



Class II permit-by-rule for solvent users

Introduction

Certain air emission sources, such as organic solvent evaporative sources, are eligible to operate under the State of Kansas Class II permit-by-rule regulation (K.A.R. 28-19-562). The permit-by-rule application process is more streamlined than the typical Class II application. The permit-by-rule for evaporative solvents is available to facilities that limit their purchase or use of evaporative solvents such as cleaning solvents, inks, adhesives, or surface coatings that contain volatile organic compounds (VOCs), hazardous air pollutants (HAPs), or both. VOCs are regulated because they combine with nitrogen oxides (NO_x) in the presence of heat and sunlight to form harmful smog. HAPs may increase the chance of developing cancer or experiencing other serious health effects.

Facilities that buy or use evaporative solvents below certain threshold amounts can operate under the permit-by-rule regulation. However, in order for the regulation to apply, your facility cannot contain other emission sources that alone, or in combination with all evaporative sources, would require you to obtain a Class I air operating permit solely because of your facility's potential to emit (PTE).

If your solvent evaporative sources have the potential to annually emit 100 tons or more of VOCs, 25 tons or more of any combination of HAPs, or 10 tons or more of a single HAP, you will be required to apply for an air operating permit.

If you would like to learn more about Class I or Class II operating permits, see the Kansas Small Business Environmental Assistance Program (SBEAP) fact sheet *What is the Kansas Air Quality Act?* at www.sbeap.org.

What limits apply under the permit-by-rule?

Facilities that apply to operate under the permit-by-rule regulation must limit the purchase or use of evaporative solvent materials to the following levels in any consecutive 12-month period:

- Materials contain less than a total of 90 tons of volatile organic compounds (VOCs).
- Materials contain less than a total of 22.5 tons of any combination of hazardous air pollutants (HAPs).
- Materials contain less than a total of nine tons of each single HAP.

The permit-by-rule application for organic solvent evaporative sources is available on the KDHE Bureau of Air Website at www.kdheks.gov/air-permit/download.html.

What are my requirements?

Owners or operators of organic evaporative solvent sources wanting to operate under the permit-by-rule regulation must meet the following requirements:

- Limit the purchase or use of materials that contain VOCs, HAPs, or both, to the amounts listed in the previous section.
- Maintain records of the materials containing VOCs, HAPs, or both, that were either purchased or used by the source.
- Update records monthly, not later than the last day of the month following the month to which the records relate.
- Retain records on site for at least two years from the date of record.
- Submit an air emission report by April 1 of each year. Required information shall be submitted on forms provided by KDHE.

What are my requirements? (cont.)

In addition to the annual air emission report, if at the end of any calendar quarter the actual amount of materials purchased or used contains VOCs or HAPs at 85% or more of the permit-by-rule limits for VOCs and HAPs, then the amount of materials purchased or used in the previous four quarters must be reported to KDHE in writing (within 45 days of the last day of the quarter).

Levels that equal 85% of the permit-by-rule limits are —

- 76.5 or more tons of VOCs,
- 19.1 or more tons of any combination of HAPs, and
- 7.7 or more tons of each single HAP.

What if I exceed the operational limits?

If at any time you buy or use materials containing more than the permit-by-rule threshold values of VOCs or HAPs, you must do the following:

- On or before the first working day after the discovery, notify KDHE in writing.
- Within 60 days after discovery, submit a written compliance plan to KDHE describing the actions taken and that will be taken to ensure compliance.
- Within 180 days after discovery, apply for an appropriate operating permit, if required.

How do I calculate my VOCs and HAPs?

Material safety data sheets (MSDS) should be available for the materials you buy or use. These list components of those materials and specify whether each contains VOCs or HAPs. For assistance in determining VOCs and HAPs in your materials, contact the vendor who supplied the material, or contact SBEAP at 800-578-8898.

The following sample calculation is for a coating material. The calculation can be applied to VOC- and HAP-containing materials at your facility.

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Sample VOC and HAP calculation

A facility purchased 100, 55-gallon drums of paint in the last year (consecutive 12-month period). The MSDS for the paint lists the density at 8.0 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

Complete the following steps to calculate the total amount of VOCs and HAPs that your facility bought:

1. *Use the density of the paint listed on the MSDS to calculate the weight (tons) of paint.*
In this example, density of the paint is 8.0 pounds per gallon. The amount of paint purchased is 5,500 gallons. Multiplying the two together, you find that 44,000 pounds of paint were bought. Since one ton equals 2,000 pounds, 22 tons of paint were purchased.
2. *Determine which components are HAPs.*
According to the Clean Air Act, there are 188 HAPs. A list can be found online at www.epa.gov/ttnatw01/orig189.html. Using the name and chemical abstracts service (CAS) number, you will see that xylene, ethylbenzene, and toluene are all HAPs.
3. *Calculate the amount of VOCs and HAPs by multiplying the weight percentage of each in the product by the total weight of the product.*
 $VOCs = (22 \text{ tons}) \times (59/100) = 12.98 \text{ tons}$
 $Xylene = (22 \text{ tons}) \times (8/100) = 1.76 \text{ tons}$
 $Ethylbenzene = (22 \text{ tons}) \times (2/100) = 0.44 \text{ tons}$
 $Toluene = (22 \text{ tons}) \times (26/100) = 5.72 \text{ tons}$
 $Total \ HAPs = 1.76 + 0.44 + 5.72 = 7.92 \text{ tons}$

In this example, the record shows that 12.98 tons of VOCs and 7.92 tons of HAPs were purchased in the previous 12-month period. Therefore, this business may operate under the evaporative solvent permit- by-rule regulation.

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