Guidelines for Calculating VOC Emissions from Lithographic Printing Operations - December 2019

The following methodology should be used to calculate VOC emissions from lithographic printing operations. This methodology has been developed by the SCAQMD in cooperation with the Printing Industries Association.

Lithographic Inks

Emissions = Q * EF *	$(1 - RF) * (1 - CE_{overall})$	Eq. (1)
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where:

Emissions	= Emissions of volatile organic compounds (lbs)
Q	= Throughput (quantity of ink applied in lbs or gallons)
EF	= Emission Factor (lb/lb ink or lb/gal)
RF	= Retention factor (ink type specific in decimal)
CE _{overall}	= Overall Efficiency of Control System (decimal)

- (1) User may refer to the product Material Safety Data Sheet (MSDS) to determine the emission factor (EF) based on volatile organic compounds (VOC) content of the ink. This may include, but not limited to, one or more of the following:
 - a) Volatile organic compounds (VOC)
 - b) Lithographic oil content (LOC) such as:
 - Petroleum-based oils
 - Vegetable-based oils
 - Oxidizing oils
 - Middle distillates
 - Linseed oil
 - White mineral oil
 - Other oils

If MSDS provides both VOC and LOC percentages or fractions, use the higher number for calculation purposes. **NOTE:** Unit of EF must be consistent with that of ink applied (Q), i.e., EF in weight fraction of lb/lb for Q in pounds.

(2) Depending on type of inks, the following retention factors are applicable for equation (1):

HEATSET INKS:	$\mathbf{RF} = 0.20$
NON-HEATSET INKS:	$\mathbf{RF} = 0.95$

NOTES:

- (1) RF is applicable to Conventional Products that contain VOC and/or LOC;
- (2) RF is not applicable to the following:
 - a. Printing inks in Flexography, Gravure, Screen, Letterpress, and Inkjet;
- (3) Overall efficiency (CE_{overall}) of a control system is defined as:

 $CE_{overall} = CE_{cap} * CE_{des}$ Eq. (2)

where:

 CE_{cap} = Capture Efficiency of Control System (fraction)

CE_{des} = Destruction Efficiency of Control Equipment (fraction)

In general, control system performance is tested to determine capture and control efficiencies. In the absence of project-specific source tested capture efficiency results, a default **capture efficiency** of 99.5% (**CE**_{cap} = 0.995) is allowed for **heatset materials only**. Any deviation from this default capture efficiency must be substantiated with supporting documentation.

Assumptions for Other Lithographic Printing Ink Operations

Fountain solutions and blanket/roller washes do not possess the same characteristics as lithographic inks; therefore, retention factors are not applicable to emissions from the use of these materials. However, in the absence of a specific source test, a carry-over factor is allowed as follows:

♦ 70% of emissions from fountain solution are allowed as default carry-over to the heat set dryer, provided that the dryer is vented to the afterburner. The VOC emissions from the use of fountain solutions (E_{fountain}) are calculated using the following equation:

 $E_{\text{fountain}} = \mathbf{Q} * \mathbf{EF} * [\mathbf{1} - (0.70 * \mathbf{CE}_{\text{overall}})]$ Eq. (3)

♦ 40% of emissions from blanket/roller washes are allowed as default carry-over to the heat set dryers only for <u>automatic wash operations</u> provided that the dryers are vented to afterburners. The VOC emissions from the use of blanket/roller washes (E_{wash}) are calculated using the following equation:

$$E_{\text{wash}} = Q * EF * [1 - (0.40 * CE_{\text{overall}})]$$
 Eq. (4)

where:

 $E_{fountain}$ = Emissions of VOC (lbs) from the use of fountain solutions

Ewash	= Emissions of VOC (lbs) from the use of blanket/roller washes
Q	= Throughput (quantity of material applied in lbs or gallons)
EF	= Emission factor (lb/lb or lb/gal)
Coverall	= Overall Efficiency of Control System (decimal)

STEPS TO REPORT EMISSIONS

Example: One web fed heat set printer used 4000 pounds of black ink (VOC = 0.375 lb/lb per MSDS); 20 gallons fountain solution (VOC = 0.8 lb/gal per MSDS); and 10 gallons universal blanket/roller wash with an automatic cleaning system (VOC = 6.7 lb/gal per MSDS) in this reporting period. The operation is vented to a control system operating at 99.5 % overall.

