Potential to Emit
SPRAY PAINTING OPERATIONS
CALCULATION WORKSHEET

Company Name:	Name of Person completing form:

Coating Line Information

A. Number of Spray Guns (list the number of guns that can operate at the same time):	B. Maximum Application Rate Each Gun (gal/hr) **gal/hr**

C. Transfer Efficiency (select from the list below, if you have data different from what is below select other and enter efficiency):

☐ Air atomization spray: 0.30   ☐ Electorstatic/airless: 0.75   ☐ Powder: 0.95

☐ Airless spray: 0.45   ☐ HVLP: 0.75   ☐ Other: _____

☐ Electrostatic/Air atomization: 0.70   ☐ Electrodeposition: .95

D. Control Efficiency for VOCs (if applicable): **%**	E. Control Efficiency for Particulate Matter: **%**

Coating Information

From all coatings used at the line, select coating with the highest VOC content, highest HAP content, and highest solids content. Enter the information below.

Volatile Organic Compounds (VOCs)

F. VOC % by weight:[1] **%**	G. Density of Coating: **lbs/gal**	H. VOC content (lbs/gal): (F)/100 x (G) = **lbs VOC/gal**

Solids

I. Solids % by weight: **%**	J. Density of Coating: **lbs/gal**	K. Solids content (lbs/gal): (I)/100 x (J) = **lbs Solids/gal**

Hazardous Air Pollutants (HAP): enter for each HAP

L. Density of Coating: **lbs/gal**

HAP Name	VOC?	% by Weight[1]	HAP content
HAP 1:	☐	**%**	M. (L) x (HAP1 % by wt)/100 **lbs HAP1/gal**
HAP 2:	☐	**%**	N. (L) x (HAP2 % by wt)/100 **lbs HAP2/gal**
HAP 3:	☐	**%**	O. (L) x (HAP3 % by wt)/100 **lbs HAP3/gal**
HAP 4:	☐	**%**	P. (L) x (HAP4 % by wt)/100 **lbs HAP4/gal**
HAP 5:	☐	**%**	Q. (L) x (HAP5 % by wt)/100 **lbs HAP5/gal**

[1]If the coating is a multi-part coating (i.e., includes reducer and/or catalyst) enter a weighted VOC, HAP, and Solids Content. Page 5 discusses how to calculated the VOC, HAP, and Solids content in a multi-part coating.

Use the tables below to calculate the potential to emit for VOCs, Solids, and HAPs. You can only calculate a controlled PTE if there is a requirement in a rule or permit that requires you have the control device (e.g., fabric filter, thermal oxidizer) installed and operating. Otherwise, calculate emissions as "uncontrolled."

Table 1: Potential to Emit VOCs	
1A. Potential to Emit VOCs (UNCONTROLLED): (A) x (B) x (H) x (8,760 hrs/yr) x (1 ton/2,000 lbs) =	**Tons VOC/yr (uncontrolled)**
1B. Potential to Emit VOC (CONTROLLED, if applicable): (1A) x (100 – [D])/100 =	**Tons VOC/yr (controlled)**

Table 2: Potential to Emit Solids	
2A. Potential to Emit Solids (UNCONTROLLED): (A) x (B) x (K) x (1 – [C]) x (8,760 hrs/yr) x (1 ton/2,000 lbs) =	**Tons Soids/yr (uncontrolled)**
2B. Potential to Emit Solids (CONTROLLED, if applicable): (2A) x (100 – [E])/100 =	**Tons Solids/yr (controlled)**

Table 3: Potential to Emit HAPs (Uncontrolled)	
3A. Potential to Emit HAP1 (UNCONTROLLED): (A) x (B) x (M) x (8,760 hrs/yr) x (1 ton/2,000 lbs) =	**Tons HAP1/yr (uncontrolled)**
3B. Potential to Emit HAP2 (UNCONTROLLED): (A) x (B) x (N) x (8,760 hrs/yr) x (1 ton/2,000 lbs) =	**Tons HAP2/yr (uncontrolled)**
3C. Potential to Emit HAP3 (UNCONTROLLED): (A) x (B) x (O) x (8,760 hrs/yr) x (1 ton/2,000 lbs) =	**Tons HAP3/yr (uncontrolled)**
3D. Potential to Emit HAP4 (UNCONTROLLED): (A) x (B) x (P) x (8,760 hrs/yr) x (1 ton/2,000 lbs) =	**Tons HAP4/yr (uncontrolled)**
3E. Potential to Emit HAP5 (UNCONTROLLED): (A) x (B) x (Q) x (8,760 hrs/yr) x (1 ton/2,000 lbs) =	**Tons HAP5/yr (uncontrolled)**
3F. Total HAPs (UNCONTROLLED) (3A) + (3B) + (3C) + (3D) + (3E)	**Tons Total HAPs/yr (uncontrolled)**

