



- Show all calculations and duplicate this form as necessary.
- If the fugitive sources emit Hazardous Air Pollutants (HAPs), fill out and attach form EC-13B.
- Instructions begin on Page 3.

1) AQ Facility ID No.: _____

2) Facility Name: _____

3) Calculation Summary for Fugitive Particulate Matter (PM) Emissions:

Potential Emissions (Do not complete this table if using this form for Registration Permit Option D. Go to Actual Emissions Table below.)

3a) Fugitive Particulate Source (ID Number)	3b) Emission Factor (state units)	3c) Maximum Operating Parameter (state units)	3d) Maximum Uncontrolled Emission Rate (lbs/hr)	3e) Maximum Uncontrolled Emissions (tons/yr)	3f) Pollution Control ID Number	3g) Pollution Control Efficiency (%)	3h) Maximum Controlled Emissions (tons/yr)	3i) Limited Controlled Emissions (tons/yr)

Actual Emissions

3a) Fugitive Particulate Source (ID Number)	3b) Emission Factor (state units)	3j) Actual Operating Parameter (state units)	3k) Actual Uncontrolled Emission Rate (lbs/hr)	3l) Actual Uncontrolled Emissions (tons/yr)	3f) Pollution Control ID Number	3g) Pollution Control Efficiency (%)	3m) Actual Controlled Emissions (tons/yr)

4) Calculation Summary for Fugitive PM₁₀ Emissions:

Potential Emissions (Do not complete this table if using this form for Registration Permit Option D. Go to Actual Emissions Table below.)

4a) Fugitive Particulate Source (ID Number)	4b) Emission Factor (state units)	4c) Maximum Operating Parameter (state units)	4d) Maximum Uncontrolled Emission Rate (lbs/hr)	4e) Maximum Uncontrolled Emissions (tons/yr)	4f) Pollution Control ID Number	4g) Pollution Control Efficiency (%)	4h) Maximum Controlled Emissions (tons/yr)	4i) Limited Controlled Emissions (tons/yr)

Actual Emissions

4a) Fugitive Particulate Source (ID Number)	4b) Emission Factor (state units)	4j) Actual Operating Parameter (state units)	4k) Actual Uncontrolled Emission Rate (lbs/hr)	4l) Actual Uncontrolled Emissions (tons/yr)	4f) Pollution Control ID Number	4g) Pollution Control Efficiency (%)	4m) Actual Controlled Emissions (tons/yr)

5) Operating Limitations, if applicable: (Do not use if filling out this form for a Registration Permit Option D.)

INSTRUCTIONS FOR FILLING OUT AQ FORM
EC-15 Fugitive Particulate Emissions

- 1) **AQ Facility ID No.** -- Fill in your Air Quality Facility ID Number as indicated on Form GI-01 or RP-01, item 1a.
- 2) **Facility Name** -- Enter your facility name as indicated on Form GI-01 or RP-01, item 2.
- 3) **Calculation Summary Table** --
- 3a) **Particulate Source** -- Identify each fugitive particulate emission source and list the fugitive source ID number as indicated on Form GI-05D. [Note: If you are using this form for Registration Permit Option D, you did not fill out form GI-05D; instead, just provide information identifying the fugitive source.]
- 3b) **Emission Factor** -- Use the most current emission factors available. Fill in the emission factor **including the units**, such as pounds per ton of material handled. Sources you may use include US EPA's AP-42, EPA's FIRE database, and source-specific test data if the test was completed in accord with MPCA policies and rules. Include a list of the sources (including chapter and page numbers) for your emission factors with the following:
 - ◆ include a copy of the emission factors and indicate their source, and
 - ◆ show the calculations used to determine the maximum continuous rates.

Remember to use only uncontrolled emission factors. Table EC-15.1 shows a list of generic categories of types of fugitive emissions and the corresponding AP-42 chapter. However, there are industry specific emissions factors elsewhere in AP-42 (e.g., unpaved roads at concrete batch plants are in Chpt. 11.12).

- 3c) **Maximum Operating Parameter** -- [Skip this item if you are using this form for Registration Permit Option D.] Fill in the maximum operating parameter **using the same units as the emission factor** on a per hour basis. For example, if the emission factor is in pounds per ton of material handled, fill in the maximum tons of material handled per hour.
- 3d) **Maximum Uncontrolled Emission Rate** -- [Skip this item if you are using this form for Registration Permit Option D.] Fill in the Maximum Emission Rate in lbs/hr for PM Emissions by multiplying column **3b** × column **3c**.
- 3e) **Maximum Uncontrolled Emissions** -- [Skip this item if you are using this form for Registration Permit Option D.] Fill in the Maximum Uncontrolled Emissions in tons/yr. Use this method for calculations:

Maximum Uncontrolled Emissions [tons / yr]:

$$\begin{aligned} &= \text{Emission Rate} \left[\frac{\text{lb}}{\text{hr}} \right] \times 4.38 \left[\frac{\text{hrs}}{\text{yr}} \cdot \frac{\text{ton}}{\text{lbs}} \right] \\ &= (\text{item 3d}) \times 4.38 \end{aligned}$$

(e.g., if the emission rate is 0.0257 lbs/hr, then the maximum uncontrolled emissions are 0.0257 lbs/hr \times 4.38 [hrs/yr-tons/lbs] = 0.113 tons/yr of PM)

3f) Pollution Control ID Number -- Fill in the designation number of the control equipment (CE), if applicable. Obtain these numbers from your *Emission Unit Information Form* (GI-05B). If you are using this form for Registration Permit Option D, fill in the description from Form RP-D2.