Emissions for the black ink are calculated below using Eq. (1):

 $E_{ink} = 4000 \text{ lb} * 0.375 \text{ lb/lb} * (1-0.2)] * (1 - 0.995) = 6.0 \text{ lbs}$

Emissions for the fountain solution are calculated using Eq. (3):

 $E_{fountain} = 20 \text{ gal} * 0.8 \text{ lb/gal} * [1 - (0.70 * 0.995)] = 4.86 \text{ lbs}$

Emissions for the blanket wash are calculated using Eq. (4):

 $E_{wash} = 10 \text{ gal} * 6.7 \text{ lb/gal} * ([1 - (0.4 * 0.995)] = 40.33 \text{ lbs}$

AER Tool Data Entry For The Above Example

• Click **Emissions Sources (ES)** to see the equipment list (left side of split screen). Click **Open** to access AER device ID ES1.

ission Sources (ES) Classification (1.0.0.277) - Windows Int						_ & ×
▶ ▼ 📧 http://aqmd-aer. dyndns.org /Facility/999115/201: 🔎	Emission Sources (E	×				☆ ☆
Edit View Favorites Tools Help AER Home Browse Facilities	Access Facility Facility	Home				-
			Facility ID: 999115 · A	BC · Reporting perio	od: 2013	
Facility ID: 999115	Build Reporting	Structure				
Facility Information Build Reporting Structure	Emission Sources (ES)) Classification				
Combustion Fuels Emission Sources (ES) Report Process/Emissions		cility permit profile. Please ma on sources can also be added.	ke sure that every device	has a specified Emis	ssion	
Summaries Data Validation	EPA TANKS Software DAT	TA IMPORT - <u>Click here</u> for mor	e instructions.			
Print Facility Report Excel Reports Report Submission	Displaying 1 emission s	sources.				
	A/N AER Device ID		nit NO nit Device ID			
	Search Emission Sou	urces				
	Add New Emission Source	2				
	Search:			Prin	nt Preview	
		Permit Equipment AER Device Description ID	ES Source Has Name Group Emissions	Equipment ES Status	Process Reference	
	Open 111111 D55555	ES1	Other Use of Y Organics	Printing Work in progress	Reference	-
	Shewing 1 to 1 of 1 entries	s				
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• Click down arrow for **Operating ES Status** and select **normal operation** from the drop down menu. Next, click on the button for **Determine Emission Source Group Type.**

File Edit View I	avorites Tools Help		
	Facility ID: 999115	Edit Emission Source	
	Facility Information Build Reporting Structure Combustion Fuels Emission Sources (ES) Report Process/Emissions Summaries Data Validation Print Facility Report Excel Reports Report Submission	Providing correct informati	on and proper selection categories would help to classify emission source.
		Permitted	
		A/N	111111 11111
		Permit No	D55555
		Permit Device ID	
		Permit Equipment Description	
	Report Submission	AER Device ID	ES1
		ES Name	
		Operating ES Status	Normal Operation
		Comment	
		Emission Source Group	Other Use of Organics Determine Emission Source Group Type
		Equipment	Printing
		Design Capacity	

- The following screen will appear and click on <u>click here</u> number 4 Other Use of Organics. Select Click Here
- Checkmark **Printing** box by clicking on it
- Click Save

Permitted	A/N	Permit No	Permit Device ID	Permit Equipment Description	AER Device ID	ES Name
S	111111	D55555			ES1	
 Internal Spray C Other U Dep Coi Storage 	Combustion I Coating/Spray Jse of Organic greaser ating (Flow / I e Tank (e.g. U	Equipment (e.g., interr Booth (e.g., coatings, s (e.g., coatings, solve Dip / Roll / Hand App nderground, Abovegro	al combustion engine (exclud solvents, adhesives, etc.) <u>clid</u> ents, inks, adhesives, etc.) ex lication) und, Small Tanks, Dispensin	er, afterburner, flare, kiln or incinerator) <u>click he</u> ding vehicles), turbine or micro turbine) <u>click he</u> <u>ck here</u> to select one of the following Equipmer teact in Spray Coatbg/Spray Booth, <u>click here</u> <u>Printing</u> Other evaporative sources g Systems) <u>click here</u> to select one of the follow ule 1173 and 1176), <u>click here</u> to select all app	to select one of the following Equipment:	Equipment:
7. Other P	Processes (doe	es not fit in any of the g	groups mentioned above), clie	ck <u>click here</u> to mark "Other Process Equipmer	ıt":	
					Save	Cancel

