

Form B7

PERMITTED FIXED ROOF TANK CALCULATION SHEET

Emissions Report
July 1, 2007 - December 31, 2007

- Read instructions on the back and the Supplemental Instructions for Liquid Organic Storage Tanks before completing form.
- Record each tank on Form ES.

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FACILITY NAME

FACILITY I.D. NUMBER

Does product contain TAC/ODC? Yes No

1. Tank ID Number	
2. Product Code (See Supplemental Inst. Book)	
3. Product Description (Optional)	
4. Tank Capacity, C, (1000 gallons)	
5. Tank Diameter, D, (ft)	
6. Tank Height, H, (ft)	
7. Throughput, Q, (1000 gallons)	
8. Usage, U <small>(Number of days tank used in 6-month; default = 183 days)</small>	
9. Vapor Molecular Weight, M _V	
10. Vapor Density, W _V	
11. Material True Vapor Pressure, P _{VA}	
12. Vapor Space Expansion Factor, K _E	
13. Vapor Saturation Function A, S _A	

14. Vapor Saturation Function B, S _B	
15. Working Loss Product Factor, K _P <small>0.75 for Crude oil; 1.0 for Others</small>	
16. Vapor Space Function, V _F	
17. Calculate Throughput/Capacity (Q/C) Ratio	
18. Calculate Turn Over Factor, K _N	
19. Calculate Vapor Space Volume, V _V	
20. Calculate Vapor Saturation Factor, K _S	
21. Calculate Working Loss, L _W , (lbs)	
22. Calculate Standing Loss, L _S , (lbs)	
23. Total Excess Emission From Upsets, L _X , (lbs)	
24. Total Loss Without Control System, L _T , (lbs) <small>(L_W + L_S + L_X)</small>	
25. Control System Efficiency (decimal fraction)	
26. Total Loss With Control System, (lbs) <small>[(L_W + L_S)(1-eff)] + L_X</small>	

*If you have more than one page of B7, complete Line A and Line B ONLY ON THE FINAL PAGE.

A. Sum of Total Losses (lbs) from all B7 forms (including this one)*

B. TOTAL EMISSIONS (tons): Divide Line A by 2000, then transfer to Form R1, Line 2 *

PAGE # OF TOTAL PAGES IN FORM B7



Form B7 - Permitted Fixed Roof Tank Calculation Sheet

Note 1: Fill in separate B7 forms for each of the permitted fixed roof tanks. For detailed instructions and example calculations, see Supplemental Instructions for Liquid Organic Storage Tanks and References, dated June 2005.

Note 2: For all facilities, including power generating facilities, total emissions from B7 form(s) must be transferred exclusively to Form R1, Line 2.

Note 3: Report the total VOC emissions from your product on this form including any TACs/ODCs which are considered VOC (e.g., benzene). Report any TAC/ODC contained in the product (including those which are VOC) on Form TAC. On Form TAC use B7-“tank page number” as a Reference. If the organic solvent in the product is exclusively TAC or ODC and not VOC (i.e., 1,1,1 TCA, Perc., Methylene Chloride, and CFC/Freons), you must only use Form TAC to report these emissions. However, you may use this form as a worksheet to calculate these emissions and then report the total calculated TAC/ODC emissions on Form TAC.

Note 4: Complete this form(s) for six-month (7/1/07-12/31/07) transitional reporting period.

To calculate emissions from above ground tanks you may use the EPA's TANKS program, the Emissions Reporting Software or this paper form. If you would like to use the EPA TANKS program, you MUST use the Emissions Reporting Software (you can not use paper forms). If you use the Emission Reporting Software, you may either calculate emissions using the form calculations (by entering the appropriate parameters for each tank) or you may import the calculated emissions from the EPA's TANKS Program. If you are using software and EPA TANKS please note special instructions for the 6-month transitional reporting in software Help. The import function was designed based on TANK 4.08 output, and is compatible with versions 4.09a and 4.09b. If you choose import function for EPA TANKS program you must include as a supporting documentation either:

1. Detail Reports printed from the EPA TANKS program, or
2. The Microsoft Access data files (client1.mdb and tankdata.mdb) generated by the EPA TANKS program on a CD.

If you choose the paper form reporting option, make sure all parameters are filled in and use the equations below to calculate the tank emissions. (Refer to the “Supplemental Instructions for Liquid Organic Storage Tanks and References”.)

Facility Name and ID No.: Please fill in your facility name and facility ID number in the designated spaces, exactly as indicated on Form X (Signature Sheet) in your package. Check box (yes or no) to indicate the presence of any Toxic Air Contaminant (TAC) and/or Ozone Depleting Compound (ODC) in the product stored in each tank.

Emissions: If you use any data other than those listed in the Supplemental Instructions for Liquid Organic Storage Tanks and References, you must enclose supporting documentation.

Use the following formulas to calculate emissions from fixed roof tanks:

$$\begin{aligned} \text{Turn Over Factor } K_N & \quad - \text{ if } Q/C \leq 36 \quad \text{then} \quad K_N = 1.0 \\ & \quad - \text{ if } Q/C > 36 \quad \text{then} \quad K_N = \frac{(180 \times C) + Q}{6 \times Q} \\ \\ \text{Vapor Space Volume } V_V & \quad V_V = (66.84 \times C) + V_F \\ \\ \text{Vapor Saturation Factor } K_S & \quad K_S = \frac{1}{1 + (S_A \times H) + (S_B \times D)} \\ \\ \text{Working Loss} & \quad L_W = 0.024 \times M_V \times P_{VA} \times Q \times K_N \times K_P \quad (\text{lbs}) \\ \\ \text{Standing Loss} & \quad L_S = U \times V_V \times W_V \times K_E \times K_S \quad (\text{lbs}) \\ \\ \text{Total Excess Emissions From Upsets} & \quad L_X \quad (\text{lbs}) \end{aligned}$$

$$\text{Total Uncontrolled Tank Loss} = L_W + L_S + L_X \quad (\text{lbs})$$

Tanks with control systems: You must enclose supporting documentation for the control system efficiency. If the tank is vented to a vapor recovery system, or a thermal oxidizer, with control efficiency, enter control system efficiency in decimal fraction:

$$\text{Total Tank Loss} = \{(L_W + L_S) \times [1 - (\text{efficiency in decimal fraction})]\} + L_X \quad (\text{lbs})$$

Sum of Total Losses: If you use more than one Form B7, indicate the page number and the total number of B7 Forms in the space provided. For example, if you use 4 forms, indicate in the boxes - page 1 of 4, page 2 of 4, etc. Add the total losses (from each page) and place the total on the last page of Form B7 on Line A, Sum of Total Losses (lbs). To convert the sum of total losses to tons, divide the total in pounds by 2000, round to two (2) decimal places and enter the total emissions (tons) on the last page of Form B7 on Line B. Transfer the total emissions (tons) to Form R1, Line 2.