ENCLOSURE 1

INDUSTRY-SPECIFIC INFORMATION COLLECTION REQUEST FOR THE DEVELOPMENT OF AN ORGANIC LIQUIDS DISTRIBUTION MAXIMUM ACHIEVABLE CONTROL TECHNOLOGY (MACT) STANDARD

I. INSTRUCTIONS

This information request is to be completed for **organic liquids distribution (OLD)** operations at each of your company's plant sites. We are focusing on information regarding each organic liquid containing a **hazardous air pollutant (HAP)** used in or emitted by any operation, including fugitive emission and waste sources, that is part of the organic liquids distribution industry. Attachment A consists of the EPA's list of HAP that you should refer to when completing the survey.

Fill out this information request as completely as possible from existing information. At a minimum, provide (1) existing information on the presence of HAP emissions and (2) HAP emission estimates based on previously obtained test data or on engineering calculations, provided there is a basis for such calculations.

All data and responses should be based on calendar year **1997** emissions, materials handled, and emission control equipment (unless you can justify selection of an alternate base year). Please be sure to keep a copy of the completed survey for your records. You should also keep copies of any notes or calculations you perform in completing the survey. If you need more space to complete your response, please include the additional information in a clearly labeled attachment. If you believe there is additional information that is not requested in the survey that may be helpful to the EPA in developing HAP emission standards for this industry, please include this information in a separate attachment.

Facilities have **two options for completing this survey:**

1. Fill out and return the enclosed paper copy, using copies of blank tables and extra sheets as necessary to provide complete answers. The EPA recommends that sufficient copies of the blank survey be made to accommodate each facility within a company that will complete the survey, **OR**

2. Locate the electronic version of the survey on the EPA's Technology Transfer Network (TTN) [address: http//www.epa.gov/ttn/]. A choice of file types for the survey is available. Download the survey and fill it out electronically. Return a

paper copy of the completed survey as well as a standard 3.5" diskette containing your response.

Below is information concerning which facilities must complete the survey.

A. **What size plant sites must complete the survey?**

This survey is to be completed for any organic liquids distribution (OLD) facilities that are large sources of HAP as defined below, or are at plant sites that are large sources of HAP as defined below. For the purposes of this survey, the following criteria are to be used to determine if an OLD facility is on a plant site that is a large emitter of HAP. The company must respond if either:

1. The plant site has actual annual emissions of 5 tons per year (tpy) or greater of any single HAP listed in Attachment A, **OR**

2. The plant site has actual annual emissions of 12.5 tpy or greater of any combination of HAP listed in Attachment A.

The plant site used for this emissions calculation must include all HAP emission sources located within a contiguous area and under common control. Thus, the HAP estimate must include all emission sources on the entire plant site, including HAP emissions from both distribution and non-distribution operations. (Note: Specific exclusions discussed later in this section do not apply here in this HAP emissions calculation.)

Distribution facilities at plant sites not meeting the large source criteria above.
Distribution facilities at plant sites with actual HAP emissions below 5 tpy (single HAP) or 12.5 tpy (combined HAP) do not need to complete this survey and do not need to report information on that OLD facility. However, if your company does not have any plant sites with OLD facilities meeting the "large source" emissions criteria above, you must report this finding in writing to the EPA at the address shown in **subsection J** of this section.

B. **What types of distribution facilities are covered by the survey?**

Overall, organic liquids distribution (OLD) facilities that must complete this survey are those plant sites having operations that distribute organic liquids that have a HAP content and which serve as distribution points from which organic liquids may be obtained for further use or processing. Distribution operations include the incoming transfers, storage, and outgoing transfer operations, including associated equipment, waste and wastewater treatment and disposal practices, and compounding, blending, or packaging activities. These distribution activities may be on-site or off-site, or before or after, production plant sites such as chemical plants or petroleum refineries.

Listed below are examples of specific OLD facility types (or combinations thereof), that must be included in this survey. These OLD facilities may be separate entities or may be contiguous and under common control with a production plant site or each other.

1. **Distribution terminals** -- these facilities receive, store, and distribute HAP-containing organic liquids. Liquids normally enter and leave the facility by pipeline, marine vessel, tank truck, or railcar, in containers, or by any combination of these modes.

2. **Pipeline facilities** -- these facilities transmit crude oil, natural gas liquids, or other organic liquids from or between oil and gas fields, chemical manufacturers, petroleum refineries, and distribution facilities. For natural gas liquids and crude oil, this survey only covers facilities after the point of custody transfer. Additionally, this survey does not cover natural gas facilities. One type of facility that is large enough to be covered by this survey occurs along a pipeline and contains storage vessels used to relieve surges or receive, gather, and store liquids from the pipeline for reinjection and continued transport by the same pipeline or to other facilities; these facilities are generally known as pipeline breakout stations. Other typical industry names for pipeline facilities that may emit large amounts of HAP include, but are not limited to, trunk-line pump stations and station storage vessel farms.

