

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

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

POLLUTANT	MAX. FENCE LINE CONCENTRATION ($\mu\text{g}/\text{m}^3$)	REFERENCE CONCENTRATION (mg/m^3)	HAZARD QUOTIENT ANNUAL AVERAGE (%)
Benzene	5.47×10^{-2}	0.0796	0.1
Bismuth	3.00×10^{-5}	No Standard	NA
Butane	2.98×10^{-2}	46.5500	0.0
Butene	2.81×10^{-1}	No Standard	NA
Calcium	5.00×10^{-5}	No Standard	NA
Carbon Disulfide	9.39×10^{-2}	0.7000	0.0
Carbon Tetrachloride	8.19×10^{-2}	0.0025	3.3
Chlorinated Fluorocarbon	2.90×10^{-1}	50.0000	0.0
Chlorobenzene	8.13×10^{-2}	0.0200	0.4
Chromium	1.91×10^{-3}	0.0175	0.0
Copper	3.08×10^{-3}	0.0245	0.0
Cresols (All Isomers)	1.72×10^{-3}	0.5390	0.0
Cresylic Acid	2.14×10^{-3}	0.5390	0.0
Cyanogen	1.00×10^{-5}	0.1400	0.0
Cyclohexane	3.68×10^{-1}	25.7250	0.0
Cyclohexanone	6.09×10^{-2}	17.5000	0.0
Dibenzofurans	2.00×10^{-5}	No Standard	NA
Dimethylformamide	6.19×10^{-2}	0.0300	0.2
Dioxane	7.88×10^{-1}	8.8200	0.0
Ester Glycol Ethers*	1.50×10^{-1}	0.2000	0.1
Ethyl Acetate	6.93	3.1500	0.2
Ethyl Benzene	1.29×10^{-1}	1.0000	0.0
Ethyl Ether	3.33×10^{-1}	0.7000	0.1
Ethylene	6.04×10^{-1}	No Standard	NA
Ethylene Dichloride	3.99×10^{-2}	10.0690	0.0
Formaldehyde	4.03×10^{-3}	0.7000	0.0
Formic Acid	0.00	6.9940	0.0
Hydrogen Chloride	8.76×10^{-2}	0.0200	0.4
Hydrogen Fluoride	2.70×10^{-1}	0.2100	0.1
Iron	4.99×10^{-2}	0.0245	0.2
Isobutane	4.01×10^{-2}	35.0350	0.0
Isobutanol	2.27×10^{-2}	1.0500	0.0
Ketene	0.00	No Standard	NA
Ketone	1.39×10^{-1}	No Specific	0.0
Lead	9.50×10^{-3}	0.0012	0.8

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

POLLUTANT	MAX. FENCE LINE CONCENTRATION ($\mu\text{g}/\text{m}^3$)	REFERENCE CONCENTRATION (mg/m^3)	HAZARD QUOTIENT ANNUAL AVERAGE (%)
Lithium	4.00×10^{-5}	No Standard	NA
Magnesium	1.05×10^{-3}	0.3680	0.0
Mercury	0.00	0.0003	0.0
Methane	7.16×10^{-1}	No Standard	NA
Methyl Alcohol (Methanol)	5.75×10^{-1}	1.7500	0.0
Methyl Cyanide	0.00	0.0500	0.0
Methyl Ethyl Ketone	5.10	1.0000	0.5
Methyl Isobutyl Ketone	1.85×10^{-2}	0.0800	0.0
Methylene Chloride	7.37×10^{-1}	3.0000	0.0
N-butyl Alcohol	1.35×10^{-1}	0.3500	0.0
Naphthalene	1.10×10^{-4}	0.0140	0.0
Nitrobenzene	2.14×10^{-3}	0.0020	0.1
Non-F Listed Solvents ^c	9.40×10^{-4}	Non Specific	0.0
Ortho-dichlorobenzene	6.36×10^{-1}	10.0690	0.0
Phenol	5.70×10^{-4}	2.1000	0.0
Propane	4.21×10^{-2}	44.1000	0.0
Propene	3.71×10^{-1}	No Standard	NA
Pyrene	5.00×10^{-4}	0.1050	0.0
Pyridine	3.78×10^{-1}	No Standard	NA
Silicon	0.00	0.1225	0.0
Silver	1.45×10^{-3}	0.0175	0.0
Tetrachloroethylene	7.33×10^{-2}	0.0350	0.2
Tetrahydrofuran	7.55×10^{-1}	14.4550	0.0
Toluene	1.73	0.4000	0.4
Trichloroethylene	2.12×10^{-1}	13.3770	0.0
Trichlorofluoromethane	4.21×10^{-1}	No Standard	NA
Trichlorotrifluoroethane	1.77	30.0000	0.0
Triethylamine	2.38×10^{-3}	0.0070	0.0
Xylene	4.74×10^{-1}	7.0000	0.0
Zinc	1.32×10^{-3}	0.0110	0.0
Hazard Index			9.09%

NA - not applicable

^aGroup of alcohols without individual emission rates.^bHours of operations were taken into account for emissions from open burning and engine emissions.^cSolvents that are not listed in 40 CFR 261.33 (Hazardous Waste from Non-Specific Sources).

Sources: EPA 1996a; EPA 1994a; DOE 1995k; DOE 1996b; Calculated values.