



**PERMIT APPLICATION FOR LOADING AND STORAGE OF ORGANIC COMPOUNDS
ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
AIR DIVISION**

**INSTRUCTIONS FOR COMPLETION OF
PERMIT APPLICATION FOR LOADING AND STORAGE OF ORGANIC COMPOUNDS
ADEM FORM 108**

| | |
|--------------|--|
| Items 1-6: | Self-explanatory. Please ensure that each item is completed and the form is signed. |
| Table 108.1: | <p>In this table, please provide the facility's identification number for each tank, each tank's storage capacity, the tank type (horizontal fixed roof, vertical fixed roof, external floating roof, or internal floating roof), the fill method, the manufactured and installation/construction dates for each tank, the reconstruction/modification dates for each tank, if applicable, whether the tank has a vapor recovery system installed, and applicable regulations (cite applicable State and/or federal regulation).</p> <p>Please provide the facility's rack identification number for each unloading/loading rack, the rack type, the proposed products to be loaded using the product codes from Table 108.2, the type of loading, whether the loading rack has a vapor recovery system installed, and applicable regulations (cite applicable State and/or federal regulation).</p> |
| Table 108.2: | <p>In this table, please provide the products (e.g. crude oil, gasoline, methanol, etc.) that the facility intends to store and load; the molecular weight, the maximum true vapor pressure, product density, and the storage temperature of each product; the total product throughput for the entire facility, the loading method, and the maximum VOC emissions from loading and storing each product. The VOC emissions should be calculated based on the worst case scenario.</p> <p><i>Note: If the facility stores a variety of volatile organic liquids, as opposed to petroleum distillates and/or crude oils, "VOL" can be listed on a single line using the worst case product information for those products.</i></p> |
| Table 108.3: | <p>If the facility operates horizontal fixed roof tanks, please provide technical data for each tank. Include which products each tank may store at the facility. In order to save space, use the product code in substitution for the actual product name. If a tank can store all the products listed, list "ALL" in the "Proposed Products to be Stored" block. Please make sure that the tank identification numbers correspond with the tanks that are described in Table 108.1.</p> |
| Table 108.4: | <p>If the facility operates vertical fixed roof tanks, please provide technical data for each tank. Include which products each tank may store at the facility. In order to save space, use the product code in substitution for the actual product name. If a tank can store all the products listed, list "ALL" in the "Proposed Products to be Stored" block. Please make sure that the tank identification numbers correspond with the tanks that are described in Table 108.1.</p> |
| Table 108.5: | <p>If the facility operates external floating roof tanks, please provide technical data for each tank. If "detail roof fitting" is selected, include a complete Table 108.7 for deck characteristics for each tank. This table should include which products each tank may store at the facility. In order to save space, use the product code in substitution for the actual product name. If a tank can store all the products listed, list "ALL" in the "Proposed Products to be Stored" block. Please make sure that the tank identification numbers correspond with the tanks that are described in Table 108.1.</p> |
| Table 108.6: | <p>If the facility operates internal floating roof tanks, please provide technical data for each tank. If "detail roof fitting" is selected, include a complete Table 108.7 for deck characteristics for each tank. This table should include which products each tank may store at the facility. In order to save space, use the product code in substitution for the actual product name. If a tank can store all the products listed, list "ALL" in the "Proposed Products to be Stored" block. Please make sure that the tank identification numbers correspond with the tanks that are described in Table 108.1.</p> |
| Table 108.7: | <p>If the facility operates either external or internal floating roof tanks and "Detail Roof Fitting" is selected in either Table 108.5 and/or Table 108.6, Table 108.7 should be filled out for each tank in order to provide deck construction characteristics.</p> |
| Table 108.8: | <p>If a product being unloaded, stored, or loaded is not in the chemical database of the current version of EPA's TANKS Program, please provide the chemical data information for each product on a separate sheet.</p> <p>Attach additional sheets, as necessary. Please identify the additional sheets (i.e. pg 2a of 8 or 2.1 of 8)</p> <p>VOC/HAP Emissions should be calculated using the current version of the EPA TANKS Program at http://www.epa.gov/ttnchie1/software/tanks/index.html or AP-42, Chapter 5 and Chapter 7 and attached to ADEM Form 108.</p> |