3. **Compounding/blending/packaging facilities** -- these facilities mix HAP-containing organic liquids together to form a blend or product, and may perform a packaging operation by transferring the product into containers of approximately 600 gallons or smaller. They may constitute a set of operations within a distribution terminal or pipeline facility (which may itself be collocated with a production plant site), or they could be separate from terminal operations.

Respondents should recognize that the above described facility types are the most prominent examples known to the Agency, but other types may satisfy the "overall" description presented earlier in these instructions.

C. **Do all organic liquids need to be surveyed?**

Organic liquids to be surveyed. Provide the requested data only for each organic liquid or mixture of liquids that meets both of the following criteria:

1. The organic liquid has a HAP content of 1,000 ppmw or greater, **AND**

2. The liquid has an annual average true vapor pressure of 0.1 psia or greater.

Note that these criteria apply to organic liquids that are transferred into and out of the

facility, but do not apply to waste material and wastewater (see below) generated from distribution processes and operations. Also, gasoline is required to be surveyed only under the specified conditions presented in **subsection G** of this section.

Organic liquid wastes and wastewater to be surveyed. Provide the requested waste or wastewater data only for plant sites that generate these waste materials as follows:

1. All HAP-containing wastewater streams at plant sites that generate a total of 0.5 million gallons per year or more of wastewater (excluding segregated stormwater runoff). HAP content must be measured prior to exposure to the atmosphere.

2. All semi-aqueous (10 to 90 percent solids) HAP-containing waste generated from distribution equipment or operations.

Organic liquids and wastes not surveyed. Organic liquids not surveyed because they do not meet the criteria in **subsection C** of this section, but are on site, must be generally described and quantified as requested in **Section III. Plant Operations, subsection B**. However, a volume throughput for each of the non-surveyed liquids or wastes is not required.

D. **What information must be provided for marine vessel loading operations?**

Marine vessel loading operations are subject to Marine Vessel MACT (40 CFR 63, subpart Y) and therefore not the subject of this survey. However, this survey does cover, either wholly or partially, some equipment associated with marine vessel loading (i.e., storage vessels, shared emission control devices, etc.) as discussed below.

1. **Marine tank vessel terminals that only load or unload product** and have no other sources of HAP emissions on the plant site, except equipment leaks from the pumps, valves, and seals used to load or unload the vessel do not have to complete this survey. If the plant site also contains, as an example, a storage vessel containing surveyed organic liquids (see earlier **subsection C**) containing HAP, then these plant sites must submit a survey. The required data for those operations are summarized below in **subsection D.2**.

2. **Marine tank vessel terminal operations at plant sites with other HAP emission sources.** Provide the following information on marine vessel loading operations:

a) Show the marine vessel loading operations on the general plot plan in **Section III, subsection A**.

b) Provide a written description of the marine vessel loading operations as requested in **Section III, subsection B**.

c) Fill in the marine vessel loading operation data in wastewater and waste **Tables 4, 5, and 6**.

d) Provide data on each air pollution control device that is not dedicated to (but may be shared by) the marine vessel loading operations (**Table 9**).

E. **What information must be provided for plant sites with chemical manufacturing facilities?**

The intent of the Organic Liquids Distribution MACT and this section of the survey is to not overlap the emission sources regulated under the Hazardous Organic NESHAP (HON). Only storage vessels, transfer racks, loading arms, and loading hoses that have exclusive or predominant use with a regulated chemical manufacturing process unit are required to be controlled under the HON (see 40 CFR 63.100(g) and (h)). This survey is collecting detailed information as discussed below, on all distribution storage vessels[1], loading racks, loading arms, and loading hoses at the same plant sites with chemical manufacturing facilities, unless those emission sources are covered by the HON.

1. On the plot plan requested in **subsection A of Section III**, show which storage vessels and loading arms and racks are regulated under the HON and which are not. "Regulated" vessels, loading arms, and racks include those that are otherwise subject to the HON based on association with a process unit, but do not need to be controlled because they do not meet the control criteria given in the HON.

2. For the storage vessels and loading racks for which data are supplied in **Tables 2 and 3**, fill out **Table 1** listing the associated surveyed organic liquids, but do not fill out **Tables 4 through 8.**

3. List in **Table 2** the presence (but not the requested data) of all distribution storage vessels not regulated by the HON because they are part of non-HON regulated process units. Also list vessels in tank farms that are contiguous and under common control with the plant site and which store and transfer surveyed organic liquids onto or off the plant site. Provide the requested **Table 2** data for any tank farm or other distribution vessels that are not assigned to a HON-regulated process unit (i.e., an intervening tank exists between the vessel and a regulated process unit).

4. For loading racks, fill out **Table 3** (and **Table 9** as applicable) for each loading rack, arm, or hose that loads surveyed liquids and is not assigned to (does not have exclusive

[1]The term "distribution storage vessel" is used to limit this survey to storage tanks used for distribution rather than in-process tanks. Generally, distribution tanks are those that store organic liquids entering or leaving the plant site.

or predominant use with) a regulated process unit or is not a tank farm rack subject to the HON.

