

Attachment E: Printer Worksheet

Utah Division of Air Quality

Business Name _____ **Date** _____

The calculations on this worksheet will help to determine the estimated emissions from the dust collection and painting operations. If the results do not exceed 5 tons per year you are eligible for the Small Source Exemption. After completing this worksheet, enter the emission estimates in **Section IV, Air Emission Information**, of the Small Source Registration Notice. If you need assistance filling out this form please contact the Small Business Assistance Program (SBAP) at the Division of Air Quality at 536-4000, if you live in the Salt Lake City area or 1-800-270-4440, toll-free outside of the Salt Lake City area.

Emission Information:

Please refer to your Material Safety Data Sheets, under the **Physical Data Section** or contact your supplier for the following information.

- (1) **Ink(s)** Usage can be recorded on a daily or weekly basis, whichever is more convenient. If possible, please attach copies of your MSDSs.

Ink Type	A ¹ % Volatile Organic Compound (VOC) of Product	B Material Density (lbs/gal)	C Ink Usage (Daily or Weekly in gal)		D Total (Daily or Weekly) D = A x B x C max
			Avg.	Max.	
1.					
2.					
3.					
4.					

TOTAL (E) = Add the results in Column D = _____ lbs of VOCs/day or week

Reduce VOCs emitted to air by 20% (0.80) for heatset presses and 95% (0.05) for non-heatset presses.

Total (F) = (D = _____) times 0.80 or 0.05 = _____

Circle value used for your type of press

Total (I) = $\frac{\text{Total (F)}}{\text{Days or Weeks of Operation/Month}}$ X _____ = _____ lbs of VOCs/Month

If the total on page 2 does not **exceed** 5 tons per year you can use the Small Source Registration Notice. If the number exceeds 5 tons per year review hours of operation and ink usage for accuracy. Note: Compliance inspectors can ask for documentation of all the information on these forms. If after reviewing the numbers the total still exceeds 5 tons per year you will need an air permit. Contact the Small Business Assistance Program for the additional information you will need to submit to receive an air permit.

¹Note: If you know the VOC content in pounds per gallon enter here and indicate the units: lbs-voc/gal. Then leave column B empty. The calculation is then D = A x C max.

(2) Fountain Solution(s) Usage can be recorded on a daily or weekly basis, whichever is more convenient. Please attach copies of your MSDSs.

Fountain Solution Name	A Volatile Organic Compound (VOC) Content (lbs VOCs/gal)	B Usage (gals/day or week)		C Total (Daily or Weekly) C = A x B max
		Avg.	Max.	
1. Etch/Concentrate				
2. Alcohol/Substitute				
3.				
4.				

Total (D) = Add the results in Column C : _____ lb-VOCs/day or week

$$\text{Total (2)} = \frac{\text{Total (D)}}{\text{Total (D)}} \times \frac{\text{Days or Weeks of Operation/Month}}{\text{Days or Weeks of Operation/Month}} = \text{_____ lbs of VOCs/Month}$$

(3) Wash Solution(s) Usage can be recorded on a weekly or daily basis, whichever is more convenient. Please attach copies of your MSDSs.

Wash Solution Name	A VOC Content ² (lb/gal)	B Usage (gals/day or week)		C Total (Daily or Weekly) C = A x B max
		Ave.	Max.	
1.				
2.				
3.				

Total (D) = Add the results in Column C: _____ lb-VOCs/day or week

$$\text{Total (3)} = \frac{\text{Total (D)}}{\text{Total (D)}} \times \frac{\text{Days or Weeks of Operation/Month}}{\text{Days or Weeks of Operation/Month}} = \text{_____ lbs of VOCs/Month}$$

To determine tons per year for the facility use the following calculation:

$$\text{Facility TOTAL} = \text{Addition of Totals (1) + (2) + (3)} = \text{_____} + \text{_____} + \text{_____}$$

$$= \text{_____ lbs-VOCs/month}$$

$$\text{Tons VOCs per year} = \text{Facility Total} \text{ _____ times } 12 \text{ (months/year) divided by } 2,000 \text{ (lbs/ton)}$$

$$= \text{_____ Tons/year}$$

² If your wash solutions have a partial pressure less than 10 mm Hg @ 20°C (look at your MSDS) then you can reduce the VOC emissions for wash solutions by 50% or half. Please indicate if you are claiming this emission reduction.

