

**A02 - ASPHALT PLANT, DRUM MIX, NATURAL GAS FIRED, BAGHOUSE**

**CALCULATION METHODS**  $E_a = U_a \times EF$   $E_h = U_h \times EF$  **NOTES:** - NOx and CO emissions are based on fuel usage (million ft<sup>3</sup>/hr or yr). Emission factors are lbs/million ft<sup>3</sup> gas burned.

- NOx and CO factors are from the D. Smith memo (6/26/97) or site specific source test results, or AP-42 Section 11.1 (1/95).

- TOG, ROG, SOx, TSP, PM10, and trace toxic emissions are based on production (tons asphalt/hr or yr). Emission factors are lbs/ton asphalt.

- TOG, ROG, SOx, TSP, PM10, and trace toxic emissions factors are from site specific source test results or AP-42 Section 11.2 (1/95).

- TSP and PM10 uncontrolled drop zone emissions are assumed to be 0.018 lbs/ton of production as specified in the M. Lake memo (3/20/96).

- Drop zone emissions are unspeciatiated at this time. The factors listed below are for the control system exhaust only and do not include fugitive drop zone emissions.

POLLUTANT	District Emission Factor	EPA REFERENCE	EPA	(UNITS)	COMMENTS
	(lbs/mmft <sup>3</sup> or lbs/ton production)	DOCUMENT	FACTOR		
NOX	150.00	AP-42, Sect. 11.1 (1/95), Table 11.1-8	0.0300	lbs/ton	Assume 200 scf natural gas per ton of asphalt production.
CO	280.00	AP-42, Sect. 11.1 (1/95), Table 11.1-8	0.0560	lbs/ton	Assume 200 scf natural gas per ton of asphalt production.
SOX	0.0033	AP-42, Sect. 11.1 (1/95), Table 11.1-8	0.0033	lbs/ton	Sulfur sources may include the fuel, aggregate, and asphalt oil/slurry.
TOG	0.0720	AP-42, Sect. 11.1, Tables 11.1-8 & 10	0.0720	lbs/ton	TOG value = ROG value + methane in Table 11.1-10.
ROG	0.0510	AP-42, Sect. 11.1 (1/95), Table 11.1-8	0.0510	lbs/ton	Use site specific NMHC test data if available. TOG should be more than ROG.
TSP	0.0180	AP-42, Sect. 11.1 (1/95), Table 11.1-5	0.0180	lbs/ton	Use site specific TSP test information if available.
PM10	0.0082	AP-42, Sect. 11.1 (1/95), Table 11.1-5	0.0082	lbs/ton	Use site specific PM10 test data if available. PM10 should not exceed TSP.
1,1,1 TRICHLOROETHANE	4.80E-05	AP-42, Sect. 11.1, Tables 11.1-10 & 13	4.80E-05	lbs/ton	
ACETONE					
ACROLEIN					
ARSENIC	1.10E-06	AP-42, Sect. 11.1, Tables 11.1-10 & 13	1.10E-06	lbs/ton	
BARIUM	4.80E-06	AP-42, Sect. 11.1, Tables 11.1-10 & 13	4.80E-06	lbs/ton	
BENZENE	1.20E-03	AP-42, Sect. 11.1, Tables 11.1-10 & 13	1.20E-03	lbs/ton	
BERYLLIUM					
CADMIUM	4.40E-07	AP-42, Sect. 11.1, Tables 11.1-10 & 13	4.40E-07	lbs/ton	
CHLORINE					
CHROMIUM HEXAVALENT	1.31E-07	AP-42, Sect. 11.1, Tables 11.1-10 & 13	1.31E-07	lbs/ton	Assumes same ratio of Cr+6 to Cr as in batch mix plants (AP-42 data).
CHROMIUM NONHEXAVALENT	1.19E-05	AP-42, Sect. 11.1, Tables 11.1-10 & 13	1.19E-05	lbs/ton	
CROTONALDEHYDE					
COPPER	6.10E-06	AP-42, Sect. 11.1, Tables 11.1-10 & 13	6.10E-06	lbs/ton	
ETHYL BENZENE	2.90E-04	AP-42, Sect. 11.1, Tables 11.1-10 & 13	2.90E-04	lbs/ton	
FORMALDEHYDE	3.60E-03	AP-42, Sect. 11.1, Tables 11.1-10 & 13	3.60E-03	lbs/ton	
LEAD	3.30E-06	AP-42, Sect. 11.1, Tables 11.1-10 & 13	3.30E-06	lbs/ton	
MANGANESE	1.10E-05	AP-42, Sect. 11.1, Tables 11.1-10 & 13	1.10E-05	lbs/ton	
MERCURY	7.30E-09	AP-42, Sect. 11.1, Tables 11.1-10 & 13	7.30E-09	lbs/ton	
NAPHTHALENE	4.80E-05	AP-42, Sect. 11.1, Tables 11.1-10 & 13	4.80E-05	lbs/ton	
NICKEL	1.50E-05	AP-42, Sect. 11.1, Tables 11.1-10 & 13	1.50E-05	lbs/ton	
PAH'S (UNSPECIFIED)	1.01E-04	AP-42, Sect. 11.1, Tables	1.01E-04	lbs/ton	

		11.1-10 & 13			
- BENZO(A)ANTHRACENE	2.00E-07	AP-42, Sect. 11.1, Tables 11.1-10 & 13	2.00E-07	lbs/ton	
- BENZO(A)PYRENE	9.20E-09	AP-42, Sect. 11.1, Tables 11.1-10 & 13	9.20E-09	lbs/ton	
- BENZO(B) FLUORANTHENE	1.00E-07	AP-42, Sect. 11.1, Tables 11.1-10 & 13	1.00E-07	lbs/ton	
- BENZO(K) FLUORANTHENE	5.30E-08	AP-42, Sect. 11.1, Tables 11.1-10 & 13	5.30E-08	lbs/ton	
- INDENO(1,2,3-CD) PYRENE	7.30E-09	AP-42, Sect. 11.1, Tables 11.1-10 & 13	7.30E-09	lbs/ton	
PHOSPHOROUS	5.50E-05	AP-42, Sect. 11.1, Tables 11.1-10 & 13	5.50E-05	lbs/ton	
PROPIONALDEHYDE					
QUINONE					
SILVER	1.40E-06	AP-42, Sect. 11.1, Tables 11.1-10 & 13	1.40E-06	lbs/ton	
TOLUENE	2.00E-04	AP-42, Sect. 11.1, Tables 11.1-10 & 13	2.00E-04	lbs/ton	
XYLENES	4.00E-04	AP-42, Sect. 11.1, Tables 11.1-10 & 13	4.00E-04	lbs/ton	
ZINC	4.20E-05	AP-42, Sect. 11.1, Tables 11.1-10 & 13	4.20E-05	lbs/ton	

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By D. Byrnes