F. **What information must be provided for petroleum refineries?**

The intent of the Organic Liquids Distribution MACT and this section of the survey is to not overlap the emission sources regulated under the Refinery MACT (40 CFR 63, subpart CC). Only storage vessels that have exclusive or predominant use with one or more regulated process units are regulated by the Refinery MACT (40 CFR 63.640(e)). Also, only loading arms handling gasoline are regulated by the Refinery MACT (40 CFR 63.640(c)(5)). This survey is gathering information as discussed below, on organic liquid distribution storage vessels, loading racks, and loading arms not included in the Refinery MACT at the refinery plant site.

1. On the plot plan requested in **subsection A of Section III**, show which storage vessels are regulated under the Refinery MACT and which are not. "Regulated" vessels include those that are otherwise subject to the Refinery MACT, but do not need to be controlled because they do not meet the control criteria given in the Refinery MACT.

2. For the storage vessels and loading racks for which data are supplied in **Tables 2 and 3**, fill out **Table 1** listing the associated surveyed organic liquids, but do not fill out **Tables 4 through 8**.

3. List in **Table 2** the presence of all distribution storage vessels not regulated by the Refinery MACT, such as: 1) those that do not have exclusive or predominant use with a regulated process unit, or 2) those that are in tank farms that are contiguous and under common control with the plant site, and which store and transfer surveyed liquids onto or off the plant site.

4. For loading racks, fill out **Table 3** (and **Table 9** as applicable) for each loading rack and arm that loads surveyed liquids other than gasoline into tank trucks or railcars.

G. **What gasoline, gasoline operations, and gasoline facilities need to be surveyed?**

The intent of the Organic Liquids Distribution MACT and this section of the survey is to not overlap the emission sources regulated under the Gasoline Distribution MACT (40 CFR 63, subpart R) or the applicable portions of the Refinery MACT (40 CFR 63, subpart CC) noted earlier in this section. Gasoline is the only organic liquid regulated by the Gasoline Distribution MACT. However, other products are loaded at those facilities and in some cases are organic liquids that are specified not to be surveyed in subsection C of this section. Also, if equipment is used in gasoline service but is not dedicated to gasoline service, then data are needed on those equipment and operations. Below is a description of gasoline operations and facilities that are not to be surveyed or partially surveyed.

1. Bulk gasoline terminals or pipeline facilities handling only gasoline or non-surveyed liquids. Bulk gasoline terminals and pipeline facilities do not have to submit a response to this survey if the facility handles only gasoline and any other organic liquids specified not to be surveyed in **subsection C** of this section.

2. Gasoline and gasoline operations at other facilities. All gasoline products (including aviation gasoline) must be partially surveyed at all facilities as specified below, unless they meet the criteria above in **subsection G.1** or are not at a plant site that is a large emitter of HAP as specified in **subsection A** of this section.

a) Gasoline operations must be discussed in **Section III. Plant Operations, subsection B**.

b) Gasoline information must be provided in the storage, transfer, equipment leak, and control equipment sections (**Tables 1, 2, 3, 7, and 9**) unless the equipment is:
(i) in dedicated gasoline service, or
(ii) regulated under the Gasoline Distribution MACT (40 CFR 63.422, 63.423, 63.424) or the Refinery MACT (40 CFR 63.646, 63.648, 63.650, 63.651).
However, equipment in dedicated gasoline service or regulated by the Gasoline Distribution or Refinery MACT must be shown on the plot plan(s) in **Section III. Plant Operations, subsection A**, and generally described as requested in **subsection B of Section III**.

c) Gasoline information must be included in wastewater and waste **Tables 4, 5, and 6**.

H. **Compounding/blending/packaging facilities that have a primary Standard Industrial Classification (SIC) code 282, 284, 285, 286, 287, 289, or 386** are not included in this survey and need not be included in the survey response.

I. **If you have questions:**

If you have any questions regarding this request, please contact Mr. Stephen Shedd, U.S. EPA, Emission Standards Division, at (919) 541-5397, or e-mail at shedd.steve@epa.gov.

J. **Where to mail responses:**

Return the completed information request and any additional information by the date requested in the accompanying letter to:

Bruce C. Jordan, Director
Emission Standards Division (MD-13)
Office of Air Quality Planning and Standards
U. S. Environmental Protection Agency
Research Triangle Park, NC 27711

Attention: Stephen Shedd

II. GENERAL INFORMATION

A. Name of legal owner (i.e., parent company) of plant:

_____

_____

B. Is the company publicly or privately owned? _____

C. Name of legal operator of plant, if different from legal owner:

_____

_____

D. Address of legal owner/operator (please specify which):

_____

_____

E. Size of company/plant:

1. Approximate number of employees of the business enterprise that *owns* this plant, including where applicable, the parent company and all subsidiaries, branches, and unrelated establishments owned by the parent company: _____

2. Total number of employees of the business enterprise that *operates* this plant: _____

3. a) Number of employees at the entire plant site _____
   b) Number of employees associated with the organic liquids distribution (non-gasoline) operations at this plant: _____

   c) Number of organic liquids distribution operations employees that are *contract*

employees _____

F. Name of plant: _____

G. Street address of plant: _____

City, State, Zip code: _____

H. Dun and Bradstreet number: _____

I. Latitude and longitude coordinates of plant: _____

J. Name of contact(s) able to answer technical questions about the completed survey:

Name _____
Title _____
Telephone _____

Name _____
Title _____
Telephone _____

III. PLANT OPERATIONS

A. Provide a general plot plan of the entire plant site within the fenceline, and a more detailed figure showing the organic liquid distribution operations. This latter figure should clearly indicate all storage vessels and their identifier codes, product loading or transfer areas, major product flow lines, wastewater drains and treatment areas, and emission control devices. Use the same terminology/codes in identifying facility equipment as you will use in completing **Tables 1 through 9** in **Section IV**. For collocated operations, show which storage vessels are regulated under an existing MACT and which are not.

