

T13 - TURBINE, DIGESTER GAS FIRED, UNCONTROLLED

CALCULATION METHODS

Ea = Ua x EF (lbs/mmft3)

Eh = Uh (scfm) x (60/1000000) x EF (lbs/mmft3)

NOTES:

- Emission factors are based on a digester gas BTU content of 600 BTU/scf.
- Control efficiencies must be included in emission factors since the calculation procedures will not refer to this data.
- No particulate speciation table exists for digester gas combustion. The HCL factor was estimated using the chlorine content of raw gas (AP-42).
- The TOG factor is based on an average CH4 content of 60% and a DRE of 99.9%.
- Individual pollutant factors are estimated using AP-42 (detected values) or Pt. Loma raw gas speciation (1996) and an assumed 98% destruction efficiency.

Pollutant	District Emission Factor (lbs/million ft3 fuel burned)	EPA Reference Document	EPA Factor	Units	Comments
NOx	96.00	AP-42, Sect 3.1, 4/00, Table 3.1-1	1.60E-01	lbs/MMBTU	
CO	10.20	AP-42, Sect 3.1, 4/00, Table 3.1-1	1.70E-02	lbs/MMBTU	
SOx	2.00			lbs/MMBTU	Based on Pt Loma raw gas sulfur content and a 98% conversion to SOx..
TOG	24.90			lbs/MMBTU	Assumes 60% methane and 99.9% DRE.
ROG	3.48	AP-42, Sect 3.1, 4/00, Table 3.1-2b	5.80E-03	lbs/MMBTU	
TSP	7.20	AP-42, Sect 3.1, 4/00, Table 3.1-2b	1.20E-02	lbs/MMBTU	
PM10	7.20	AP-42, Sect 3.1, 4/00, Table 3.1-2b	1.20E-02	lbs/MMBTU	
Acetaldehyde	0.0318	AP-42, Sect 3.1, 4/00, Table 3.1-7	5.30E-05	lbs/MMBTU	
Acetone	0.0007			lbs/MMBTU	Based on Pt Loma raw gas content with a 98% DRE.
Ammonia	0.0048			lbs/MMBTU	Based on Pt Loma raw gas content with a 98% DRE.
Benzene	0.0277			lbs/MMBTU	Based on Pt Loma raw gas content with a 98% DRE.
Chlorobenzene	0.0002			lbs/MMBTU	Based on Pt Loma raw gas content with a 98% DRE.
Dichlorobenzene	0.0018			lbs/MMBTU	Based on Pt Loma raw gas content with a 98% DRE.
Ethyl Benzene	0.0010			lbs/MMBTU	Based on Pt Loma raw gas content with a 98% DRE.
Ethylene Dichloride	0.0014			lbs/MMBTU	Based on Pt Loma raw gas content with a 98% DRE.
Formaldehyde	0.1140	AP-42, Sect 3.1, 4/00, Table 3.1-7	1.90E-04	lbs/MMBTU	
Hexane	0.0101			lbs/MMBTU	Based on Pt Loma raw gas content with a 98% DRE.
Hydrogen Chloride	0.6455			lbs/MMBTU	Based on Pt Loma raw gas content with a 98% DRE.
Hydrogen Sulfide	0.0215			lbs/MMBTU	Based on Pt Loma raw gas content with a 98% DRE.
Methylene Chloride	0.0001			lbs/MMBTU	Based on Pt Loma raw gas content with a 98% DRE.
Methyl Ethyl Ketone	0.0001			lbs/MMBTU	Based on Pt Loma raw gas content with a 98% DRE.
Perchloroethylene	0.0005			lbs/MMBTU	Based on Pt Loma raw gas content with a 98% DRE.
Toluene	0.0101	EPA VOC Speciation Profile #1001 1/90	0.04%	lbs/lbs TOC	Based on Pt Loma raw gas content with a 98% DRE.
1,1,1-Trichloroethane	0.0001			lbs/MMBTU	Based on Pt Loma raw gas content with a 98% DRE.
Trichloroethylene	0.0003			lbs/MMBTU	Based on Pt Loma raw gas content with a 98% DRE.
Xylenes	0.0045			lbs/MMBTU	Based on Pt Loma raw gas content with a 98% DRE.