



Minnesota Pollution Control Agency

AIR QUALITY
520 LAFAYETTE ROAD
ST. PAUL, MN 55155-4194

PERMIT APPLICATION FORM **EC-12**
CLEAN-UP MATERIALS
CALCULATION FORM
5/27/98

- Duplicate this form as necessary, or attach sheets with equivalent information.
- If the clean-up materials contain Hazardous Air Pollutants (HAPs), fill out and attach form EC-13A.
- When calculating potential emissions, use items 3a, 3b, 3d, 3f, 3h, 3i, and 3j. [Note: You do not need to calculate PTE if using this form for Registration Permit Option D.]
- When calculating actual emissions, use items 3a, 3c, 3e, 3g, 3h, and 3k.

1) AQ Facility ID No.: _____

2) Facility Name: _____

3) Calculations Summary for Clean-up Materials:

3a Clean-Up Materials	3b Maximum Amount Used (gal/hr)	3c Actual Amount Used (gal/yr)	3d Maximum VOC Content (lbs/gal)	3e Actual VOC Content (lbs/gal)	3f Maximum Uncontrolled Emissions (tons/yr)	3g Actual Uncontrolled Emissions (tons/yr)	3h Pollution Control Efficiency (%)	3i Maximum Controlled Emissions (tons/yr)	3j Limited Controlled Emissions (tons/yr)	3k Actual Controlled Emissions (tons/yr)

4) Operating Limitations, if applicable: (Ignore this item if filling out this form for Registration Permit Option D)

INSTRUCTIONS FOR FILLING OUT AQ FORM EC-12 Clean Up Materials

- 1) **AQ Facility ID No.** -- Fill in your Air Quality Facility ID Number as indicated on the *Facility Information Form* (GI-01 or RP-01), item 1a.
- 2) **Facility Name** -- Enter your facility name as indicated on the *Facility Information Form* (GI-01 or RP-01), item 2.
- 3) **Calculations Summary:**
 - 3a) **Clean-up Materials** -- Identify all clean up materials used at the facility.
 - 3b) **Maximum Amount Used** -- Fill in the maximum amount of clean up materials used in gallons per hour.
 - 3c) **Actual Amount Used** -- Fill in the average amount of clean up materials used in gallons per year for the past two years, unless you are using this form for Registration Permit Option D, use the quantity of clean up materials used during the most recent 12 months. If this is a new unit or no records exist, use a reasonable estimate of how much material will be used.
 - 3d) **Maximum VOC Content** -- Fill in the maximum VOC Content in lbs/gal of solvents or cleaners. This information can be obtained from the Material Safety Data Sheet (MSDS) or material supplier. If a range is given on the MSDS (e.g., 1-3 lbs/gal) use the highest number in the range.
 - 3e) **Actual VOC Content** -- Fill in the actual VOC Content in lbs/gal of solvents or cleaners. This information can be obtained from the MSDS or material supplier. If a range is given, use the arithmetic mean (e.g., 1-3 lbs/gal would be 2 lbs/gal).
 - 3f) **Maximum Uncontrolled Emissions** -- Fill in the Maximum Uncontrolled VOC Emissions. Use this method for calculations.

Maximum Uncontrolled Emissions [tons / yr]:

$$\begin{aligned} &= \text{Max. amount used} \left[\frac{\text{gal}}{\text{hr}} \right] \times \text{Max. VOC Content} \left[\frac{\text{lb}}{\text{gal}} \right] \times 4.38 \left[\frac{\text{hrs}}{\text{yr}} \cdot \frac{\text{tons}}{\text{lb}} \right] \\ &= (\text{item 3b}) \times (\text{item 3d}) \times 4.38 \end{aligned}$$

(e.g., the maximum amount of clean up solvents used 5 gal/hr and the VOC Content is 3 lbs/gal; then the maximum uncontrolled VOC emissions are $5[\text{gal/hr}] \times 3[\text{lbs/gal}] / 2000 = 0.00075$ tons/hr)

- 3g) **Actual Uncontrolled Emissions** -- Fill in the Actual Uncontrolled VOC Emissions. Use this method for calculations.

Actual Uncontrolled Emissions [tons / yr]:

$$\begin{aligned} &= \text{Actual amount used} \left[\frac{\text{gal}}{\text{hr}} \right] \times \text{Actual VOC Content} \left[\frac{\text{lb}}{\text{gal}} \right] \times 4.38 \left[\frac{\text{hrs}}{\text{yr}} \cdot \frac{\text{tons}}{\text{lb}} \right] \\ &= (\text{item 3c}) \times (\text{item 3e}) \times 4.38 \end{aligned}$$

- 3h) **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 From 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). The efficiency should be expressed for each pollutant. If there is no control for the particular pollutant, then indicate zero.

- 3i) Maximum Controlled Emissions** -- Fill in the Maximum Controlled VOC Emissions. Use this method for calculations.

Maximum Controlled Emissions [tons / yr]:

$$\begin{aligned} &= \text{Max. Uncontrolled Emissions} \times \left(\frac{100 - \text{Pollution Control Efficiency}}{100} \right) \\ &= (\text{item 3f}) \times \left(\frac{100 - (\text{item 3h})}{100} \right) \end{aligned}$$

(e.g., the maximum uncontrolled VOC Emissions are 65.7 tons/yr and the control efficiency is 85%; then the maximum controlled VOC Emissions are $65.7 \text{ [tons/yr]} \times (100-85)/100 = 9.86 \text{ tons/yr}$).

- 3j) Limited Controlled Emissions** -- If you are using this form for Registration Permit Option D, you should skip this question. The Limited Controlled Emissions are calculated by taking into account all limitations on operation of the source you are proposing to comply with in this application. These limitations include limits on hours of operation, limits on the VOC content of the materials used, limits on the rate or amount of cleaners and solvents used, etc. You start the calculation of Limited Controlled Emissions by reconsidering the Maximum Amount Used and taking into account the limits you propose.

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.

- 3k) Actual Controlled Emissions** -- Fill in the actual emissions. Use this method for calculations.

Actual Controlled Emissions [tons / yr]:

$$\begin{aligned} &= \text{Actual Uncontrolled Emissions} \times \left(\frac{100 - \text{Pollution Control Efficiency}}{100} \right) \\ &= (\text{item 3g}) \times \left(\frac{100 - (\text{item 3h})}{100} \right) \end{aligned}$$

- 4) Operating Limitations** -- Please note that the Maximum Possible 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. Include all proposed limits on Form CD-01.