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Do not write in this space

1. Name of Facility or Organization:

3. Permit Application is made for:

- Existing Equipment
- Modification
- Other
- New Equipment
- Change in Location

3. Type of unit:

Source Classification Code(s):

4. Normal Schedule of Operation:

Hours per day: Days per week: Weeks per year:

Peak production season (if any):

5. For each regulated pollutant, describe any limitations on source operation or any work practice standards which affect emissions:

6. Are you requesting a limitation for permitting? Yes No if "yes", specify the limit and affected unit(s):

7. On a separate sheet sketch a map indicating the location of each storage tank and/or loading rack for which this application is made.

Name of person preparing application:

Company of preparer

Signature: Date:

TABLE 108.2-PROPOSED PRODUCT(S) STORED AND LOADED OUT AT FACILITY

| PRODUCT CODE | PRODUCT NAME & CAS NO., IF APPLICABLE | LIQUID MOLECULAR WEIGHT (lb/lb-mole) | VAPOR MOLECULAR WEIGHT (lb/lb-mole) | MAXIMUM TRUE VAPOR PRESSURE (psia) | LIQUID DENSITY ^(a) (lb/gal) | TEMP. STORED AT (°F) | TOTAL PRODUCT THROUGHPUT (gal/year) | Loadout ^(b) Mark all that apply | | | | | Worst case VOC emissions from storing this product (TPY) | Worst case VOC emissions from loading this product (TPY) |
|--------------|---------------------------------------|--------------------------------------|-------------------------------------|------------------------------------|--|----------------------|-------------------------------------|---|-------|----------|----------|--|---|---|
| | | | | | | | | Marine Vessel | Truck | Rail Car | Pipeline | | | |
| A | | | | | | | | | | | | | | |
| B | | | | | | | | | | | | | | |
| C | | | | | | | | | | | | | | |
| D | | | | | | | | | | | | | | |
| E | | | | | | | | | | | | | | |
| F | | | | | | | | | | | | | | |
| G | | | | | | | | | | | | | | |
| H | | | | | | | | | | | | | | |
| I | | | | | | | | | | | | | | |
| J | | | | | | | | | | | | | | |
| K | | | | | | | | | | | | | | |
| L | | | | | | | | | | | | | | |
| M | | | | | | | | | | | | | | |
| N | | | | | | | | | | | | | | |
| O | | | | | | | | | | | | | | |
| P | | | | | | | | | | | | | | |
| Q | | | | | | | | | | | | | | |
| R | | | | | | | | | | | | | | |
| S | | | | | | | | | | | | | | |
| T | | | | | | | | | | | | | | |
| U | | | | | | | | | | | | | | |
| V | | | | | | | | | | | | | | |
| W | | | | | | | | | | | | | | |
| X | | | | | | | | | | | | | | |
| Y | | | | | | | | | | | | | | |

(a) Applicable for products stored in tanks with floating roofs.

(b) Loadout is product transferred from tank through rack to marine vessel, truck or rail car, or container.

If applying for the construction/modification/reconstruction of more than six tanks, make additional copies of this form as needed and attach to the application. Make sure to identify the additional sheets such as 4a of 8 or 4.1 of 8.

TABLE 108.3- FIXED ROOF STORAGE TANK (HORIZONTAL)

| | | | | | | |
|--|--------|--------|--------|--------|--------|--------|
| TANK ID → | | | | | | |
| SHELL LENGTH (ft-in) | | | | | | |
| SHELL DIAMETER (ft-in) | | | | | | |
| HEATED? (Y or N) | YES NO | YES NO | YES NO | YES NO | YES NO | YES NO |
| PRESSURIZED? (Y or N) | YES NO | YES NO | YES NO | YES NO | YES NO | YES NO |
| UNDERGROUND? (Y or N) | YES NO | YES NO | YES NO | YES NO | YES NO | YES NO |
| SHELL COLOR/SHADE ^(a) | | | | | | |
| SHELL CONDITION ^(b) | | | | | | |
| PROPOSED PRODUCTS TO BE STORED ^(c) | | | | | | |
| PRODUCT TRANSFER FROM TANK TO: gallons per day (GPD) ^(d) | GPD | GPD | GPD | GPD | GPD | GPD |

