

EASTERN KERN AIR POLLUTION CONTROL DISTRICT

Logging of Paint Operations Compliance Assistance Bulletin

1. Your permit requires you to keep a daily log of all painting operations. This log must contain the following information on each operation.

Date
Application method
Type of coating and product coated
Paint products used
Mixing instructions
The total amount used (each day)
VOC content, as applied
Total daily VOC's emitted

Note: VOC refers to the "Volatile Organic Compounds" in a product or solvent content of a product.

2. You may use the District daily VOC log sheet or another log sheet of your preference providing it contains all information required in Number 1. above.
 - a. **Log Sheet:** Depending on your shop's preference, you may list one customer per line or use one line per coating or product used. Examples of each way are attached.
 - b. **Date:** Complete the date of the product application, not the date you completed the form.
 - c. **Job Type:** Item to be coated.
 - d. **Application Method:** HVLP, aerosol, touch-up HVLP, brush, etc.
 - e. **Type of Coating:** Choose from list below. Coating must be labeled for intended use. If label indicates coating is suitable for use as coating for which lower VOC standard applies, then lowest VOC standard shall apply.

- | | |
|---|---|
| 1) Pretreatment wash primer | 1) General purpose (i.e., coating not listed below) |
| 2) Precoat | 2) Camouflage |
| 3) Primer | 3) Extreme performance |
| 4) Primer surfacer | 4) Heat resistant |
| 5) Primer sealer | 5) High gloss |
| 6) Topcoat | 6) High performance architectural |
| 7) Metallic / Iridescent topcoat | 7) High temperature |
| 8) Single stage topcoat | 8) Metallic topcoat |
| 9) Multi stage coatings | 9) Pretreatment wash primer |
| 10) Extreme performance | 10) Silicone release |
| 11) Camouflage | 11) Solar absorbent |
| 12) Solvents for surface prep or clean up | 12) Solvents for surface prep or clean up |

Definitions for the above are contained in Rules 410.1, 410.4 and 410.4A.

- f. **Paint Products Used:** List the manufacturer and product number under the appropriate column (coating code #, reducer code #, or catalyst code #).
- g. **Mixing Instructions:** Put the mixture ratio in the Mix Ratio column.
- h. **Total Amount:** Put the total amount of material applied.
- i. **VOC Content as Applied:** Calculate the VOC content as applied, including thinning solvents, hardeners, etc., and excluding water and exempt compounds. The maximum VOC content applied, by type of coating is specified in Rules 410.1, 410.4, and 410.4A. Example: For a single stage auto top coat, if the VOC content, as applied, is greater than 3.5, then you are in violation of your permit even if your total VOC's emitted is less than your daily permit limit. The calculations are done as follows:

(1) **To convert from gms/liter to lb/gal:**

$$\text{VOC, lb/gal} = \frac{\text{VOC, gms/liter}}{120}$$

(2) **For a single stage coating:**

$$\begin{aligned} \text{VOC as applied} &= \text{VOC of product} \\ j &= \text{column "d" from coating log} \end{aligned}$$

See primer example dated February 7

$$\text{VOC as applied} = 1.90 \text{ lb/gal}$$

(3) **For a two product coating:**

$$\text{VOC as applied} = \frac{(\text{VOC of product 1})(\text{Mix product 1}) + (\text{VOC of product 2})(\text{Mix product 2})}{\text{Add mix ratio product 1 to 2}}$$

See top coat example dated February 8

$$j = \frac{(d)(g)+(e)(h)}{g+h}$$

$$\text{VOC as applied} = \frac{(3.0)(1) + 4.0(1.0)}{2} = 3.5 \text{ lb/gal}$$

(4) **For a three product coating:**

$$\text{VOC as applied} = \frac{(\text{VOC of product 1})(\text{Mix product 1})+(\text{VOC of product 2})(\text{Mix product 2})+(\text{VOC of product 3})(\text{Mix product 3})}{\text{add mix ratio products 1+2+3}}$$

$$j = \frac{(d)(g)+(e)(h)+(f)(i)}{g+h+i}$$

$$\text{VOC as applied} = \frac{(2.8)(2) + (7.5)(3) + (3.1)(4)}{12} = 4.50 \text{ lb/gal}$$

- j. **Total Calculated VOC Content:** Multiply the VOC content as applied by the total amount used to get the total VOC emitted. Place this in the total VOC column:

lb/day emitted = VOC, as applied, in lb/gal x gallons/day used

$$l = j \times k$$

Add up all entries in Column 1, at the end of each day. The total VOC's emitted in one day from all products used cannot exceed your permit limit in lb/day. Include all sources of VOC's associated with coating operation including cleaning solvents and aerosols. But, if for example, cleaning solvent is only added once per week to a gun cleaner you may assume this is emitted in equal parts over the week for purposes of ensuring compliance with your daily limit.

Note: Your permit has a lb/day limitation, so you may find it helpful to determine the total amount of paint you're allowed to use per day in gallons or liters based on the highest VOC coating used at your shop. This will give you a quick way of ensuring compliance but it does not exempt you from recordkeeping described in this compliance assistance bulletin.

$$\text{Gallons/day allowed} = \frac{\text{lb/day limit on permit}}{\text{highest VOC used}}$$

Example:

$$\begin{aligned} \text{Gallons/day allowed} &= \frac{13.5 \text{ lb/day}}{6.40} \\ &= 2 \text{ gallons per day} \end{aligned}$$

(Note: Your permit limit and gallons per day will differ from this example based on information you submitted at time of permit application.)

- k. **Increasing Permit Limit:** If you wish to increase your coating use beyond that specified in your permit, you must submit a written request to change your permit or you will be in violation of your permit.
3. Your permit requires that you keep a list of all your products and associated VOC content. Some manufacturers have a product listing or chart of "as applied coatings." Check with your manufacturer to see if they have such a list. If a product listing is not available, you must obtain VOC information from MSDS, the label on the can, or product information sheets. Have these sheets available for review during inspections. You may wish to write up a "master sheet," with all the "as applied" calculated VOC levels listed. Painters can then transfer this information to their daily log sheets.
 4. Coatings must be mixed per manufacturer's recommendation to ensure compliance with VOC limits which are limits "as applied."