- Display returns to previous image.
- Click Save and Proceed to Process Reporting.

ebsites 📋 Windows Live 🖁 🖓 AP 42 Emission Fact 📧	Atomic Mass Avera 🗾 Chemical elem	ent C 👿 Dictionary of chemi 🕒 E & C Intranet - Ho 👖 Free NAICS & SIC C 🕒 httpelkhorn.unl.ed	Q. C
Facility ID: 999115			
Facility Information	Providing correct informat	tion and proper selection categories would help to classify emission source.	
Build Reporting Structure	Permitted		
Combustion Fuels	A/N		
Emission Sources (ES)	Permit No		
Report Process/Emissions	Permit Device ID	11111	
Summaries	Permit Equipment Description		
Data Validation	AER Device ID	ES1	
Print Facility Report	ES Name	Printing	
Report Submission	Operating ES Status	Normal Operation	
	Comment	6	
	Emission Source Group	Other Use of Organics Determine Emission Source Group Type	
	Equipment	Printing	
	Design Capacity	•	
	Save and return to List Optional: Save and Ma	Click here to delate this amireton source and associated data	
	veh site Home I AFR Web Site	Submit guestion/comment Ecotek Web Site Report a Bug	

• Click on P1 for the first process.

Process, in printing operation represent materials used in the printing operation. For each material type (Inks, Varnish, Coatings, Fountain Solution, Metering Roller wash, Roller wash, Blanket wash, etc.), there will be a new process number P1, P2, P3, ...Pn and will be generated by clicking on material type from "Other Use Of Organic" drop-down menu below "Add Process" command, after clicking on "**Back to Emission Source Process Reference**" command for the same permit or emission source from top or bottom left of the data-entry screen for P1. The drop-down menu is generated by clicking on "Add Process" command.

		D a musit	Demuit Device	450					
A/N	Permit NO	Permit Device ID	Permit Device Description	AER Device ID	ES Name	Source Group	Emissions?	Equipment	ES State
111111	D55555			ES1		Other Use of Organics	Y	Printing	Work in progres
Pro	ocess ID	Source	Group	Proc	ess Name	Proc	ess Status	Operation Type	
\subset	P1	Other Use o	f Organics			Work	in progress	routine	
\sim									
	rocess								

• Under Process click Open

0.0.236) ×	nd.gov/Report/999115/2013/EditSingle/B3/9910#9910	
	10. GOV/REPORV999115/2013/EditSingle/85/9910#9910 n Fact 🧧 Atomic Mass Avera 🎽 Chemical element C 🖤 Dictionary of chemi 🗋 E & C Intranet - Ho 👖 Free NAICS & SIC C 🗋 http:elkhorn.unl.ed	Q 😭 🛛
Facility ID: 999	Please provide specific information for every process associated with the other use of organics texcept in	
Facility Information	available by clicking on Help icon in the tool bar.	
Build Reporting Struc		
Combustion Fuels	Process Optional: Mark as Completed	
Emission Sources (E	S) AER Device ID Permit Device ID A/N Process ID Rule # Material/Activity Code Material Description	
Report Process/Emis		
Combustion	Click here to <u>delete</u> this process.	
External Combust	tion Throughput	
Internal Combust		
	Annual Throughput	
Use of organics	Open	
Spray Coating/Spr	Criteria Emissions (Ibs)	
Other Use of Org		
Storage Tanks	Pollutant EF Unit EF Data Source Emissions	
Fugitive Component	Add New	
Other Processes	Toxic (TAC/ODC) Emissions (lbs)	
Process Upset		
Summaries	TAC/ODC Group CAS # EF Unit EF Data Source Emissions	
Data Validation	Add New	
Print Facility Report		
Report Submission	« Back to Emission Source Process Reference	
	AQMD web site Home AER Web Site Submit guestion/comment Ecotek Web Site Report a Bug	

- The following screen will appear. Fill out and select appropriate data: **Process Name, Major Group, Type of Operation, Application Method, Material Description,** and **Additional Rule** by clicking the drop-down arrow for each field.
- Click Save.