Table 4: Potential to Emit HAPs (Controlled) – You may calculate a controlled PTE for HAPs only if you are allowed to calculate PTE of VOC as controlled (see instructions at the bottom of page 1). If the HAP is not a VOC, use the uncontrolled calculation above.	
4A. Potential to Emit HAP1 (CONTROLLED): (3A) x (100 – [D])/100 =	**Tons HAP1/yr (controlled)**
4B. Potential to Emit HAP2 (CONTROLLED): (3B) x (100 – [D])/100) =	**Tons HAP2/yr (controlled)**
4C. Potential to Emit HAP3 (CONTROLLED): (3C) x (100 – [D])/100) =	**Tons HAP3/yr (controlled)**
4D. Potential to Emit HAP4 (CONTROLLED): (3D) x (100 – [D])/100) =	**Tons HAP4/yr (controlled)**
4E. Potential to Emit HAP5 (CONTROLLED): (3E) x (100 – [D])/100) =	**Tons HAP5/yr (controlled)**
4F. Total HAPs (CONTROLLED) (4A) + (4B) + (4C) + (4D) + (4E)	**Tons Total HAPs/yr (controlled)**

Potential to Emit
SPRAY PAINTING OPERATIONS
CALCULATION WORKSHEET

EXAMPLE

Company Name: **Sample Corporation**	Name of Person completing form: **Joseph Sample**

Coating Line Information

A. Number of Spray Guns (list the number of guns that can operate at the same time): **2**	B. Maximum Application Rate Each Gun (gal/hr) **3 gal/hr**

C. Transfer Efficiency (select from the list below, if you have data different from what is below select other and enter efficiency):

☐ Air atomization spray: 0.30 ☐ Electorstatic/airless: 0.75 ☐ Powder: 0.95

☐ Airless spray: 0.45 ☒ HVLP: 0.75 ☐ Other: _____

☐ Electrostatic/Air atomization: 0.70 ☐ Electrode Disposition: .95

D. Control Efficiency for VOCs (if applicable): **%**	E. Control Efficiency for Particulate Matter: **90 %**

Coating Information

From all coatings used at line, select coating with the highest VOC content, highest HAP content, and highest solids content. Enter the information below.

Volatile Organic Compounds (VOCs)

F. VOC % by weight:[1] **60 %**	G. Density of Coating: **10.6 lbs/gal**	H. VOC content (lbs/gal): (F)/100 x (G) = **6.36 lbs VOC/gal**

Solids

I. Solids % by weight: **40 %**	J. Density of Coating: **10.6 lbs/gal**	K. Solids content (lbs/gal): (I)/100 x (J) = **4.24 lbs Solids/gal**

Hazardous Air Pollutants (HAP): enter for each HAP

L. Density of Coating:
10.6 lbs/gal

HAP Name	VOC?	% by Weight[1]	HAP content
HAP 1: Xylene	☒	**30 %**	M. (L) x (HAP1 % by wt)/100 **3.18 lbs HAP1/gal**
HAP 2: Toluene	☒	**15 %**	N. (L) x (HAP2 % by wt)/100 **1.59 lbs HAP2/gal**
HAP 3: MIK	☒	**5 %**	O. (L) x (HAP3 % by wt)/100 **0.53 lbs HAP3/gal**
HAP 4:	☐	**%**	P. (L) x (HAP4 % by wt)/100 **lbs HAP4/gal**
HAP 5:	☐	**%**	Q. (L) x (HAP5 % by wt)/100 **lbs HAP5/gal**

[1]If the coating is a multi-part coating (i.e., includes reducer and/or catalyst) enter a weighted VOC, HAP, and Solids Content. Page 5 discusses how to calculated the VOC, HAP, and Solids content in a multi-part coating.

Use the tables below to calculate the potential to emit for VOCs, Solids, and HAPs. You can only calculate a controlled PTE if there is a requirement in a rule or permit that requires you have the control device (e.g., fabric filter, thermal oxidizer) installed and operating. Otherwise, calculate emissions as "uncontrolled."

