

Evaporative solvent users: Do you need an air permit?

Background

Small businesses that use paints and solvents at their facilities may wonder whether their facility needs an air operating permit. The answer: maybe not.

The Kansas Department of Health and Environment (KDHE) recently developed a regulation for facilities that purchase or use evaporative solvents, such as cleaning solvents, inks, adhesives, or surface coatings. The regulation allows facilities that buy or use relatively small amounts of evaporative solvents to operate under the regulation without obtaining a permit. The following section addresses some common questions regarding how small businesses can operate under the evaporative solvent regulations.

Does my facility need an operating permit?

Facilities that buy or use materials (such as paints and solvents) that contain less than a total of nine tons of VOCs, HAPs, or both in any consecutive 12 months do not need to apply for an air operating permit. Such facilities may simply track the amount of VOCs and HAPs they buy or use to demonstrate that their facility is indeed under the nine-ton-per-year limit. A facility need not send notification of intent to operate under this regulation to KDHE unless it exceeds the nine-ton limit.

What are VOCs and HAPs, and how much do I have at my facility?

VOC is short for volatile organic compound. VOCs are common constituents of most organic industrial materials such as paints and solvents, and they are regulated because they combine to form harmful smog. HAP is short for hazardous air pollutant. HAPs are also found in materials like paints and solvents, and they also get into the air we breathe.

The material safety data sheet (MSDS) that accompanies each material you buy or use lists the components of that material and often specifies whether it is a VOC or HAP. If the MSDS that accompanies your material does not specify VOC or HAP, contact the vendor who supplied the material. You also may contact SBEAP for assistance in determining VOCs and HAPs in your materials.

Once you know the VOC and HAP content in your materials, calculating the amount of VOCs and HAPs in the entire quantity of the material is fairly simple. The back of this fact sheet shows how to calculate the amount of VOCs and HAPs for a facility that uses paint.

What if I buy or use more than nine tons of VOCs, HAPs, or both in any consecutive 12 months?

If in any 12 consecutive months you buy or use more than nine tons of VOCs, HAPs, or both, you must do all of the following:

- Within one working day after the discovery, notify KDHE in writing that you have bought or used more than nine tons of VOCs, HAPs, or both.
- Within 60 days after the discovery, submit a plan to KDHE describing how you will get back to using less than nine tons of VOCs, HAPs, or both in the future.
- Within 180 days after the discovery, apply for an appropriate operating permit.

If you purchase or use more than nine tons per year of VOCs, HAPs, or both; if you need additional information on other operating permits; or if you need assistance calculating the amount of VOCs or HAPs at your facility, call the SBEAP Technical Assistance Hotline at KSU at 800-578-8898 or e-mail SBEAP at SBEAP@ksu.edu.



Evaporative solvents

How do I calculate VOCs and HAPs?

The following sample calculation can be applied to VOC- and HAP-containing materials at your facility.

Example: Paint

Your facility purchased 300 gallons of paint in the last year (12 consecutive months) and you need to determine the amount of VOCs and HAPs purchased. The MSDS for the paint lists the density at eight pounds per gallon and the components of the paint as follows:

VOCs:	59% (by weight)	VOC
Xylene:	8% (by weight)	HAP
Ethylbenzene:	2% (by weight)	HAP
Toluene:	26% (by weight)	HAP

To calculate the total amount of VOCs and HAPs that your facility bought:

1. Determine and add the total percent (%) of HAPs in the paint.

Since xylene, ethylbenzene, and toluene are HAPs, add up their weight percents. 8% (xylene) + 2% (ethylbenzene) + 26% toluene adds up to 36 percent.

Because there is only one VOC listing, the total percentage of VOCs is simply 59 percent.

2. Use the density of the paint listed on the MSDS to calculate the weight (tons) of paint (because you report your VOCs and HAPs in tons).

In this example, the density of the paint is 8 pounds (lbs.) per

gallon. The amount of paint is 300 gallons.

Calculate as follows:

$$(\text{amount}) \times (\text{density}) \times (1 \text{ ton}/2,000 \text{ lbs.}) = \text{tons of chemical}$$

$$(300 \text{ gal}) \times (8.0 \text{ lbs./gal}) \times (1 \text{ ton}/2,000 \text{ lbs.}) = 1.2 \text{ tons}$$

3. Calculate the amount of VOCs and HAPs (in tons) by multiplying the weight percent of each in the product by the total weight of the product and dividing by 100 to cancel out the percent sign:

$$\frac{(\text{weight \% of VOC or HAP}) \times (\text{product weight})}{100} = \text{weight of VOC or HAP}$$

In this example, the total weight of paint was 1.2 tons, and was 59 percent VOC and 36 percent HAP by weight.

VOC:

$$\frac{(59\%) \times (1.2 \text{ tons})}{100} = 0.71 \text{ tons VOC}$$

HAP:

$$\frac{(36\%) \times (1.2 \text{ tons})}{100} = 0.43 \text{ tons HAP}$$

In this example, the records show that 0.71 tons of VOCs were purchased in the last 12 consecutive months and that 0.43 tons of HAPs were purchased in the last 12 consecutive months. Therefore, you may operate under the evaporative solvent regulation without obtaining a permit.



The Small Business Environmental Assistance Program's (SBEAP) mission is to help Kansas small businesses comply with environmental regulations. SBEAP operates through a consortium of the University of Kansas, Kansas State University and Wichita State University. SBEAP is funded through a contract with the Kansas Department of Health and Environment. SBEAP services are free and confidential. This fact sheet was published by Kansas State University's Pollution Prevention Institute. For more information, call 800-578-8898 or send e-mail to SBEAP@ksu.edu. Our Web address is <http://sbeap.niar.twsu.edu>. The University of Kansas, Kansas State University and Wichita State University are EEO/AA providers.