

MASS EMISSIONS FOR VENTING OF GAS

1. Gas volume released during event if duration is less than 24 hours or highest 24-hour flow rate if event exceeded 24 hours:
2. Analysis of gas released:
 - Convert ppmv to mole % (ppmv X 1 X 10⁻⁴)
 - 1 lb-mole = 379.5 ft³
3. Calculate pounds released for each component:
 - lb released = (ft³ gas) x (1lb mole/379.5 ft³) x (MW) x (mole %)

EXAMPLE:

- 15 mcf natural gas released in a 24-hour period
- lb propane released = (15 mcf) x (1/379.5) x (44.097) x (0.74%) = 12.89794 lb

COMPONENT	MOLE %	MW	POUNDS
Nitrogen	0	28.013	
Methane	95.1	16.043	
Carbon Dioxide	1.2	44.01	
Ethane	2.25	30.07	
Propane	0.74	44.097	12.89794
Iso-Butane	0.12	58.124	2.75687
N-Butane	0.19	58.124	4.365043
Iso-Pentane	0.06	72.151	1.711091
N-Pentane	0.06	72.151	1.711091
Hexanes	0.28	86.178	9537486
Heptanes Plus		100.205	0
Hydrogen Sulfide		34.076	0
TOTAL	100		

4. Total hydrocarbons released less methane, ethane and inerts:
 - 32.98 pounds
5. Total hydrogen sulfide:
 - 0 pounds