B. Provide a brief written description of the distribution facility's operations. List the categories (crude oil, gasoline, refined petroleum, solvents, glycols, etc.) of organic liquid materials handled during the base year. Also describe all activities that generate HAP emissions, including the storage, transfer, handling, and processing (such as blending or packaging) of the materials, as well as wastewater and other waste handling. Again, please use consistent terminology and codes between the plot plan, the written description, and **Tables 1 through 9** in **Section IV**.

C. Include in the written description (**Section III, subsection B**) the percentage of total product shipped from OLD facilities represented by the surveyed liquids (see **Section I, subsection C** for a discussion of surveyed vs. non-surveyed liquids).

D. Provide an estimate for the base year of total HAP emissions from the entire plant site. Include the percentage contribution from the organic liquid distribution operations.

IV. HAP EMISSIONS AND CONTROLS

Complete **Tables 1 through 9**, as applicable and subject to the exclusions in **Section I**, for the HAP emission points and control techniques that exist at plant sites containing an organic liquids distribution (OLD) facility. Where necessary, make sufficient copies of blank tables to provide space for complete responses. Sample entries for these tables can be found in Attachment B. Additional guidance to help you fill out these tables is provided below:

1. **Table 1-Organic Liquids Stored or Loaded** -- Enter a name for each HAP-containing organic liquid stored or loaded at the OLD facility, that meets the criteria in **subsection C** of **Section I** (i.e., surveyed liquids). This includes both pure HAP liquids (e.g., benzene, methanol) and each HAP organic liquid *mixture*. Do not include wastewater in this table (wastewater is to be listed in **Tables 4 and 5**). The EPA's complete HAP listing is provided in Attachment A; use either the HAP names shown or the corresponding CAS numbers. Where known, include (in the table) the requested liquid properties and the identity and concentration of HAP present in each liquid. Note: use a separate sheet for each different liquid.

2. **Table 2-Storage Tanks** -- Enter a unique identifier code (e.g., T01, T02, etc.) for each storage tank with greater than 5,000-gallon (≅120-barrel) capacity. Show each organic liquid from **Table 1** stored in each tank during the base year (and the corresponding throughput), using the same liquid codes as used for **Table 1**. For each add-on control device used to control vapor emissions from storage tanks (and not dedicated to gasoline operations and/or marine vessel loading), fill out **Table 9** for that type of device (a separate table for each individual device).

3. **Table 3-Transfer Operations** -- Enter each loading rack/loading arm that transfers organic liquids listed in **Table 1** to tank trucks, railcars, barges, or tanker ships. We are also interested in operations that package these liquids into smaller containers, such as 55-gallon drums, 1-gallon or 1-quart cans, etc. (**Table 8** addresses these operations specifically). As in **Table 2** for storage tanks, fill out **Table 9** for each control device used to control vapor emissions from liquid transfers, and not dedicated to gasoline operations and/or marine vessel loading.

4. **Table 4-Wastewater Flow and Drain Controls** -- List the principal sources of wastewater generation from distribution activities, using the supplied codes or your own code and description. Estimate the annual flow rate from each source, and include the HAP constituents and their concentrations in ppmw or mg/l. Drains are the individual entryways to conduits that move water to storage or

treatment.

5. **Table 5-Wastewater Collection and Treatment Control** -- In this table we wish to learn how wastewater is collected and treated at the plant site. For each wastewater source as listed in **Table 4**, list the number of collection or treatment units applicable to each source. The last four columns request information on whether and how air emissions from each area are controlled. As in **Tables 2 and 3**, fill out **Table 9** for each control device used to control vapor emissions from wastewater.

6. **Table 6-Semi-Aqueous Waste** -- Semi-aqueous waste (semi-solid material, or sludge) may contain and emit HAP during storage, handling, or treatment. Identify each individual type of waste from distribution activities that contains <u>any</u> HAP, and provide information on how the waste is collected and treated. As in **Tables 2, 3, and 5**, fill out **Table 9** for each control device used to control air emissions from semi-aqueous waste.

7. **Table 7-Equipment Leaks** -- Leak detection and repair (LDAR) programs involve a formal leak survey of equipment components on a fixed schedule (and may consist of an instrument or a visual program). As in **Tables 2, 3, 5, and 6**, fill out **Table 9** for each control device used to control vapor emissions from equipment components.