Edit Emission I	Process - Oth	er Use o	of Organics				×
	ermit Device ID	A/N	Process ID	Rule #	Material/Activity C	ode Mat	erial Description
ES1		111111	P1				
AER Device ID	ES1		AER Devic	e Name			
PERMITTED	AN: 11	1111	Permit Dev	ice ID			
Process ID	P1		Process Na	ame			
Process Commen	t						
Equipment	Printing						-
Material / Activity	*						
Major Group:	Printing						•
Type of Operation	Graphic A	rts					•
Application Metho	d: Lithograph	ıy					-
Type of Material:	Web Fed	Heatset	- Inks				•
Material Description	on Black Ink				*		
Additional Rules	1130		▼ Remove	Add Ru	lle		
						Save	Cancel

At this point, add the other two processes that emit VOCs (Fountain Solution and Blanket/Roller

Wash), to complete the individual process associated with this example for Emission Source ES1.

• Click "Back to Emission Source Process Reference".

« Back to Emission Source Process Reference

• Click Add Process; select 'Other use of Organics" from the down arrow pick list. Call the process name Fountain Solution and click on OK.

Proces	s References	;							×	
A/N	Permit NO	Permit Device ID	Permit Device Description	AER Device ID	ES Name	Source Group	Emissions?	Equipment	ES Status	
111111	D55555			ES1		Other Use of Organics	Y	Printing	Work in progress	
F	Process ID Source Group		Process Name		Process Status		Operation Type			
	P1 Other Use of Organic		of Organics	Work		ork in progress routine				
	Add Process Other Use of Organics Process name: Fountain Solution OK									
									ОК	

• Click on Open

AER Home Browse Facilities	Access Facility Facility Home	= - 0
		Facility ID: 999115 · ABC · Reporting period: 2013
Facility ID: 999115	« Back to Emission Source Process Reference	
Facility Information	Other Use of Organics	
Build Reporting Structure Combustion Fuels Emission Sources (ES) Report Process/Emissions	Please provide specific information for every process a spray coating/spray booth) including usage, emission f select Material/Activity Code and throughput units b available by clicking on Help icon in the tool bar.	factor, and control efficiency (if any). You must
Combustion External Combustion	Process	Optional: Mark as Completed
Internal Combustion Use of organics		s ID Rule # Material/Activity Code Material Description
Spray Coating/Spray Booth	Open ES1 111111 P2	Click here to <u>delete</u> this process.

- The following screen pops up. Fill out and select appropriate data: **Process Name, Major Group, Type of Operation, Application Method, Material Description, Additional Rule** by clicking the drop-down arrow for each field.
- Click Save. This becomes process P2.

Edit Emission Pr	ocess - Oth	er Use o	of Organics	_	_		×		
AER Device ID Peri	nit Device ID	A/N	Process ID	Rule #	Material/A	ctivity Code	Material Description		
ES1		111111	P2						
AER Device ID	ES1		AER Devic	e Name					
PERMITTED	AN: 11	1111	Permit Dev	rice ID					
Process ID	P2		Process Na	ame	Four	itain Solutio	Solution		
Process Comment									
Equipment	Printing						-		
Material / Activity *									
Major Group:	Printing						•		
Type of Operation:	Graphic A	rts					•		
Application Method:	Lithograph	ıy					-		
Type of Material:	Web Fed	Heatset ·	- Fountain S	olution			-		
Material Description	Fountain S	olution				*			
Additional Rules	1130		▼ Remove	Add Ru	le				
						Sav	ve Cancel		

• Click on the **Back to Emission Source Process Reference** button at the bottom of the subsequent screen.

