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Fugitive Dust

What Is Fugitive Dust?

Fugitive dust is defined as dust that is not emitted from definable point sources, such as industrial smokestacks. Sources include open fields, roadways and storage piles.

The state regulation that provides for the control of fugitive emissions may be accessed at http://www.lrc.ky.gov/kar/401/063/010.htm.

This regulation applies to any apparatus, operation or road that emits or may emit fugitive emissions provided that the fugitive emissions from such facility are not elsewhere subject to an opacity standard within the Division for Air Quality regulations.

The provisions of this regulation shall not apply to agricultural practices, such as tilling of land or application of fertilizers, which take place on a farm.

What does this mean to you? If you are a business or operation that can create dust, then you must take every *reasonable precaution* to control it.

Why Control Fugitive Dust?

Besides causing the need for additional cleaning of homes and vehicles, fugitive dust can cause low visibility on unpaved roads, which can lead to accidents. In severe cases, it can interfere with plant growth by clogging pores and reducing light interception. Dust particles are abrasive to mechanical equipment and damaging to electronic equipment, such as computers.

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, such as asthma or bronchitis, are the most likely to be affected. In addition, not controlling fugitive dust at a worksite can create more hassle for the worksite foreman in response to complaints from neighbors, paperwork, fines and inspections from regional field office branches.

Below: Example of fugitive dust coating automobiles.

Sources of Fugitive Dust

Significant sources of fugitive dust include grain bins, quarries, haul roads and construction sites.

In the example of an unpaved road, fugitive dust is created when a vehicle travels down the unpaved road. The larger and faster the vehicle, the more dust it will create. One way of controlling this is with dust suppression, such as water or gravel, at the end of unpaved roads.

Dust from around the world!

Fugitive dust you create does not affect only those within close proximity to your location. In 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.

Above: Fugitive dust at a quarry.

Above: Example of fugitive dust on a roadway

Ways to Control Fugitive Dust

- Windbreaks and barriers
- Frequent water applications
- 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
- Use of gravel or water at site exit points to remove caked-on dirt
- Washing of equipment at the end of the day or prior to site removal
- Wet sweeping of public thoroughfares
- Covering of open trucks

You are prohibited from allowing fugitive dust to leave your property. If the majority of your time is spent cleaning up dust, you are not controlling the problem.

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

Below: Water trucks and street scrubbers are excellent ways to help control fugitive dust.

Fugitive emissions complaints and violations are related to yearly precipitation patterns. During periods of prolonged drought, the number of complaints and violations generally increases. This is especially true during the summer months when the sun's heat dries up surfaces more quickly and people tend to be out doing activities that create more dust. On average, the Division for Air Quality receives about 250 complaints about fugitive emissions each year.

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 and direction and temperature and rainfall. By doing this, you'll be able to monitor and evaluate the success of your efforts.
- Monitor your dust control efforts. You'll need to do this on a regular basis to ensure that the measures taken are adequately controlling fugitive dust.
- Use a self-inspection checklist. Doing this will help incorporate the routine tasks of fugitive dust control into your schedule. The checklist will also serve as a daily reminder and a record of your efforts to keep dust problems to a minimum.

ADDITIONAL INFORMATION AND LINKS OF INTEREST

U.S. Environmental Protection Agency, Office of Air and Radiation

www.epa.gov

National Small Business Environmental Assistance Program

https://nationalsbeap.org/

California Air Resources Board

http://www.arb.ca.gov/pm/fugitivedust_large.pdf

Idaho Department of Environmental Quality

https://www.deq.idaho.gov/site-search.aspx?search=dust+control+plan

Nebraska Department of Environmental Quality

http://www.deq.state.ne.us/Publica.nsf/0/48b60f1d4f66c38e05256c55007724ce?OpenDocument

University of Missouri Extension

http://extension.missouri.edu/p/G1885