8. **Table 8-Compounding/Blending/Packaging Operations** -- This table applies to facilities that mix liquids together to form a blend or product, and <u>may</u> package the product into smaller, non-mobile containers (approximately 600 gallons down to 1 gallon or less). List each separate blend or chemical product made, and the surveyed liquids used to form the product (see **Section I, subsection C** for a discussion of surveyed liquids). For families of blended products (i.e., liquids that differ only slightly and have the same category name), you may combine these products into a single entry in the table.

9. **Table 9-Air Pollution Control Equipment** -- Complete the applicable section of **Table 9** for each air pollution control device in use at the OLD facility (except those dedicated to gasoline service and/or marine tank vessel loadings). Fill in the requested parameters if known, showing design, typical, or maximum expected values (specify which). Even if you do not know the values, at least identify the presence of the device by including a table showing the type of device and the emission sources that it controls. Please be specific when listing the emission sources; e.g., Tanks 1, 2, 3, and 7; Loading Racks 1-5 and 11-15; all Oil-Water Separators; and so forth.

TABLE 1. ORGANIC LIQUIDS HANDLED AND HAP CONTENT(a) (SURVEYED LIQUIDS)

I. Organic Liquid Name (b) _____

II. Properties (use the same reference temperature for a. and b., and indicate temperature.)

a. Average True Vapor Pressure (psia): _____
b. Density (lb/gal): _____
c. Reid Vapor Pressure (psia): _____
d. Liquid Molecular Weight (lb/lb-mol @ 70°F): _____
e. Vapor Molecular Weight (lb/lb-mol @ 70°F): _____

III. HAP Constituents (of the organic liquid listed above):

HAP Constituent (c)	CAS No.	Average Liquid Weight %	Average Vapor Weight %

(Note: Insert lines as required to list all HAP constituents in the organic liquid. Make sufficient copies of this sheet to list all your organic liquids and their HAP constituents.)

a). Do not list wastewater in this table (for wastewater, refer to Tables 4 and 5).

b). Provide the complete name for the organic liquid being reported. If the liquid is pure HAP, refer to Attachment A and use the name or CAS number shown. For organic liquids referenced in Table 8, the family name of the liquid may be used in lieu of listing each individual blend.

c). List all the HAP constituents present in the organic liquid identified in item I. Refer to Attachment A for a complete HAP name and CAS No. listing.

TABLE 2. STORAGE TANK CONTROL DATA

Tank ID Code (a)	Tank Capacity (gal) (b)	Name(s) of Stored Liquid(s) (c)	Annual Throughput (gal/yr) (d)	Roof Configuration (e)	Floating Roof Tank Only: Seal Type (f)	Tank Roof Fittings (g)	Add-on Control Device (h)	Applicable Air Regulations (i)

See end of table for footnotes.

TABLE 2. STORAGE TANK CONTROL DATA (Continued)

a). Provide a unique identifier code for each tank (i.e., T01, T02), matching the codes on the plot plan(s).

b). Provide the maximum or design capacity for each tank.

c). Names listed must match those shown in Table 1.

d). Annual throughput should be based upon 1997 values; if not, give year and justification.

e). Select the storage tank roof configuration:

FXR = fixed roof
IFR = internal floating roof
EFR = external floating roof
CEF = external floating roof converted to an internal floating roof
P = pressure vessel
RLT = refrigerated low pressure tank.

f). For floating roof tanks, enter the floating deck seal type:

VM1 = vapor-mounted primary seal only
VM2 = vapor-mounted primary seal with weather shield
VM3 = vapor-mounted primary seal with rim-mounted secondary seal
LM1 = liquid-mounted primary seal only
LM2 = liquid-mounted primary seal with weather shield
LM3 = liquid-mounted primary seal with rim-mounted secondary seal
MS1 = mechanical shoe primary seal only
MS2 = mechanical shoe primary seal with weather shield
MS3 = mechanical shoe primary seal with rim-mounted secondary seal
OT = other (please specify type).

g). For floating roof tanks, select the codes that best describe the types of roof fittings in place:

GPWUU = guide pole well, unslotted, ungasketed sliding cover
GPWUG = guide pole well, unslotted, gasketed sliding cover
GPSWSUN= guide pole/sample well, slotted, ungasketed sliding cover, without float
GPSWSUF= guide pole/sample well, slotted, ungasketed sliding cover, with float
GPSWSGN= guide pole/sample well, slotted, gasketed sliding cover, without float
GPSWSGF= guide pole/sample well, slotted, gasketed sliding cover, with float
AHBG = access hatch, bolted, gasketed
AHUU = access hatch, unbolted, ungasketed
AHUG = access hatch, unbolted, gasketed
GFWUU = gauge-float well, unbolted, ungasketed
GFWUG = gauge-float well, unbolted, gasketed
GFWBG = gauge-float well, bolted, gasketed
GHSWG = gauge-hatch/sample well, gasketed
GHSWU = gauge-hatch/sample well, ungasketed
VBG = vacuum breaker, gasketed

TABLE 2. STORAGE TANK CONTROL DATA (Concluded)

VBU = vacuum breaker, ungasketed.

h). Select the code(s) that best describe control systems, if any, used to control vapors emitted from any part of the tank, including rim seals, fittings, etc. (provide a unique identifier for each control system; e.g., VCS4-1 or VCS4-2).