Attachment E: Printer Worksheet

Utah Division of Air Quality

Business Name Mystic Printing **Date** 9-24-97

The calculations on this worksheet will help to determine the estimated emissions from the dust collection and painting operations. If the results do not exceed 5 tons per year you are eligible for the Small Source Exemption. After completing this worksheet, enter the emission estimates in **Section IV, Air Emission Information**, of the Small Source Registration Notice. If you need assistance filling out this form please contact the Small Business Assistance Program (SBAP) at the Division of Air Quality at 536-4000, if you live in the Salt Lake City area or 1-800-270-4440, toll-free outside of the Salt Lake City area.

Emission Information:

Please refer to your Material Safety Data Sheets, under the **Physical Data Section** or contact your supplier for the following information.

(1) Ink(s) Usage can be recorded on a daily or weekly basis, whichever is more convenient. If possible, please attach copies of your MSDSs.

Ink Type	A ³ % Volatile Organic Compound (VOC) of Product	B Material Density (lbs/gal)	C Ink Usage (Daily or Weekly in gal)		D Total (Daily or Weekly) D = A x B x C max
			Avg.	Max.	
1. Gans	0.25 (25%)	8.4	4	8	16.8
2. Flint	2.1 LB VOC/Gal	----	1	2	4.2
3.					
4.					

TOTAL (E) = Add the results in Column D = 21 lbs of VOCs/day or week

Reduce VOCs emitted to air by 20% (0.80) for heatset presses and 95% (0.05) for non-heatset presses.

Total (F) = (D = 21) times ~~0.80~~ or 0.05 = 1.05

Circle value used for your type of press

Total (1) = $\frac{1.05}{\text{Total (F)}} \times \frac{24}{\text{Days or Weeks of Operation/Month}} = \underline{25}$ lbs of VOCs/Month

If the total on page 2 does not **exceed** 5 tons per year you can use the Small Source Registration Notice. If the number exceeds 5 tons per year review hours of operation and ink usage for accuracy. Note: Compliance inspectors can ask for documentation of all information on these forms. If after reviewing the numbers the total still exceeds 5 tons per year you will need an air permit. Contact the Small Business Assistance Program for the additional information you will need to submit to receive an air permit.

³Note: If you know the VOC content in pounds per gallon enter here and indicate the units: lbs-voc/gal. Then leave column B empty. The calculation is then D = A x C max.

(2) Fountain Solution(s) Usage can be recorded on a daily or weekly basis, whichever is more convenient. Please attach copies of your MSDSs.

Fountain Solution Name	A Volatile Organic Compound (VOC) Content (lbs VOCs/gal)	B Usage (gals/day or week)		C Total (Daily or Weekly) C = A x B max
		Avg.	Max.	
1. Etch/Concentrate	7.4	0.2	0.3	2.22
2. Alcohol/Substitute	6.5	0.7	1.0	6.5
3.				
4.				

Total (D) = Add the results in Column C: 8.7 lb-VOCs/day or week

$$\text{Total (2)} = \frac{8.7}{\text{Total (D)}} \times \frac{24}{\text{Days or Weeks of Operation/Month}} = \frac{210}{\text{Days or Weeks of Operation/Month}} \text{ lbs of VOCs/Month}$$

(3) Wash Solution(s) Usage can be recorded on a weekly or daily basis, whichever is more convenient. Please attach copies of your MSDSs.

Wash Solution Name	A VOC Content ⁴ (lb/gal)	B Usage (gals/day or week)		C Total (Daily or Weekly) C = A x B max
		Ave.	Max.	
1. V120	6.78	1.2	1.5	10.2
2. STEP - 1	4.96	0.25	0.5	2.5
3. Wash	3.42 (50%)	0.5	1.0	6.8

Total (D) = Add the results in Column C: 18.1 lb-VOCs/day or week

$$\text{Total (3)} = \frac{18.1}{\text{Total (D)}} \times \frac{24}{\text{Days or Weeks of Operation/Month}} = \frac{434.4}{\text{Days or Weeks of Operation/Month}} \text{ lbs of VOCs/Month}$$

To determine tons per year for the facility use the following calculation:

$$\text{Facility TOTAL} = \text{Addition of Totals (1) + (2) + (3)} = \underline{25} + \underline{210} + \underline{434.4} = \underline{670} \text{ lbs-VOCs/month}$$

$$\text{Tons VOCs per year} = \text{Facility Total } \underline{670} \text{ times } 12 \text{ (months/year) divided by } 2,000 \text{ (lbs/ton)} = \underline{4.0} \text{ Tons/year}$$

⁴ If your wash solutions have a partial pressure less than 10 mm Hg @ 20°C (look at your MSDS) then you can reduce the VOC emissions for wash solutions by 50% or half. Please indicate if you are claiming this emission reduction.