1.95×10^2	— 195
Benzene	Annual 30-minute	3.00 7.5×10^1	5.47×10^{-2} 1.94×10^1	1.8 26
Carbon Disulfide	Annual 30-minute	3.00 3.00×10^1	9.39×10^{-2} 2.26×10^1	3.1 75
Carbon Tetrachloride	Annual 30-minute	1.30×10^1 1.26×10^2	8.19×10^{-2} 1.97×10^1	0.6 16
Chlorobenzene	Annual 30-minute	4.60×10^1 4.60×10^2	8.13×10^{-2} 1.95×10^1	0.2 4.2
Chromium	Annual 30-minute	1.00×10^{-1} 1.00	1.91×10^{-3} 9.72×10^{-2}	1.9 9.7
Cresols	Annual 30-minute	NA 5.00	1.72×10^{-3} 4.13×10^{-1}	— 8.3
Cresylic Acid	Annual 30-minute	NA 5.0	2.14×10^{-3} 5.13×10^{-1}	— 10
Dibenzofurans	Annual 30-minute	NA NA	2.00×10^{-5} 9.60×10^{-4}	— —
Dimethylformamide	Annual 30-minute	3.00×10^1 3.00×10^2	6.19×10^{-2} 2.80×10^1	0.2 9.3
Ester Glycol Ethers	Annual 30-minute	NA NA	1.50×10^{-1} 3.59×10^1	— —
Ethyl Acetate	Annual 30-minute	1.44×10^3 1.44×10^4	6.93 1.99×10^3	0.5 14
Ethyl Benzene	Annual 30-minute	4.34×10^2 2.00×10^3	1.29×10^{-1} 3.11×10^1	0.0 1.6
Ethylene Dichloride	Annual 30-minute	4.00 1.60×10^2	3.99×10^{-2} 9.58	1.0 6.0
Formaldehyde	Annual 30-minute	1.50 1.50×10^1	4.30×10^{-3} 3.66×10^{-1}	0.3 2.4
Hydrogen Chloride	Annual 30-minute	1.00×10^{-1} 7.50×10^1	8.76×10^{-2} 5.98	88 8.0
Hydrogen Fluoride	3-hour 12-hour 24-hour	4.90 3.68 2.86	1.52 3.81×10^{-1} 2.70×10^{-1}	31 10 9.4

**TABLE 4.14.1.2–1.—Maximum Estimated^a Fence Line Concentration of Air Pollutants
Resulting from Existing Pantex Plant Sources-Continued**