VCS1 = vapor collection system venting to a vapor/liquid absorption unit (scrubber)
VCS2 = vapor collection system venting to an incinerator/boiler
VCS3 = vapor collection system venting to a flare
VCS4 = vapor collection system venting to a vapor/solid adsorption unit
VCS5 = vapor collection system venting to a condenser
VCS6 = vapor collection system returning to a process
VCS7 = vapor collection system returning to a fuel gas system
B = ground level burner or thermal oxidizer
C = catalytic oxidizer
OT = other, please provide a full description (use extra sheet)
N = none.

i). Please identify any Federal regulations that apply to each storage tank:

K = 40 CFR 60 subpart K, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction , Reconstruction, or Modification Commenced After June 11, 1973 and Prior to May 19, 1978.
Ka = 40 CFR 60 subpart Ka, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction , Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984.
Kb = 40 CFR 60 subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels (including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984.
Y = 40 CFR 61, subpart Y, National Emission Standards for Benzene Emissions from Benzene Storage Vessels.
OT = Other, please identify.

TABLE 3. LIQUID TRANSFER OPERATIONS

Organic Liquid Transferred through Facility (a)	Incoming Type of Transport Vehicle or Container (b)	Loading Rack ID Code (c)	Loading Arm ID Code (d)	Outgoing Type of Transport Vehicle or Container (b)	Annual Volume of Transferred Liquid (gal/yr)	Method of Loading or Unloading (e)	Average Loading or Unloading Rate per Arm (gal/min)	Vapor Control Device (f)	Control Device Efficiency (g)

See end of table for footnotes.

TABLE 3. LIQUID TRANSFER OPERATIONS (Concluded)

a). Organic liquid names must match those listed in Table 1.

b). Select the type of transport vehicle loaded or unloaded, or container filled:

TT	=	tank truck
RC	=	tank car (railroad)
PL	=	pipeline
BG	=	barge
TS	=	tanker ship
SC	=	small container (1 gal. or less; specify size)
MC	=	medium container (>1 gal., <55 gal.; specify size)
LC	=	large container (55 gal. drum or larger; specify size)
OT	=	other, please describe.

c). Provide a unique identifier code for each loading *rack* or other filling equipment (i.e., LR1, LR2, etc.).

d). Provide a unique identifier code for each loading *arm* in a rack or equipment unit (i.e., LA1, LA2, etc.).

e). Select the method of loading/unloading organic liquids:

SPL	=	splash (top)
SUB	=	top submerged
BTM	=	bottom loading/fill
OT	=	other, please specify.

f). Use the same control device codes as in footnote “h” of Table 2.

g). Please provide a control device efficiency estimate. In parentheses, include the basis for this estimate as follows:

SA	=	sampling and analysis
EJ	=	engineering judgment
ST	=	source test
OT	=	other, please describe.

TABLE 4. WASTEWATER FLOW RATES AND DRAIN CONTROLS

Source of OLD Wastewater (a)	Total Flow Rate (gal/yr)	HAP Name (b)	HAP Concentration in Water (ppmw) (c)	Number of Drains with Emission Suppression (d)	Number of Drains without Emission Suppression (d)

a). OLD = Organic Liquids Distribution. Select the codes that best describe the points of wastewater generation (insert codes as required and provide a full description):

TC = tank cleanings
LR = loading racks (identify the specific racks using the same rack codes as in footnote “a” of Table 3.
LC = line cleanings
LB = liquid blending/packaging operations
OT = other, please provide full description (use extra sheet, if necessary).

b). List the principal HAPs typically present in each wastewater stream.

c). Estimated annual average concentration during periods of nominal flow in ppmw.

d). Emission suppression controls reduce emissions from drain pipes and include, but are not limited to, water seal pots and p-traps.

TABLE 5. WASTEWATER COLLECTION AND TREATMENT CONTROL (a)

OLD Wastewater Treatment Unit	Total Number of Units on Site (c)	No. of Uncovered Units that Vent to the Atmosphere (d)	No. of Covered Units that Vent to the Atmosphere (d)	No. of Units that Vent Emissions to a Control Device	Control Device (e)
Source of Wastewater (b):					
Collection Units					
Manholes					
Junction Boxes					
Sumps/Catch Basins					
Lift Stations					
Storage Tanks					
(f)					
Treatment Units					
Oil/Water Separators					
Air Flotation Systems					
Coagulation/Precipitation Units					
Sand Filtration Unit					
Equalization Units					

See end of table for footnotes.

TABLE 5. WASTEWATER COLLECTION AND TREATMENT CONTROL (a) (Continued)

OLD Wastewater Treatment Unit	Total Number of Units on Site (c)	No. of Uncovered Units that Vent to the Atmosphere (d)	No. of Covered Units that Vent to the Atmosphere (d)	No. of Units that Vent Emissions to a Control Device	Control Device (e)
Source of Wastewater (b):					
Treatment Units					
Oxidation Ponds					
Activated Sludge Units					
Trickling Filters					
Clarifiers					
Filter Presses					
Strippers					
Effluent/Recycle Pond					
Rotating Biological Contactors					
Ship Off Site					
(g)					

See end of table for footnotes.

