

**I02 - INCINERATOR, NATURAL GAS FIRED, AGRICULTURAL PRODUCTS, MODULAR EXCESS AIR COMBUSTORS**

**CALCULATION METHODS**

$E_a = U_a \times EF$  (lbs/ton charged or lbs/mmscf natural gas)

$E_h = U_h \times EF$  (lbs/ton charged or lbs/mmscf natural gas)

**NOTES:**

- Control efficiencies must be included in emission factors since the calculation procedure will not refer to this data.
- Trace toxic emission factors for crematories are based on test results from an AB2588 study performed on UCSD equipment (1990).
- Emission factors for NOx, CO, SOx, TOG, and ROG are based on fuel usage and assumed to be equivalent to a small, uncontrolled, commercial boiler (AP-42 Section 1.4).
- ROG emissions are assumed to be 48% of the TOG emissions per AP-42 Section 1.4, Table 1.4-3.
- NOx, CO, TOG, and ROG factors have been adjusted for fuel BTU content per AP-42 Section 1.4.
- Use site specific VOC and particulate emissions testing for actual waste stream if available.
- Using VOC speciation for wood combustion and assuming compound values are based on lbs pollutant / lb ROG since no methane was identified.
- Use site specific particulate emissions testing if available. The default value (6.5 lbs PM10/ton charged) is based on the emission limit of 0.3 grains/dscf exhaust.

POLLUTANT	District Emission Factor (lbs/million ft3 fuel burned)	EPA REFERENCE DOCUMENT	EPA FACTOR	(UNITS)	COMMENTS
NOX	103.10	AP-42, Sect.1.4,10/96, Table 1.4-1	100	lbs/million ft3	
CO	21.65	AP-42, Sect.1.4,10/96, Table 1.4-1	21	lbs/million ft3	
SOX	0.60			lbs/million ft3	Use average SDG&E natural gas sulfur content (0.6 lbs SOx/million ft3).
TOG	5.98	AP-42, Sect.1.4,10/96, Table 1.4-3	5.8	lbs/million ft3	
ROG	2.87		48.00%	lbs/lb TOC	

POLLUTANT	District Emission Factor (lbs/ton charged)	EPA REFERENCE DOCUMENT	EPA FACTOR	(UNITS)	COMMENTS
TSP	6.50				Based on District emission standard of 0.3 grains / dscf exhaust
PM10	6.50				Assumes all TSP is <PM10.
ACETALDEHYDE	6.89E-03	EPA VOC Speciation Profile 1167	0.24%	lbs/lb ROG	Profile is for wood combustion - use waste specific data if available
ARSENIC					
BENZENE					No benzene identified in VOC profile
BERYLLIUM					
CADMIUM					
CHROMIUM, NONHEXA VALENT	2.47E-04	EPA PM Speciation Profile 42320	0.0038%	lbs/lb PM10	Profile is composite field burning - use waste specific data if available
CHROMIUM, HEXA VALENT	1.30E-05		0.0002%		Assume 5% of Cr converted to hexavalent Cr per ARB guidance
COPPER	2.41E-03	EPA PM Speciation Profile 42320	0.04%	lbs/lb PM10	Profile is composite field burning - use waste specific data if available
FORMALDEHYDE	1.89E-02	EPA VOC Speciation Profile 1167	0.66%	lbs/lb ROG	Profile is for wood combustion - use waste specific data if available
HEXANE					

HYDROGEN CHLORIDE					
HYDROGEN FLUORIDE					
LEAD	7.80E-04	EPA PM Speciation Profile 42320	0.01%	lbs/lb PM10	Profile is composite field burning - use waste specific data if available
MANGANESE	1.02E-02	EPA PM Speciation Profile 42320	0.16%	lbs/lb PM10	Profile is composite field burning - use waste specific data if available
NAPHTHALENE	1.25E+00	EPA VOC Speciation Profile 1167	43.65%	lbs/lb ROG	Profile is for wood combustion - use waste specific data if available
NICKEL					
PAH'S UNSPECIFIED	2.17E-01	EPA VOC Speciation Profile 1167	7.55%	lbs/lb ROG	Profile is for wood combustion - use waste specific data if available
- BENZO(A)ANTHRACENE					
- BENZO(B)FLUORANTHENE	3.27E-02	EPA VOC Speciation Profile 1167	1.14%	lbs/lb ROG	Profile is for wood combustion - use waste specific data if available
- BENZO(K)FLUORANTHENE					
- BENZO(A)PYRENE	2.58E-02	EPA VOC Speciation Profile 1167	0.90%	lbs/lb ROG	Profile is for wood combustion - use waste specific data if available
- INDENO(1,2,3-CD)PYRENE	1.89E-02	EPA VOC Speciation Profile 1167	0.66%	lbs/lb ROG	Profile is for wood combustion - use waste specific data if available
- DIBENZ(A,H,)ANTHRACENE	1.15E-03	EPA VOC Speciation Profile 1167	0.04%	lbs/lb ROG	Profile is for wood combustion - use waste specific data if available
PHENOL	1.96E-01	EPA VOC Speciation Profile 1167	6.84%	lbs/lb ROG	Profile is for wood combustion - use waste specific data if available
SELENIUM					
TOLUENE					
XYLENES					
ZINC	7.80E-04	EPA PM Speciation Profile 42320	0.01%	lbs/lb PM10	Profile is composite field burning - use waste specific data if available

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