

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
AIR DIVISION

INSTRUCTIONS FOR  
COMPLETION OF VOLATILE ORGANIC COMPOUND (VOC)  
SURFACE COATING EMISSION SOURCES ADEM Form 109

Please review entire form before completion.

Items 1 and 2: Self-explanatory.

Item 3: The type of process for which this form is to be completed should be indicated. Separate forms are to be submitted for each type of process and/or for multiple units of one process type (i.e., different coating lines should have separate 109 forms filled out).

Item 4: Describe how the operation works and what is the final product. A process flow diagram should also be included to clarify your explanation. See page 6.

Item 5: Operating time for this process only (i.e., actual coating time).

Item 6: All coatings, as they are utilized in the process, are to be identified. The percentages indicated should be by weight, not volume. Attach calculations for pounds of Volatile Organic Compounds (VOCs) per year. Organic liquid diluents added to the paint by your company should be included in item 7 and not here. Organic liquid solvents used for wash or clean up should be included in item 8 and not here (use additional sheets as necessary).

Item 7: Description of each organic diluent added to coatings. The quantity of chemicals accounted for here should not be included in item 6 or item 8. Attach calculations for pounds VOC per year (use additional sheets as necessary).

Item 8: Description of each organic liquid solvent used for wash or clean up. The quantity of chemicals accounted for here should not be included in item 6 or item 7. Attach calculations for pounds VOC per year (use additional sheets as necessary).

Item 9: Warm air tunnel dried: dried at ambient temperatures (<100 °F). Oven dried: dried at greater than ambient temperatures (>100 °F). Air dried: dried with no heat added.

List fuels used and characteristics of fuels for this process only.

- Item 10:** Emission points should be labeled both here, under Item 11, and on attached flow diagram (see Page 6) and an attached scaled map. Map should contain clearly marked emission points, building locations, property boundaries, directions (North, etc.). Stack height is that above ground level. UTM Coordinates, which means *Universal Transverse Mercator* Coordinates, for Alabama, N-S is between 3337.000km-3875.000km and E-W is between 362.000km-709.000km; Zone 16. Standard temperature is 70°F; standard pressure is 29.92 inches of Hg. Volume of gas discharged can be calculated with the gas velocity (FPS) and stack diameter (Ft). Emission points not associated with a stack or vent should be labeled as "fugitives" under stack height.
- Item 11:** Each air contaminant which is known or suspected to be emitted from each emission point is to be listed. (For example: Do not list just "VOC"; instead, list specific chemicals such as toluene, MEK, Xylene etc.). The allowable emission specified in the Regulation must be stated. The Department must be assured that the owner or operator has a clear understanding of the allowable emission rate.
- Item 12:** If answer to this item is yes, the application will not be considered complete unless ADEM Form 110 is attached to ADEM Form 109.
- Item 13:** If answer to this item is yes, ADEM Form 110 need not be completed.
- Item 14:** May be included as part of monitoring plan (if so, please indicate in space provided)
- Item 15:** If answer to this item is no, please complete ADEM Form 437.
- Item 16:** For existing sources only, attach a detailed chronological history of the process.

**PERMIT APPLICATION  
FOR  
VOLATILE ORGANIC COMPOUND (VOC)  
SURFACE COATING EMISSION SOURCES**

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Do not write in this space

1. Name of firm or organization: \_\_\_\_\_

2. Identification Name or Number given to this process: \_\_\_\_\_

3. Type of surface coating process:

Can coating

Flatwood paneling coating

Coil coating

Paper, fabric and vinyl coating

Metal furniture coating

Magnet wire coating

Surface coating of large appliances

Automobile and light duty truck manufacturing

Misc. metal parts & products

Other (specify): \_\_\_\_\_

4. Briefly describe the operation of this surface coating process in your facility:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. Normal operating schedule:

Hours/ day: \_\_\_\_\_ Days/ week: \_\_\_\_\_ Weeks/ year: \_\_\_\_\_

Peak production season (if any): \_\_\_\_\_

6. Coating material used in unit or process (as applied). Do not include diluents added to coatings (see item 7).

Coating Material	Coating Method	Max. gal/hr	Total gal/yr.	Density lbs/gal	% wt Solid	% wt Water	% wt VOC	VOC's applied lbs/year
<b>Total (lbs/year)</b>								
<b>Total (tons/year)</b>								

7. Description of organic liquid diluents (coating thinners & additives) added to the surface coatings:

Diluents	Amt. added per gallon	Coating material	Total gal/yr.	Density lbs/gal	% wt Water	% wt VOC	VOC's lbs/year	
							Total (pounds/year)	
							Total (tons/year)	

8. Description of all organic liquid solvents used for wash or clean up:

Solvents	Total gal/yr.	Density lbs/gal	% wt Water	% wt VOC	VOC's lbs/year	
					Total (pounds/year)	
					Total (tons/year)	

9. After coating, materials are: Oven dried Air dried Warm air tunnel dried

If oven or warm air tunnel dried, the total fuel heat input is (exclude fuels used by indirect heating equipment previously described on ADEM: cfa '104.): \_\_\_\_\_ MMBtu/hr

Fuel	Heat Content	Units	Max. % Sulfur	Max. % Ash	Grade No. [fuel oil only]	Supplier [used oil only]
Coal		Btu/lb				
Fuel Oil		Btu/gal				
Natural Gas		Btu/ft <sup>3</sup>				
L. P. Gas		Btu/ft <sup>3</sup>				
Wood		Btu/lb				
Other (specify)						

10. Air contaminant emission points: (each point of emission should be listed separately and numbered so that it can be located on the attached flow diagram):

Emission Point	Stack							
	UTM Coordinates		Height Above Grade (Ft)	Base Elevation (Ft)	Diameter (Ft)	Gas Exit Velocity (Ft/Sec)	Volume of Gas Discharge d (ACFM)	Exit Temperature (°F)
	E-W (km)	N-S (km)						

\* std temperature is 68°F - std pressure is 29.92" in hg.

11. Air contaminants emitted: basis of estimate (material balance, stack test, emission factor, etc.) must be clearly indicated on calculations appended to this form. Fugitive emissions must be included and calculations must be appended.

Emission Point	Pollutants	Potential Emissions		Basis of Calculation	Regulatory Emission Limit	
		(lb/hr)	(Tons/yr)		(lb/hr)	(units of standard)

12. Is there any emission control equipment on this unit or process?

yes no (if "yes", complete ADEM: cfa '110)

13. Does this process have particulate filters?

yes no

14. For each regulated pollutant, describe any limitations on source operation which affects emissions or any work practice standard (attach additional pages if necessary):

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15. Is this surface coating process in compliance with all applicable air pollution rules and regulations?

yes no (if "no", complete ADEM Form 437)

16. For existing sources only, include a chronological history of the process, including original installation date, modification date(s), and detailed description of the modification(s).

Name of person preparing application \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Using a flow diagram, illustrate locations of air contaminant release so that emission points under item 10 can be identified:

Flow diagram