TABLE 5. WASTEWATER COLLECTION AND TREATMENT CONTROL (Concluded)

a). Include all wastewater collection and treatment units and any control devices controlling vapor emissions from such units. Do not report information on drains in this table; report drain information in Table 4.

b). Enter the sources of wastewater within the OLD operations. Use the same codes as in footnote "a" of Table 4.

c). Enter the total number of each type of collection unit and treatment system for each wastewater source that is associated with OLD operations.

d). A unit should be considered *covered* if it has emission suppression devices in place.

e). For each collection unit or treatment system vented to a control device, list the device and fill out the applicable section of Table 9. Use the same control device codes and format as in footnote "h" of Table 2.

f). Provide the name(s) and other information for any additional wastewater collection unit(s) present at the facility.

g). Provide the name(s) and other information for any additional wastewater treatment unit(s) used at the facility.

TABLE 6. SEMI-AQUEOUS WASTE COLLECTION AND CONTROL (a)

Type of Waste (b)	Waste Generation Rate (tons/year) (c)	Waste Collected in a Closed System? (Yes/No) (d)	Method of On-Site Storage (e)	Waste Treated or Disposed of On-Site? (Yes/No) (f)	Method of On-Site Treatment or Disposal (g)	Control Device on Treatment or Disposal Unit (h)

See end of table for footnotes.

TABLE 6. SEMI-AQUEOUS WASTE COLLECTION AND CONTROL (Continued)

a). Semi-aqueous waste contains any amount of HAP and is between 10 and 90 percent solids.

b). Select the waste code that best describes the semi-aqueous waste type:

AP	=	oil-water separator sludge
BI	=	biotreatment sludge
HC	=	contaminated soil
OD	=	oily trash and debris
SO	=	slop oil emulsions
SS	=	sump/sewer clean-out sludge
B	=	tank bottoms
OT	=	other, please specify (use extra sheet, if necessary).

c). List the annual semi-aqueous waste generation rate for each type in tons per year (tpy).

d). Identify (Yes/No) whether the waste is collected in a closed vapor collection system. A closed system has equipment to prevent or minimize waste contact with the atmosphere, such as: vapor recovery systems, enclosed pipes, or collection units with covers.

e). Select the storage code that best describes the method by which semi-aqueous waste is stored on-site prior to treatment or disposal:

AA	=	open tanks
BB	=	fixed roof tanks
CC	=	floating roof tanks
DD	=	sealed DOT containers (55 gallon drums, 110 gallon bins, etc.)
EE	=	open roll-off boxes
FF	=	covered roll-off boxes
GG	=	open ponds
HH	=	covered ponds
II	=	open pile
JJ	=	covered pile
OT	=	other, please specify (use extra sheet, if necessary).

f). Identify whether waste is treated or disposed of On-Site (Yes) or transported Off-Site (No) for treatment and/or disposal.

g). If waste is treated or disposed of On-Site, select the treatment and/or disposal code(s) that best describe(s) how the waste is managed (if more than one code is applicable, separate multiple codes with a comma):

LB	=	land burial
LT	=	land treatment/farming
DW	=	dewatering
ST	=	solidification/stabilization
BI	=	biotreatment
IN	=	incineration/thermal destruction
RE	=	recycled

TABLE 6. SEMI-AQUEOUS WASTE COLLECTION AND CONTROL (Concluded)

OT = other, please specify (use extra sheet, if necessary).

h). Use the same control device codes as in footnote “h” of Table 2 or describe other devices on a separate sheet.

TABLE 7. EQUIPMENT LEAK CONTROL DATA

1. Is there a formal, periodic equipment leak detection and repair (LDAR) program? Yes ☐ No ☐

Comments:_____
_____
_____

2. Please indicate which Federal/State/local rules require an LDAR program at this facility:

a).____
b).____
c).____

3. If a formal equipment LDAR program has been implemented at your plant, provide the following information:

Definition of a Leak[a]	
Leak Detection Method[b]	
Leak Response Time[c]	

a). Leak definition codes:

A = 500 ppmv
E = Sensory detection
D = Bubble formation
C = 10,000 ppmv
B = 1,000 ppmv
OT = Other (specify)

b). Leak detection codes:

A = EPA Method 21 (vapor detector)
B = Sight (e.g., drips), smell, sound
C = Gas detection/alarm system
D = Soap water application
E = None
OT = Other

c). Provide the maximum allowable time after detection to begin and complete repair of a leak.