Table 1: Potential to Emit VOCs	
1A. Potential to Emit VOCs (UNCONTROLLED): (A) x (B) x (H) x (8,760 hrs/yr) x (1 ton/2,000 lbs) =	**167.14 Tons VOC/yr (uncontrolled)**
1B. Potential to Emit VOC (CONTROLLED, if applicable): (1A) x (100 – [D])/100 =	**Tons VOC/yr (controlled)**

Table 2: Potential to Emit Solids	
2A. Potential to Emit Solids (UNCONTROLLED): (A) x (B) x (K) x (1 – [C]) x (8,760 hrs/yr) x (1 ton/2,000 lbs) =	**27.86 Tons Soids/yr (uncontrolled)**
2B. Potential to Emit Solids (CONTROLLED, if applicable): (2A) x (100 – [E])/100 =	**2.79 Tons Solids/yr (controlled)**

Table 3: Potential to Emit HAPs (Uncontrolled)	
3A. Potential to Emit HAP1 (UNCONTROLLED): (A) x (B) x (M) x (8,760 hrs/yr) x (1 ton/2,000 lbs) =	**83.57 Tons HAP1/yr (uncontrolled)**
3B. Potential to Emit HAP2 (UNCONTROLLED): (A) x (B) x (N) x (8,760 hrs/yr) x (1 ton/2,000 lbs) =	**41.79 Tons HAP2/yr (uncontrolled)**
3C. Potential to Emit HAP3 (UNCONTROLLED): (A) x (B) x (O) x (8,760 hrs/yr) x (1 ton/2,000 lbs) =	**13.93 Tons HAP3/yr (uncontrolled)**
3D. Potential to Emit HAP4 (UNCONTROLLED): (A) x (B) x (P) x (8,760 hrs/yr) x (1 ton/2,000 lbs) =	**Tons HAP4/yr (uncontrolled)**
3E. Potential to Emit HAP5 (UNCONTROLLED): (A) x (B) x (Q) x (8,760 hrs/yr) x (1 ton/2,000 lbs) =	**Tons HAP5/yr (uncontrolled)**
3F. Total HAPs (UNCONTROLLED) (3A) + (3B) + (3C) + (3D) + (3E)	**139.29 Tons Total HAPs/yr (uncontrolled)**

Table 4: Potential to Emit HAPs (Controlled) – You may calculate a controlled PTE for HAPs only if you are allowed to calculate PTE of VOC as controlled (see instructions at the bottom of page 1). If the HAP is not a VOC, use the uncontrolled calculation above.	
4A. Potential to Emit HAP1 (CONTROLLED): (3A) x (100 – [D])/100 =	**Tons HAP1/yr (controlled)**
4B. Potential to Emit HAP2 (CONTROLLED): (3B) x (100 – [D])/100) =	**Tons HAP2/yr (controlled)**
4C. Potential to Emit HAP3 (CONTROLLED): (3C) x (100 – [D])/100) =	**Tons HAP3/yr (controlled)**
4D. Potential to Emit HAP4 (CONTROLLED): (3D) x (100 – [D])/100) =	**Tons HAP4/yr (controlled)**
4E. Potential to Emit HAP5 (CONTROLLED): (3E) x (100 – [D])/100) =	**Tons HAP5/yr (controlled)**
4F. Total HAPs (CONTROLLED) (4A) + (4B) + (4C) + (4D) + (4E)	**Tons Total HAPs/yr (controlled)**

How to Calculate a Weighted VOC, HAP, and Solids Content

Use this fact sheet to help you determine the VOC, HAP, and solids content of a coating "as applied" when a reducer and/or a catalyst are being added to a paint to create the coating to be applied.

Name of Paint:	Density of Paint: **Lbs/gal**
Name of Reducer:	Density of Reducer: **Lbs/gal**
Name of Catalyst (if applicable):	Density of Catalyst: **Lbs/gal**
Name of Other Component (if applicable):	Density of Other Component : **Lbs/gal**

1. List all the hazardous air pollutants present in the coating components

	Name			**Name**
HAP 1			**HAP 5**	
HAP 2			**HAP 6**	
HAP 3			**HAP 7**	
HAP 4			**HAP 8**	

2. Complete the following fields for all parts of the coating mixture.

	VOC % by wt	Solids % by wt	HAP 1 % by wt	HAP 2 % by wt	HAP 3 % by wt	HAP 4 % by wt	HAP 5 % by wt	HAP 6 % by wt	HAP 7 % by wt	HAP 8 % by wt
Paint										
Reducer										
Catalyst										

3. **Enter the Mix Ratio (i.e. in one gallon of the coating what percentage is paint, reducer, and/or catalyst)**

Paint	Reducer	Catalyst	
%	%	%	%

4. *Calculate Weighted VOC, HAP, and Solids Content in Coating (lbs/gal):*

   (Density of component) x (% by wt/100) x (% mix ratio/100)

	VOC lbs/gal	Solids lbs/gal	HAP 1 lbs/gal	HAP 2 lbs/gal	HAP 3 lbs/gal	HAP 4 lbs/gal	HAP 5 lbs/gal	HAP 6 lbs/gal	HAP 7 lbs/gal	HAP 8 lbs/gal
Paint										
Reducer										
Catalyst										
TOTAL										

This is the weighted VOC, HAP, and solids content in the coating