« Back to Emission Source Process Reference

• The following screen pops up. Select Add Process.

Pro	cess	References	;							×
A	/N	Permit NO	Permit Device ID	Permit Device Description	AER Device ID	ES Name	Source Group	Emissions?	Equipment	ES Status
111	111	D55555			ES1		Other Use of Organics	Y	Printing	Work in progress
		cess ID	Source			cess Name		ess Status	Operation Type	
		P1 P2	Other Use o Other Use o	-		Black Ink ntain Solution		in progress in progress	routine	
	dd Pr	ocess								
										ОК

• The following screen pops up. Select **Other use of Organics** from the down arrow pick list. Call the process name **Blanket/Roller wash** and click on **OK**.

D55555		Description						
			ES1		Other Use of Organics	Y	Printing	Work ir progres
ess ID	Source	Group	Pro	cess Name	Proc	ess Status	Operation Type	
P <u>1</u>	Other Use o	of Organics	E	Black Ink	Work	in progress	routine	
2	Other Use o	of Organics	Foun	ntain Solution	Work	in progress	routine	
2	1	1 Other Use d	1 Other Use of Organics	1 Other Use of Organics	1 Other Use of Organics Black Ink	1 Other Use of Organics Black Ink Work	1 Other Use of Organics Black Ink Work in progress	1 Other Use of Organics Black Ink Work in progress routine

• Click down arrows and select appropriate group, operation, application method, type of material, material description, and Rule 1171. Click **Save**. **This becomes process P3**.

Edit Emission Pro	ocess - Other Us	e of Organics			×				
AER Device ID Perm ES1	it Device ID A/M 1111		Rule # Ma	terial/Activity Code	Material Description				
AER Device ID	ES1	AER Device	e Name						
PERMITTED	AN: 111111	Permit Dev	ice ID						
Process ID	P3	Process Na	ame	Blanket/Roller W	/ash				
Process Comment									
Equipment	Printing	Printing							
Material / Activity *									
Major Group:	Solvents				•				
Type of Operation:	Solvent Cleanin	g Operations			•				
Application Method:	Wipe Cleaning				•				
Type of Material:	Application Equ	ipment Cleanin	g - Inks		•				
Material Description	Universal Blank	et/Roller Wash	Solvent	*					
Additional Rules	1171	▼ Remove	Add Rule						
				Sav	e Cancel				

• Click on the **Back to Emission Source Process Reference** button at the bottom of the subsequent screen.

« Back to Emission Source Process Reference

Process	References								×
		Demait	Demail Device	450					
A/N	Permit NO	Permit Device ID	Permit Device Description	AER Device ID	ES Name	Source Group	Emissions?	Equipment	ES Status
111111	D55555			ES1		Other Use of Organics	Y	Printing	Work in progress
Pro	cess ID	Source	Group	Pro	cess Name	Proc	ess Status	Operation Type	
	P1)	Other Use o	f Organics	E	Black Ink	Work	in progress	routine	
	P2	Other Use o	f Organics	Four	tain Solution	Work	in progress	routine	
	<u>P3</u>	Other Use o	f Organics	Blanke	et/Roller Wash	Work	in progress	routine	
Add Pi	ocess								
									ОК

• Click on **P1** to begin data entry of throughput (4,000 lb ink as input). Click **Save.**

E	dit Throug	ghput Informa	tion - Ot	her Use o	f Orga	nics	×				
A	ER Device ID	Permit Device ID	A/N	Process ID	Material/Activity Code	Material Description					
	ES1		111111	P1	1130	Printing:Graphic Arts:Lithography:Web Fed Heatset - Inks	Black Ink				
					Ann	ual Throughput					
	Usage (Annual Throughput) 4000 * Ibs •										
	Throughput	Туре		Input 👻	*						
	Usage Comr	ment									
	Save Cancel										
-											

• After entering the throughput, click on Add New (Criteria Emissions).