TABLE 108.4-FIXED ROOF STORAGE TANK (VERTICAL)

| | | | | | | |
|--|-------------------------------------|--------|--------|--------|--------|--------|
| TANK ID → | | | | | | |
| SHELL HEIGHT (ft-in) | | | | | | |
| SHELL DIAMETER (ft-in) | | | | | | |
| MAX LIQUID HEIGHT (ft-in) | | | | | | |
| AVG LIQUID HEIGHT (ft-in) | | | | | | |
| HEATED? (Y or N) | YES NO | YES NO | YES NO | YES NO | YES NO | YES NO |
| PRESSURIZED? (Y or N) | YES NO | YES NO | YES NO | YES NO | YES NO | YES NO |
| SHELL CHARACTERISTICS | SHELL COLOR/SHADE ^(a) | | | | | |
| | SHELL CONDITION ^(b) | | | | | |
| ROOF CHARACTERISTICS | ROOF COLOR/SHADE ^(a) | | | | | |
| | ROOF CONDITION ^(b) | | | | | |
| | CONE/DOME HEIGHT (ft-in) | | | | | |
| PROPOSED PRODUCTS TO BE STORED ^(c) | | | | | | |
| PRODUCT TRANSFER FROM TANK TO: gallons per day (GPD) ^(d) | GPD | GPD | GPD | GPD | GPD | GPD |

(a) Select from: White/White (W/W); Aluminum/Specular (A/S); Aluminum/Diffuse (A/D); Gray/Light (G/L); Gray/Medium (G/M); Red/Primer (R/P)
If tank color unknown, list "default"

(b) Select from: Good or Poor. If tank condition unknown, list "default"

(c) Use Product ID from Table 108.2 or list "ALL" if tank may store all of the products listed in Table 108.2.

(d) Should be completed if product in tank is being transferred to a specific piece of equipment or process which is not a loading rack (e.g. boiler).

If applying for the construction/modification/reconstruction of more than six tanks, make additional copies of this form as needed and attach to the application. Make sure to identify the additional sheets such as 5a of 8 or 5.1 of 8.

TABLE 108.5-EXTERNAL FLOATING ROOF STORAGE TANK

| | | | | | | | |
|---|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| TANK ID → | | | | | | | |
| SHELL DIAMETER (ft-in) | | | | | | | |
| DOMED? (Y or N) | | YES NO | YES NO | YES NO | YES NO | YES NO | YES NO |
| INTERNAL SHELL CONDITION ^(a) | | | | | | | |
| PAINT COLOR/SHADE ^(b) | | | | | | | |
| PAINT CONDITION ^(c) | | | | | | | |
| ROOF CHARACTERISTICS | PONTOON OR DOUBLE DECK | PONTOON DOUBLE DECK | PONTOON DOUBLE DECK | PONTOON DOUBLE DECK | PONTOON DOUBLE DECK | PONTOON DOUBLE DECK | PONTOON DOUBLE DECK |
| | ROOF FITTING CATEGORY ^(d) | | | | | | |
| TANK CONSTRUCTION | CHOOSE ONE WELDED OR RIVETED | WELDED RIVETED | WELDED RIVETED | WELDED RIVETED | WELDED RIVETED | WELDED RIVETED | WELDED RIVETED |
| SEAL TYPE | PRIMARY ^(e) | | | | | | |
| | SECONDARY ^(f) | | | | | | |
| PROPOSED PRODUCTS TO BE STORED ^(g) | | | | | | | |
| PRODUCT TRANSFER FROM TANK TO: | | | | | | | |
| gallons per day (GPD) ^(h) | | GPD | GPD | GPD | GPD | GPD | GPD |

