



Fugitive Dust

What Is Fugitive Dust?

Fugitive dust is defined as dust that is emitted from nonpoint sources rather than definable point sources such as industrial smokestacks. Examples of nonpoint sources include open fields, unpaved roadways, construction sites, gravel quarries, grain bins and storage piles.

As a category of particulate matter, fugitive dust must be regulated along with larger particles from point source emissions. In Kentucky, the Division for Air Quality (DAQ) regulates sources of fugitive dust under Kentucky Administrative Regulation (KAR) Section 401 KAR 63:010. This regulation can be viewed in full at <https://apps.legislature.ky.gov/law/kar/401/063/010.pdf>. This fact sheet aims to provide guidance and clarify the rules pertaining to fugitive emissions. Additional sources of information, as well as who to contact for further help, are noted on the last page.



Who is Affected by Fugitive Emissions Regulations?

Kentucky's fugitive emissions regulation applies to any entity or facility with an apparatus, operation or road that emits or may emit fugitive emissions. These sources must minimize the effects of activities that cause dust to be released. It is important to note, however, that DAQ's fugitive emissions regulation shall not apply to agricultural practices, such as tilling and fertilizing farmland.

Fact: *Unpaved roads produce about 10 million tons of particulate matter air pollution each year in the United States.*

What are the Facility Requirements?

Facilities and businesses that cause fugitive dust are responsible for reducing and controlling emissions. Furthermore, in order to comply with state and federal regulations, fugitive dust must be prevented from traveling beyond the property line where it originated. Fugitive dust regulations utilize the Environmental Protection Agency's (EPA) Method 22 "Visual Determination of Fugitive Emissions." Through this method, viewers position themselves to have an unobstructed view of potential emissions. If visible emissions are observed, then the viewer measures the percentage of time visible emissions were present during the observation period. There is no certification required to conduct Method 22, but it is highly recommended to participate in online training and follow EPA's general procedures for using this method. For more information, visit <https://www.epa.gov/emc/method-22-visual-determination-fugitive-emissions>.

Sources of Fugitive Dust

Significant sources of fugitive dust include haul roads, construction sites, quarries, croplands, and grain bins. Haul roads and other unpaved roads, however, are the largest single source. When vehicles travel down an unpaved road, they create fugitive dust. Fugitive dust caused by hauling can be minimized by using water or gravel as a means of dust suppression.

Complaints and Violations

DAQ receives an average of 250 complaints each year for fugitive dust emissions. Complaints and violations for excessive dust are typically related to precipitation patterns. During the summer months and periods of prolonged drought, the number of complaints and violations generally increase.

Why Control Fugitive Dust?

Controlling fugitive dust is primarily a matter of safety. On unpaved roads, fugitive dust reduces visibility, increases accidents, and adds to the costs of cleaning vehicles, equipment, and structures. Excessive dust can also damage vegetation and reduce crop production. In severe cases, it can interfere with plant growth by clogging pores and reducing light interception. Excessive dust also diminishes property and land values.

Although generally not toxic, fugitive dust can cause health problems, alone or in combination with other air pollutants. Infants, the elderly and people with respiratory problems are the most likely to be affected. In addition, excessive dust at a worksite can create more hassle for the foreman. If fugitive dust leaves the project boundaries because of a lack of control measures, then there will certainly be more complaints from neighbors, increased inspections from regional field offices and potential for fines.

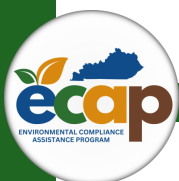
Developing a Dust Prevention and Control Plan

- ◆ Identify all potential fugitive dust emission sources.
- ◆ Start with a facility site-plan map and record all paved and unpaved haul roads, stockpiles, material transfer points, parking lots, staging areas and any other areas subject to wind erosion.
- ◆ Study daily traffic volumes and determine whether roads and open areas are used frequently or occasionally.
- ◆ Determine frequency of application for each source and each control method.
- ◆ Record all dust control activities on a checklist, along with the daily weather information, such as wind speed, wind direction, temperature and rainfall.
- ◆ Monitor all dust control efforts. Regular monitoring ensures that control measures are adequate.
- ◆ Use a self-inspection checklist to help incorporate the routine tasks of fugitive dust control and to serve as a daily record of control measures.

Ways to Control Fugitive Dust

Depending on the facility and operations in question, numerous techniques can be used to help control fugitive dust emissions. Control methods can include:

- ◆ Windbreaks and barriers.
- ◆ Frequent water and/or chemical applications (such as calcium or magnesium chloride, which may require a groundwater protection plan).
- ◆ Posted and enforced speed limits.
- ◆ Control of vehicle access.
- ◆ Covering of open piles and trucks.
- ◆ Use of gravel or water at site exit points to remove caked-on dirt.
- ◆ Washing equipment at the end of the day prior to site removal.
- ◆ Wet sweeping of public thoroughfares.



Fact: Fugitive dust affects more than those within close proximity to your location. A model of dust imports developed by researchers from Harvard and NASA shows that very “fine dust can be transported over long distances – from Asia to North America, and from North Africa to Florida, and all the way around the world to Canada and the U.S.”

<http://news.harvard.edu/gazette/2006/12.07/05-dust.html>.

Additional Information

- ◆ U.S. Environmental Protection Agency, Fugitive Dust Control Measures and Best Practices:
<https://www.epa.gov/system/files/documents/2022-02/fugitive-dust-control-best-practices.pdf>
- ◆ National Small Business Environmental Assistance Program:
<https://nationalsbeap.org/>
- ◆ Environmental Protection Agency Method 22 Guidance:
[Method 22 - Visual Determination of Fugitive Emissions](#) | [Air Emission Measurement Center \(EMC\)](#) US EPA

The information in this document is offered only as general guidance. It is not a substitute for reading and understanding Kentucky's statutes and regulations governing the applicability and issuance of environmental permits. Specific requirements may vary with location. ECAP is not authorized to relieve any person from any requirement of federal regulations or Kentucky law through this document.