POLLUTANT	AVERAGING TIME	ESL (µg/m³)	MAXIMUM FENCE LINE CONCENTRATION (µg/m³)	MAX. POTENTIAL CONCENTRATION AS A % OF ESL
Lead	Quarter	1.50	9.50 x 10 ⁻³	0.6
Mercury	Annual 30-minute	5.00 x 10 ⁻²	0.00 ^e	0.0
		5.00 x 10 ⁻¹	0.00 ^e	0.0
Methanol	Annual 30-minute	2.62 x 10 ²	5.75 x 10 ⁻¹	0.2
		2.62 x 10 ³	2.45 x 10 ²	9.4
Methyl Cyanide	Annual 30-minute	NA	0.00 ^e	—
		NA	0.00 ^e	—
Methyl Ethyl Ketone	Annual 30-minute	5.90 x 10 ²	5.10	0.9
		3.92 x 10 ³	1.40 x 10 ³	36
Methyl Isobutyl Ketone	Annual 30-minute	2.05 x 10 ²	1.85 x 10 ⁻²	0.0
		2.05 x 10 ³	4.45	0.2
Methylene Chloride	Annual 30-minute	2.60 x 10 ¹	7.37 x 10 ⁻¹	2.8
		2.60 x 10 ²	1.80 x 10 ²	69
Naphthalene	Annual 30-minute	5.00 x 10 ¹	1.10 x 10 ⁻⁴	0.0
		4.40 x 10 ²	5.48 x 10 ⁻³	0.0
Nitrobenzene	Annual 30-minute	5.00	2.14 x 10 ⁻³	0.4
		2.40 x 10 ¹	5.13 x 10 ⁻¹	2.1
Phenol	Annual 30-minute	1.90 x 10 ¹	5.70 x 10 ⁻⁴	0.0
		1.54 x 10 ²	2.92 x 10 ⁻²	0.0
Tetrachloroethylene	Annual 30-minute	3.40 x 10 ¹	7.33 x 10 ⁻²	0.2
		3.40 x 10 ²	1.76 x 10 ¹	5.2
Toluene	Annual 30-minute	1.88 x 10 ²	1.73	0.9
		1.88 x 10 ³	5.68 x 10 ²	30
Trichloroethylene	Annual 30-minute	1.35 x 10 ²	2.12 x 10 ⁻¹	0.2
		1.35 x 10 ³	5.11 x 10 ¹	3.8
Triethylamine	Annual 30-minute	4.00	2.38 x 10 ⁻³	0.1
		4.00 x 10 ¹	1.08	2.7
Xylene	Annual 30-minute	4.34 x 10 ²	4.74 x 10 ⁻¹	0.1
		3.70 x 10 ³	1.45 x 10 ²	3.9
TNRCC LISTED AIR POLLUTANTS ^d				
1,1,1-chloroethane	Annual 30-minute	5.00 x 10 ¹	5.28 x 10 ⁻¹	1.1
		5.00 x 10 ²	1.27 x 10 ²	2.5
1,3,5-trinitrobenzene	Annual 30-minute	NA	0.00 ^e	—
		2.00	3.00 x 10 ⁻⁵	0.0
1-butanol	Annual 30-minute	7.60 x 10 ¹	1.99 x 10 ⁻²	0.0
		7.60 x 10 ²	4.79	0.6
2,4,6-trinitrotoluene	Annual 30-minute	NA	0.00 ^e	—
		5.00	3.30 x 10 ⁻⁴	0.0
2,4-dinitrotoluene	Annual 30-minute	1.50 x 10 ⁻¹	0.00 ^e	0.0
		1.50 x 10 ¹	5.00 x 10 ⁻⁵	0.0

**TABLE 4.14.1.2–1.—Maximum Estimated^a Fence Line Concentration of Air Pollutants
Resulting from Existing Pantex Plant Sources-Continued**

POLLUTANT	AVERAGING TIME	ESL ($\mu\text{g}/\text{m}^3$)	MAXIMUM FENCE LINE CONCENTRATION ($\mu\text{g}/\text{m}^3$)	MAX. POTENTIAL CONCENTRATION AS A % OF ESL
2,6-dinitrotoluene	Annual 30-minute	NA 1.50×10^1	0.00 ^e 5.00×10^{-4}	— 0.0
2-ethoxyethanol	Annual 30-minute	NA 1.80×10^2	3.91×10^{-1} 9.42	— 5.2
2-nitronaphthalene	Annual 30-minute	NA 5.00×10^2	1.00×10^{-5} 4.20×10^{-4}	— 0.0
Acetone	Annual 30-minute	5.90×10^2 5.90×10^3	3.39 5.19×10^2	0.6 8.8
Acetylene	Annual 30-minute	2.66×10^3 2.66×10^4	3.33×10^{-3} 1.11	0.0 0.0
Aluminum	Annual 30-minute	5.00 5.00×10^1	1.28×10^{-3} 5.22×10^{-2}	0.0 0.1
Ammonia	Annual 30-minute	1.70×10^1 1.70×10^2	2.89×10^{-2} 1.31×10^1	0.2 7.7
Barium	Annual 30-minute	5.00×10^{-1} 5.00	1.25×10^{-3} 2.93×10^{-3}	0.3 0.1
Benzo(a)anthracene	Annual 30-minute	NA 5.00×10^{-1}	1.00×10^{-5} 5.00×10^{-4}	— 0.1
Benzo(a)pyrene	Annual 30-minute	3.00×10^{-3} 3.00×10^{-2}	1.00×10^{-5} 4.10×10^{-4}	0.3 1.4
Bismuth	Annual 30-minute	5.00 5.00×10^2	3.00×10^{-5} 1.13×10^{-3}	0.0 0.0
Butane	Annual 30-minute	1.90×10^3 1.90×10^4	2.98×10^{-2} 1.12×10^1	0.0 0.1
Butene	Annual 30-minute	NA 1.60×10^2	2.81×10^{-1} 1.18×10^1	— 7.4
Calcium	Annual 30-minute	5.00 5.00×10^1	5.00×10^{-5} 1.90×10^{-3}	0.0 0.0
Chlorinated Fluorocarbon	Annual 30-minute	NA 1.80×10^4	2.90×10^{-1} 6.93×10^1	— 0.4
Copper	Annual 30-minute	1.00 1.00×10^1	3.08×10^{-3} 1.25×10^{-1}	0.3 1.3
Cyanogen	Annual 30-minute	2.10×10^1 2.10×10^2	1.00×10^{-5} 2.00×10^{-4}	0.0 0.0
Cyclohexane	Annual 30-minute	3.40×10^2 1.44×10^3	3.68×10^{-1} 9.41×10^1	0.1 6.5
Cyclohexanone	Annual 30-minute	1.00×10^2 4.81×10^2	6.09×10^{-2} 1.44	0.1 0.3
Dioxane	Annual 30-minute	9.00×10^1 9.00×10^2	7.88×10^{-1} 3.57×10^1	0.9 4.0
Ethyl Ether	Annual 30-minute	NA 9.27×10^2	3.33×10^{-1} 7.96×10^1	— 8.6