Throu	Ighput						
				Annu	ial Throughput		
<u>Open</u>				4	,000.00 lbs		
Criter	ia Emission	s (lbs	5)				
	Pollutant	EF	Unit	Controlled EF	EF Data Source	Overall CE	Emissions
Add	d New						

• Enter the **VOC content** of 0.375 lb/lb, and the **overall control efficiency** of 0.995. The retention factor and the emission factor will be populated for you. Heat set ink oils are 20% retentive (80% evaporative in the heat set dryer). Click **Save.**

	Open Crite	ria Emission lı	nformati	ion - Othe	r Use o	f Organics	×	
4	AER Device ID	Permit Device ID	A/N	Process ID	Rule #	Material/Activity Code	Material Description	
	ES1		111111	P1	1130	Printing:Graphic Arts:Lithography:Web Fed Heatset - Inks	Black Ink	
					Ann	ual Throughput		
						4,000.00 lbs		
	Pollutant		VOC	*				
	VOC Volatile	e Organic Compour	nds					
	Retention Fa	actor (RF)	0.2					
	VOC or Lithe	o Oil Content	0.375	D		* lbs/lbs		
	Emission Fa	ictor (EF)	0.300	D		* lbs/lbs		
1	Overall Con	trol Efficiency	0.995	00				
	Emission Fa	ictor Comment					<u>^</u>	
							~	
	Emission Fa	ictor Data Source	MSD	S			*	
	Emissions		6.00 lk	s				
						Save	Cancel	

Data entry for the ink in complete as per the next screenshot. The ink MSDS shows no standard toxic content.

Proce	SS							Optional: Mark	as Completed			
	AER Device ID	Permit Device ID	A/N	Process ID	Rule #		Material/Activ	ity Code	Material Description			
<u>Open</u>	ES1		111111	P1	1130	Printing: Heatset		ography:Web Fed	Black Ink			
								Click here to <mark>dele</mark>	te this process.			
Throu	ghput											
						ual Thro						
<u>Open</u>						4,000.00	lbs					
	Criteria Emissions (lbs)											
Criter	ia Emissio	ons (lbs)										
Criter	ia Emissio	ons (lbs)										
Criter	ia Emissic	ons (lbs) _{EF}	Unit	C	ontrolle	ed EF	EF Data Sour	ce Overall CE	Emissions			
<u>Open</u>		EF	Unit lbs / lbs	С	ontrolle	ed EF	EF Data Sour MSDS	ce Overall CE 0.995				
<u>Open</u>	Pollutant	EF		С		ed EF						
<u>Open</u> Adc	Pollutant VOC I New	EF	lbs / lbs			ed EF						
<u>Open</u> Adc	Pollutant VOC I New	EF 0.3000	lbs / lbs		No	ed EF		0.995	00 6.00			

• Click Back to Emission Source Process Reference, and Select process P2.

'rocess	References	•							1
A/N	Permit NO	Permit Device ID	Permit Device Description	AER Device ID	ES Name	Source Group	Emissions?	Equipment	ES Status
11111	D55555			ES1		Other Use of Organics	Y	Printing	Work in progres
Pre	ocess ID	Source	Group	Pro	cess Name	Proc	ess Status	Operation Type	
	P1	Other Use of	of Organics	E	Black Ink	Work	in progress	routine	
(<u>P2</u>)	Other Use o	of Organics	Foun	tain Solution	Work	in progress	routine	
	P3	Other Use o	of Organics	Blanke	t/Roller Wash	Work	in progress	routine	

• Select **Throughput** and enter data (20 gallons fountain solution input). Click **Save**.

•

Edit Throu	ughput Inform	nation -	Other Use	ofOr	ganics	×
AER Device ID	Permit Device ID	A/N	Process ID	Rule #	Material/Activity Code	Material Description
ES1		111111	P2	1130	Printing:Graphic Arts:Lithography:Web Fed Heatset - Fountain Solution	Fountain Solution
				A	Annual Throughput	
Usage (An	nual Throughput)		20		* gal 💌 *	
Throughpu	t Type		Input	t 💌 *		
Usage Con	nment					
					Save	Cancel

• After saving throughput data, click on Add New (Criteria Emissions).