- (a) Select from: Light Rust; Dense Rust; Gunite™ Lining. If internal shell condition unknown, list “default”
- (b) Select from: White/White (W/W); Aluminum/Specular (A/S); Aluminum/Diffuse (A/D); Gray/Light (G/L); Gray/Medium (G/M); Red/Primer (R/P)
If paint color unknown, list “default”
- (c) Select From: Good or Poor. If tank condition unknown, list “default”
- (d) Typical or Detail. If detail, list fittings and quantities for each tank on Table 108.7
- (e) Select from: Mechanical Shoe (MS); Liquid Mounted (LM); or Vapor Mounted (VM)
- (f) Select from: None, Shoe Mounted (SM), Rim Mounted (RM) or Weather Shield (WS)
- (g) Use Product ID from Table 108.2 or list “ALL” if tank may store all of the products listed in Table 108.2.
- (h) Should be completed if product in tank is being transferred to a specific piece of equipment or process which is not a loading rack (e.g. boiler).

If applying for the construction/modification/reconstruction of more than six tanks, make additional copies of this form as needed and attach to the application. Make sure to identify the additional sheets such as 6a of 8 or 6.1 of 8.

TABLE 108.6-INTERNAL FLOATING ROOF STORAGE TANK

| | | | | | | | |
|------------------------------------|-----------------------|---------------|---------------|---------------|---------------|---------------|---------------|
| TANK ID → | | | | | | | |
| SHELL DIAMETER (ft-in) | | | | | | | |
| SELF SUPPORT. ROOF? (Y or N) | | YES NO | YES NO | YES NO | YES NO | YES NO | YES NO |
| NUMBER OF COLUMNS | | | | | | | |
| EFFECTIVE COLUMN DIAMETER (a) | | | | | | | |
| INTERNAL SHELL CONDITION (b) | | | | | | | |
| EXTERNAL SHELL | PAINT COLOR/SHADE (c) | | | | | | |
| | PAINT CONDITION (d) | | | | | | |
| ROOF CHARACTERISTICS | PAINT COLOR/SHADE (c) | | | | | | |
| | PAINT CONDITION (d) | | | | | | |
| DECK CHARAC. | BOLTED OR WELDED (e) | BOLTED WELDED | BOLTED WELDED | BOLTED WELDED | BOLTED WELDED | BOLTED WELDED | BOLTED WELDED |
| SEAL TYPE | PRIMARY (f) | | | | | | |
| | SECONDARY (g) | | | | | | |
| PROPOSED PRODUCTS TO BE STORED (h) | | | | | | | |
| PRODUCT TRANSFER FROM TANK TO: | | | | | | | |
| gallons per day (GPD) (i) | | GPD | GPD | GPD | GPD | GPD | GPD |

- (a) Select from: 9" by 7" Built-Up Column, 8" Diameter Pipe, or Unknown
- (b) Select from: Light Rust; Dense Rust; Gunite™ Lining. If internal shell condition unknown, list "default"
- (c) Select from: White/White (W/W); Aluminum/Specular (A/S); Aluminum/Diffuse (A/D); Gray/Light (G/L); Gray/Medium (G/M); Red/Primer (R/P)
If paint color unknown, list "default"
- (d) Select From: Good or Poor. If tank condition unknown, list "default"
- (e) Typical or Detail. If detail, list fittings and quantities for each tank on Table 108.7
- (f) Select from: Mechanical Shoe (MS); Liquid Mounted (LM); or Vapor Mounted (VM)
- (g) Select from: None, Shoe Mounted (SM), or Rim Mounted (RM)
- (h) Use Product ID from Table 108.2 or list "ALL" if tank may store all of the products listed in Table 108.2.
- (i) Should be completed if product in tank is being transferred to a specific piece of equipment or process which is not a loading rack (e.g. boiler).