**TABLE 4.14.1.2–1.—Maximum Estimated^a Fence Line Concentration of Air Pollutants
Resulting from Existing Pantex Plant Sources-Continued**

POLLUTANT	AVERAGING TIME	ESL ($\mu\text{g}/\text{m}^3$)	MAXIMUM FENCE LINE CONCENTRATION ($\mu\text{g}/\text{m}^3$)	MAX. POTENTIAL CONCENTRATION AS A % OF ESL
Ethylene	Annual 30-minute	NA 1.17×10^3	6.04×10^{-1} 2.53×10^2	— 22
Formic Acid	Annual 30-minute	9.40 9.40×10^1	0.00 ^e 8.00×10^{-5}	0.0 0.0
Iron	Annual 30-minute	NA 5.00×10^1	4.99×10^{-2} 1.82	— 3.6
Isobutane	Annual 30-minute	1.90×10^3 4.85×10^3	4.01×10^{-2} 1.39×10^1	0.0 0.3
Isobutanol	Annual 30-minute	1.52×10^2 1.52×10^3	2.27×10^{-2} 5.46	0.0 0.4
Ketene	Annual 30-minute	9.00×10^{-1} 9.00	0.00 ^e 0.00 ^e	0.0 0.0
Ketone	Annual 30-minute	NA 1.00×10^2	1.39×10^{-1} 3.34×10^1	— 33
Lithium	Annual 30-minute	NA 1.00×10^1	4.00×10^{-5} 1.84×10^{-3}	— 0.0
Magnesium	Annual 30-minute	NA 5.00×10^1	1.05×10^{-3} 4.41×10^{-2}	— 0.1
Methane	Annual 30-minute	NA 3.00×10^4	7.16×10^{-1} 2.64×10^1	— 0.1
N-butyl Alcohol	Annual 30-minute	7.60×10^1 7.60×10^2	1.35×10^{-1} 3.25	0.2 0.4
Non-F Listed Solvents ^f	Annual 30-minute	NA 1.00×10^1	9.40×10^{-4} 2.26×10^{-1}	— 2.3
Ortho-dichlorobenzene	Annual 30-minute	NA 1.50×10^3	6.36×10^{-1} 1.53×10^2	— 10
Propane	Annual 30-minute	1.80×10^3 1.80×10^4	4.21×10^{-2} 1.32×10^1	0.0 0.1
Propene	Annual 30-minute	NA 3.00×10^4	3.71×10^{-1} 1.56×10^2	— 0.5
Pyrene	Annual 30-minute	5.00×10^{-2} 5.00×10^{-1}	5.00×10^{-4} 1.57×10^{-3}	1.0 0.3
Pyridine	Annual 30-minute	1.50×10^1 6.90×10^1	3.78×10^{-1} 9.08	2.5 13
Silicon	Annual 30-minute	5.00 5.00×10^2	0.00 ^e 2.90×10^{-4}	0.0 0.0
Silver	Annual 30-minute	1.00×10^{-2} 1.00×10^{-1}	1.45×10^{-3} 6.22×10^{-2}	15 62
Tetrahydrofuran	Annual 30-minute	5.90×10^2 5.90×10^3	7.55×10^{-1} 3.42×10^2	0.1 5.8
Trichlorofluoromethane	Annual 30-minute	5.62×10^3 2.80×10^4	4.21×10^{-1} 1.01×10^2	0.0 0.4

