DES
DEPARTMENT OF ENVIRONMENT AND SUSTAINABILITY
air quality | desert conservation program | sustainability

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For DAQ Use Only

AQR 101: INDUSTRIAL ADHESIVE OPERATIONS EMISSIONS CALCULATION WORKSHEET

This Emissions Calculation Worksheet is not a mandatory form. The applicant may use a custom worksheet when submitting a registration or permit application.

Source ID/Registration Number (not applicable for new sources):
Company name:
Source (facility) name:
Source (facility) address:
City, state, ZIP:
Mailing address (if different from source address):

Projected Maximum Emissions (PME) means the highest annual rate, in tons per year, at which the stationary source is projected to emit VOC based on anticipated production, throughput, heat input, or material utilization rates that does not include emission reductions from add-on controls.

To calculate the PME, enter the maximum projected usage and VOC content of each material. Copy this table on another sheet if you have more products than can be listed here.

Material/Product Used	Usage (gal)	VOC[1] Content (lb/gal)	PME (ton/yr)
PME (in tons/year) from additional sheets, if any:			
FACILITY TOTAL PME (in tons/year):			0.00

[1] See the next page or AQR 101.7 for additional information on excluding water and exempt compounds from adhesive materials and calculating the VOC content of low-solids materials.

Emissions Control System (ECS): If you are using an ECS to comply with Section 101 requirements, enter the control efficiency below.

ECS control efficiency: _____%

I certify that, based on information and belief formed after reasonable inquiry, the information contained in this document is true, accurate and complete.

Owner, Operator, or Responsible Official Certification (original signature) Date

Printed Name

Office Phone: Cellphone:

Email Address:

Please complete this form electronically to the best of your ability. Submit the completed report with the Owner's, Operator's, or Responsible Official's original (wet) signature to the Division of Air Quality by mail or in person at the address listed above.

Directions for completing the form manually:

- PME is calculated based on the projected maximum usage and the VOC content of the individual products summed for the entire source.
- To calculate VOC PME from each product or material usage:
  - Start with the maximum amount of VOC-containing material (in gallons) used during a calendar year. Multiply this value by the VOC emission factor (lb/gal) provided in the Environmental or Safety Data Sheets (SDS) or records for the material and divide the result by 2000; this is the VOC PME in tons/year for the material. Do this for each material. Add the individual PMEs to get the total source PME. You may also attach a computer-generated log of actual product consumption and VOC emissions.

_____ gallons/year × _____ pounds/gallon = ___ pounds ÷ 2000 = ___ tons/year of VOC PME

- For adhesives or adhesive primers that do not contain reactive diluents, calculate the VOC content in weight of VOC per volume of adhesive or adhesive primer, excluding water and exempt compounds, using the following equation:

Eq. 1:

$$\text{Adhesive}_{voc} = \frac{(Ws - Ww - Wes)}{(Vm - Vw - Ves)}$$

where:

Adhesive_{voc} = VOC content per volume of adhesive or adhesive primer (g/L or lb/gal)
Ws = weight of volatile compounds, including water and exempt compounds
Ww = weight of water
Wes = weight of exempt compounds
Vm = volume of material, including water and exempt compounds
Vw = volume of water
Ves = volume of exempt compounds.

- For adhesives or adhesive primers that contain reactive diluents, calculate the VOC content in weight of VOC per volume of adhesive or adhesive primer, excluding water and exempt compounds, using the following equation:

Eq. 2:

$$\text{Adhesive}_{voc} = \frac{(Wrs - Wrw - Wres)}{(Vrm - Vrw - Vre)}$$

where:

Adhesive_{voc} = VOC content per volume of adhesive or adhesive primer (g/L or lb/gal)
Wrs = weight of volatile compounds not consumed during curing
Wrw = weight of water not consumed during curing
Wre = weight of exempt compounds not consumed during curing
Vrm = volume of material not consumed during curing

Vrw = volume of water not consumed during curing

Vre = volume of exempt compounds not consumed during curing.

- Calculate grams of VOC per liter or pounds of VOC per gallon of low-solids material using the following equation:

Eq. 3: $$\text{Weight per volume of materials} = \frac{Ws - Ww - We}{Vm}$$

where:

Ws = weight of volatile compounds

Ww = weight of water

We = weight of exempt compounds

Vm = volume of material.

If you have any questions or need clarification on completing this form, please contact the Air Quality Small Business Assistant Program at (702) 455-5942.