Throughput										
			Annu	al Throughput						
<u>Open</u>				20.00 gal						
Criteria Emissions (lbs)										
Pollutant	EF Unit Controlled EF EF Data Source Overall CE Emissions									
Add New										

• Enter the **VOC content** of 0.8 lb/gal, and the **overall control efficiency** *as the product of the capture efficiency and the destruction efficiency* (0.7 x 0.995 = 0.6965). Calculation is performed automatically. Click **Save.**

Open Criteria Emission Information - Other Use of Organics									
AER Device ID	Permit Device ID	A/N	A/N Process Rule ID #		Material/Activity Code	Material Description			
ES1		111111			Printing:Graphic Arts:Lithography:Web Fed Heatset - Fountain Solution	Fountain Solution			
	Annual Throughput								
					20.00 gal				
Pollutant		VO	C - Volatile	Organ	ic Compounds				
Emission	Factor (EF)	0.8	000		* lbs/gal				
Overall Co	ontrol Efficiency	0.6	9650						
Emission	Factor Comment	Со	ntrol Efficie	ency = (0.7 x 0.995				
Emission	Factor Data Source	e AC	MD defau	t		*			
Emissions		4.86	6 lbs						
					Click here to <u>delete</u>	this Emission.			
					Save	Cancel			

Data entry for the **Fountain Solution** is complete as per the next screenshot. The ink MSDS shows no standard toxic content.

• Click Back to Emission Source Process Reference, and Select process P3.

the second se	South Statements	ion Source	at the second	and the second se
				4-11-18-1416-1
			The second se	1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m 1 m

Throu	ughput												
	Annual Throughput												
<u>Open</u>	20.00 gal												
Criteria Emissions (lbs)													
	Pollutant	EF	U	nit	Controlled EF	EF Data Source	Overall CE	Emissions					
<u>Open</u>	VOC	0.8000 lbs / gal		gal	No	AQMD default	0.69650	4.86					
Ad	d New												
Toxic (TAC/ODC) Emissions (lbs)													
	TAC/ODC G	iroup	CAS #	EF Un	it Controlled EF	EF Data Source	Overall CE	Emissions					
Ad	Add New												

Frocess	References	•							3
A/N	Permit NO	Permit Device ID	Permit Device Description	AER Device ID	ES Name	Source Group	Emissions?	Equipment	ES Status
111111	D55555			ES1		Other Use of Organics	Y	Printing	Work in progress
Process ID Source Group		Process Name		Process Status		Operation Type			
	P1	Other Use o	f Organics	Black Ink		Work in progress		routine	
	P2	Other Use of Organics		Fountain Solution		Work in progress		routine	
\langle	<u>P3</u>	Other Use o	f Organics	Blanke	et/Roller Wash	Work	in progress	routine	
Add P	rocess								
Auur	000035								
									ОК

• Repeat steps for Process ID P3 as for P1 and P2. *The throughput is 10 gallons and the emission factor for this example is 6.7 lb/gal. The overall efficiency will be 0.4 x 0995 = 0.398* when entering criteria emission information. The final screenshot below shows all three processes input into the program, as viewed in **Report Process/Emissions.**

				F	Facility ID: 99	99115 · ABC · R	eporting peri	iod: 2013	
Facility ID: 999115	Other	Use of (Organics						
Facility Information Build Reporting Structure Combustion Fuels Emission Sources (ES) Report Process/Emissions	spray coa select Ma	ting/spray	mission facto It units befor	associated with the other use of organics (except in factor, and control efficiency (if any). You must before reporting emissions. Detailed instructions are					
Combustion External Combustion	Other	Use of (Organics Process	List Ove	rview				
Internal Combustion	Add Nev	v					Pri	nt Preview	
Use of organics	Process ID	Status	Material Description	Usage	Units			Em	
Spray Coating/Spray Booth	FIOCESSID		material bescription	Usage	OTILS	ROG	SPOG	NOx	
Other Use of Organics	P1	Work in Progress	Black Ink	4,000.00	lbs	6.00	0		
Storage Tanks Fugitive Components	P2	Work in Progress	Fountain Solution	20.00	gal	4.86	0		
Other Processes	P3	Work in Progress	Universal Blanket/Roller Wash Solvent	10.00	gal	40.33	0		
Process Upset Summaries	•								
Data Validation									
Print Facility Report									
Excel Reports									