3g) Pollution Control Efficiency -- The pollution control efficiency is the product of the capture efficiency and the destruction/collection efficiency indicated on Form GI-05A or Form RP-D2. Enter this number here and remember to include on Form CD-01 a plan to demonstrate and maintain the destruction/collection efficiency (unless you are using this form for Registration Permit Option D - in that case, Form CD-01 does not apply).

Note that emissions that are collected and pass through a control device are not fugitive emissions, so there are few if any control methods that apply to fugitive sources.

3h) Maximum Controlled Emissions -- [Skip this item if you are using this form for Registration Permit Option D.] Fill in the Maximum Controlled Emissions. Use this method for calculations.

Maximum Controlled Emissions [tons / yr]:

$$\begin{aligned} &= \text{Max. Uncontrolled Emissions} \left[\frac{\text{tons}}{\text{yr}} \right] \times \left(\frac{100 - \text{Pollution Control Efficiency}}{100} \right) \\ &= (\text{item 3e}) \times \left(\frac{100 - (\text{item 3g})}{100} \right) \end{aligned}$$

3i) Limited Controlled Emissions -- [Skip this item if you are using this form for Registration Permit Option D.] Limited Controlled Emissions take into account limitations on hours of operation and other operational limitations. For example, for unpaved roads, the emission factor is in units of pounds per vehicle mile traveled. If a facility has no operations six months of the year and the permit restricts operation to six months in any twelve months, then the Limited Controlled Emissions could be calculated based on the vehicle miles traveled in six months.

If an emission unit is subject to an emission limitation specified in 40 CFR pt. 60, 40 CFR pt. 61, 40 CFR pt. 63 or Minn. R. ch. 7011, you must show this requirement in the calculation of Limited Controlled Emissions and take this into account in calculating the Limited Controlled Emissions. If you choose to propose to comply with more a stringent limit, you should state this clearly and show the resulting allowed emissions in this calculation. Remember to include any proposed limits on Form CD-01.

3j) Actual Operating Parameter -- Fill in the actual operating parameter **using the same units as the emission factor** on a per hour basis. Use your actual operating conditions, based on the average of the last two years, unless you are using this form for Registration Permit Option D. If you are using this form for Option D, use the operating conditions during the most recent 12 months. If this is a new unit or no records exist, use a reasonable estimate of the operating conditions.

3k) Actual Uncontrolled Emission Rate -- Fill in the Actual Emission Rate in lbs/hr for PM Emissions by multiplying column **3b** × column **3j**.

3l) Actual Uncontrolled Emissions -- Fill in the Actual Uncontrolled Emissions in tons per year. Use this method for calculations.

Actual Uncontrolled Emissions [tons/yr]:

$$= \text{Emission Rate} \left[\frac{\text{lb}}{\text{hr}} \right] \times \text{Actual Hours of operation} \left[\frac{\text{hrs}}{\text{yr}} \right] \times 0.0005 \left[\frac{\text{ton}}{\text{lb}} \right]$$

$$= (\text{item 3k}) \times \text{Hours/yr} \times 0.0005$$

Use your actual hours of operation, based on the average of the last two years, unless you are using this form for Registration Permit Option D. If you are using this form for Option D, use the hours operated during the most recent 12 months. If this is a new unit or no records exist, use a reasonable estimate of how many hours the process will be operated.

3m) Actual Controlled Emissions -- Fill in the actual emissions in tons per year. Use this method for calculations.

Actual Controlled Emissions [tons / yr]:

$$= \text{Actual Uncontrolled Emissions} \times \left(\frac{100 - \text{Pollution Control Efficiency}}{100} \right)$$

$$= (\text{item 3l}) \times \left(\frac{100 - (\text{item 3g})}{100} \right)$$

4) Fill in the maximum Emission Summary for fugitive PM₁₀ Emissions. Repeat (3a) through (3m) for PM₁₀.

5) Operating Limitations -- -- [Skip this item if you are using this form for Registration Permit Option D.] Please note that the Maximum Uncontrolled Emissions did not consider any limitations in determining the PTE. If you are willing to accept a permit limitation (e.g., hours of operation or usage) state the limiting factors and the PTE after limiting factors are taken into account. Attach additional sheets that show calculations and assumptions. Remember to include any proposed limits on Form CD-01.

TABLE EC-15.1: GENERIC CATEGORIES OF FUGITIVE SOURCES

1. Paved Roads (AP-42 Section 13.2.1)
2. Unpaved Roads/Materials Handling (AP-42 Section 13.2.2)
3. Heavy Construction Operations (AP-42 Section 13.2.3)
4. Materials Handling and Storage Piles (AP-42 Section 13.2.4)
5. Wind Erosion (AP-42 Section 13.2.5)