TABLE 4.14.1.2-1.—Maximum Estimated^a Fence Line Concentration of Air Pollutants Resulting from Existing Pantex Plant Sources-Continued

POLLUTANT	AVERAGING TIME	ESL ($\mu\text{g}/\text{m}^3$)	MAXIMUM FENCE LINE CONCENTRATION ($\mu\text{g}/\text{m}^3$)	MAX. POTENTIAL CONCENTRATION AS A % OF ESL
Trichlorotrifluoroethane	Annual 30-minute	NA 7.60×10^4	1.77 4.73×10^2	— 0.6
Zinc	Annual 30-minute	5.00 5.00×10^1	1.32×10^{-3} 5.58×10^{-2}	0.0 0.1

NA= An ESL has not been established by the TNRCC.

^aEPA Model ISCST2 was used to calculate results.

^bHours of operations were taken into account for emissions from open burning and engine emissions.

^cThe group of alcohols, while not listed in CAA, were estimated to exceed the conservative ESL used by the TNRCC. Therefore, alcohols were included here for more complete presentation of results.

^dHours of operation were not taken into account and emissions were modeled for an entire year of meteorological data.

^eThe ISCST2 air quality model returns a value of 0.00 for any concentration equal to or less than $1.00 \times 10^{-5} \mu\text{g}/\text{m}^3$ (i.e., less than one ten millionth of a part per billion or less than ten parts per quadrillion).

^fSolvents that are not listed in 40 CFR 261.33 (Hazardous Waste from Non-Specific Sources).

Source: TNRCC 1996a (for averaging Time and ESL).

TABLE 4.14.1.2-2.—Hazard Quotient for Concentrations Resulting from Existing Pantex Plant Sources

POLLUTANT	MAX. FENCE LINE CONCENTRATION ($\mu\text{g}/\text{m}^3$)	REFERENCE CONCENTRATION (mg/m^3)	HAZARD QUOTIENT ANNUAL AVERAGE (%)
1,1-chloroethane	5.28×10^{-1}	10.0000	0.0
1,1,2-trichloroethane	8.07×10^{-2}	1.1020	0.0
1,3,5-trinitrobenzene	0.00 ^b	No Standard	NA
1,3-butadiene	9.09×10^{-3}	53.9000	0.0
1-butanol	1.99×10^{-2}	0.3500	0.0
2,4,6-trinitrotoluene	0.00 ^b	No Standard	NA
2,4-dinitrotoluene	0.00 ^b	0.0069	0.0
2,6-dinitrotoluene	0.00 ^b	No Standard	NA
2-ethoxyethanol	3.91×10^{-1}	0.2000	0.2
2-nitronaphthalene	1.00×10^{-5}	No Standard	NA
2-nitropropane	3.56×10^{-2}	0.0200	0.2
Acetone	3.39	0.3500	1.0
Acetylene	3.33×10^{-3}	65.2200	0.0
Alcohols ^a	7.01×10^{-1}	24.1500	0.0
Aluminum	1.28×10^{-3}	0.3680	0.0
Ammonia	2.89×10^{-2}	0.1000	0.0
Barium	1.25×10^{-3}	0.0005	0.3
Benzo(a)anthracene	1.00×10^{-5}	No Standard	NA
Benzo(a)pyrene	1.00×10^{-5}	0.0044	0.0