

**P02 - PRINTING, GRAVURE, RULE 67.16, MASS BALANCE, UNCONTROLLED**

**CALCULATION METHODS**

$E_a = U_a \text{ (gal/yr)} \times D \text{ (lbs/gal)} \times \text{Conc. (lbs/lb)} \times (1 - \% \text{retained})$

$E_h = U_h \text{ (gal/hr)} \times D \text{ (lbs/gal)} \times \text{Conc. (lbs/lb)} \times (1 - \% \text{retained})$

**NOTES:**

- Do not include control efficiencies in emission factors. Volatile compound capture and removal efficiencies due to controls must be specified by release point.
- No trace toxic emission factors can be developed as default values since emissions are based on material composition and process type.
- Estimates regarding the % solvent retained on printed documents have been developed for a variety of processes based on information in AP-42 Section 4.9 (1/95).
- ROG, TOG, and all volatile organic emissions are assumed to be reduced by the % retained factor developed from the AP-42 information.
- All pigments and particulates are assumed to have a 100% transfer efficiency to the printed documents (i.e.: assumed no PM emissions from printing).
- Use site specific emissions testing to estimate control equipment capture and removal efficiencies if available.

<b>POLLUTANT</b>	<b>District Emission Factor</b>	<b>EPA REFERENCE</b>	<b>EPA</b>	<b>(UNITS)</b>	<b>COMMENTS</b>
	<b>(lbs/million ft3 fuel burned)</b>	<b>DOCUMENT</b>	<b>FACTOR</b>		
NOX					
CO					
SOX					
TOG		AP-42 Section 4.9 (1/95)			percent retention = 5% percent TOG emitted = 95%
ROG		AP-42 Section 4.9 (1/95)			percent retention = 5% percent ROG emitted = 95%
TSP					
PM10					
BENZENE					
FORMALDEHYDE					
HEXANE					
METHYLENE CHLORIDE					
TOLUENE					
1,1,1-TRICHLOROETHANE					
XYLENES					

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