**TABLE 108.7-FLOATING ROOF FITTINGS-DETAIL
(DECK OR ROOF CHARACTERISTICS)**

TANK ID. _____
(fill out separate page for each IFRT or EFRT)

TANK CONSTRUCTION:

IFRT
EFRT

Specify deck fitting type(s) and indicate quantity of each fitting from the following:

- | | |
|--|---|
| <p>A. Access Hatch Qty: _____ Bolted cover, gasketed Unbolted cover, gasketed Unbolted cover, ungasketed</p> <p>B. Automatic, Gauge Float Well Qty: _____ Bolted cover, gasketed Unbolted cover, gasketed Unbolted cover, ungasketed</p> <p>C. Column Well Qty: _____ Built-up column-sliding cover, gasketed Built-up column-sliding cover, ungasketed Pipe column-flexible fabric sleeve seal Pipe column-sliding cover, gasketed Pipe column-sliding cover, ungasketed</p> <p>D. Gauge-Hatch/Sample Well, 8 in diameter Qty: _____ Weighted mechanical actuation, gasketed Weighted mechanical actuation, ungasketed</p> <p>E. Ladder Well Sliding cover, gasketed Sliding cover, ungasketed</p> <p>F. Rim Vent, 6 inch diameter Qty: _____ Weighted mechanical actuation, gasketed Weighted mechanical actuation, ungasketed</p> <p>G. Roof Drain, 3 inch diameter Open 90% Closed</p> <p>H. Roof Leg, 3 inch diameter Qty: _____ Adjustable, Pontoon Area, ungasketed Adjustable, Center Area, ungasketed Adjustable, Double Deck Roofs Adjustable, Double Deck Roofs Fixed Adjustable, Pontoon Area, gasketed Adjustable, Pontoon Area, socks Adjustable, Center Area, gasketed Adjustable, Center Area, socks</p> | <p>I. Roof Leg or Hanger Well Qty: _____ Adjustable Fixed</p> <p>J. Sample pipe or well Qty: _____ Slotted pipe sliding cover, gasketed Slotted pipe sliding cover, ungasketed Slit fabric seal, 10% open area</p> <p>K. Slotted Guide-Pole/Sample Well Qty: _____ Ungasketed sliding cover without float Ungasketed sliding cover with float Gasketed sliding cover without float Gasketed sliding cover with float Gasketed sliding cover with pole wiper Gasketed sliding cover with pole sleeve Gasketed sliding cover with float, wiper Gasketed sliding cover with float, sleeve, wiper Gasketed sliding cover with pole sleeve, wiper</p> <p>L. Stub drain, 1 inch diameter Yes No</p> <p>M. Unslotted Guide-Pole Well Qty: _____ Ungasketed sliding cover Gasketed sliding cover Ungasketed sliding cover with sleeve Gasketed sliding cover with sleeve Gasketed sliding cover with wiper</p> <p>N. Vacuum breaker Qty: _____ Weighted mechanical actuation, gasketed Weighted mechanical actuation, ungasketed</p> |
|--|---|

For an IFRT, if **bolted**, give deck construction method for the following:

A. Continuous Sheet [5 ft, 6 ft, or 7 ft wide] _____

OR

B. Panel Construction [5x7.5 ft or 5x12 ft] _____

TABLE 108.8-CHEMICAL DATA INFORMATION

Use a separate form for each chemical not in the current version of EPA's TANKS Program's chemical database.

Section I:

Chemical Name: _____

CAS Number: _____

Category: Crude Oil Petroleum Distillates Organic Liquids

Liquid Molecular Weight: _____

Vapor Molecular Weight: _____

Liquid Density (lb/gal @ 60°F): _____

Section II: Vapor Pressure Information (fill in one or more of the following options completely)

Option 1 Enter Vapor Pressure (psia) for each temperature:

40F: _____ 80F: _____

50F: _____ 90F: _____

60F: _____ 100F: _____

70F: _____

Option 2 Constants for Antoine's Equation (using Celsius):

A: _____ B: _____ C: _____

Option 3 Constants for Antoine's Equation (using Kelvin):

A: _____ B: _____ C: _____

Option 4 Reid Vapor Pressure (psia): (Distillates and Crude Oils only) _____

ASTM Slope: (Distillates Only) _____