TABLE 7. EQUIPMENT LEAK CONTROL DATA (Concluded)

Equipment Component	Inspection Frequency (a)	Total Equipment Count	Equipment Count in LDAR Program	Equipment Count in LDAR with HAP Service	Equipment Counts with Mechanical Control Devices (b)	Equipment Counts with a Closed Vent System (c)	Closed Vent System Control Device (d)
Valves							
Compressors							
Flanges							
Pumps							
Sampling Connections							
Pressure relief valves (to atmosphere)							

a). Inspection Frequency Codes:

M = Monthly	T = One time only
A = Annually	Q = Quarterly
OT = Other (specify)	E = After equipment change

b). Provide equipment counts for equipment in HAP service with mechanical control devices such as: sealless valves, pumps with dual mechanical seals and a barrier fluid, compressors with mechanical seals and a barrier fluid, and pressure relief valves with rupture disks.

c). Provide equipment counts for equipment with a vapor collection and recovery (closed vent) system.

d). Use the same control device codes and formats as in footnote “h” of Table 2.

TABLE 8. COMPOUNDING/BLENDING/PACKAGING OPERATIONS

Part I.

Product Name (a)	Chemical Composition (b)	Annual Quantity Produced (gal) (c)	Does a chemical reaction take place? (d)	Applicable Regulations (e)

a). Provide the product names resulting from blending, compounding, and packaging operations. Names must match those provided in Table 1. For families of blends, include only the family name listed in Table 1.

b). Provide the names of the raw materials (must match Table 1) that are used to blend/compound the product.

c). Provide the annual quantities of the products produced.

d). Specify whether a chemical reaction takes place during the compounding or blending of organic liquids (i.e., yes-compounding, no-blending, etc.).

e). Please identify any regulations (pertaining to air emissions) that apply to the compounding/blending operation.

Part II.

The questions below are facility-wide, and do not need to be answered on a product-by-product basis. Please answer the following questions with as much detail as possible. Insert sheets as necessary.

1. Provide a description of the principal methods/mechanisms used for blending/compounding.

2. Provide a detailed description of any mechanisms of vapor balancing or other vapor emission control utilized for these processes (e.g., submerged fill).

TABLE 9. AIR POLLUTION CONTROL EQUIPMENT PARAMETERS (a)

Control Device: Scrubber (b)	Emission Sources (c)
Identifier Code(d): _____ Type of scrubber: venturi _____ packed bed _____ impingement _____ other (specify) _____ Gas inlet temperature, °F _____ Pressure drop, in. H_2O _____ Liquid-to-gas ratio, gal/10^3 acfm _____ Inlet scrubbing liquor: pH _____ percent solids _____ type of alkali added, if any _____ rate (lb/gal) _____ Wastewater generation rate, gal/min _____ HAP composition of wastewater, mg/l _____	1._____ 2._____ 3._____ 4._____ 5._____ 6._____

See end of table for footnotes.

TABLE 9. AIR POLLUTION CONTROL EQUIPMENT PARAMETERS (a) (Continued)

Control Device: Incinerator (b)	Emission Sources (c)
Identifier Code (d): _____ Type: thermal _____ catalytic _____ Combustion chamber temperature, °F_____ (please note if temperature measurement is not in chamber) Excess air, % _____ Nominal residence time, s _____ Heat recovery: recuperative, percent heat recovery _____ regenerative, percent heat recovery _____	1._____ 2._____ 3._____ 4._____ 5._____ 6._____

See end of table for footnotes.

TABLE 9. AIR POLLUTION CONTROL EQUIPMENT PARAMETERS (a) (Continued)

Control Device: Flare (b)	Emission Sources (c)
Identifier Code (d): _____ Type: no assist _____ steam assist_____ air assist _____ pressure assist _____ Location: ground _____ elevated _____ Heat content of vented stream, Btu/scf _____ Flare gas exit velocity, ft/s _____ Flare tip diameter, in. _____ Flare height, ft _____ Supplementary fuel for: pilot, scfm _____ combustion purposes, scfm _____ Steam requirement, lb/hr _____	1._____ 2._____ 3._____ 4._____ 5._____ 6._____

See end of table for footnotes.

TABLE 9. AIR POLLUTION CONTROL EQUIPMENT PARAMETERS (a) (Continued)

Control Device: Carbon Adsorber (b)	Emission Sources (c)
Identifier Code (d): _____ Type of carbon bed and number: regenerative_____ non-regenerative _____ fixed _____ fluidized _____ How many pounds of carbon per bed _____ Configuration: parallel _____ serial _____ Number of beds on-line _____ Number of beds desorbing _____ Pressure drop, in. H_2O _____ Gas inlet temperature, °F _____ Type of regeneration _____ Regeneration time _____ Adsorption time _____	1._____ 2._____ 3._____ 4._____ 5._____ 6._____

See end of table for footnotes.

TABLE 9. AIR POLLUTION CONTROL EQUIPMENT PARAMETERS (a) (Continued)

Control Device: Condenser (b)	Emission Sources (c)
Identifier Code (d): _____ Type of condenser: surface _____ contact [if contact, see scrubber] _____ Gas inlet temperature, °F _____ Gas outlet temperature, °F _____	1._____ 2._____ 3._____ 4._____ 5._____ 6._____

See next page for footnotes.

TABLE 9. AIR POLLUTION CONTROL EQUIPMENT PARAMETERS (Concluded)

a). A separate table should be filled out (after making copies of the blank table) for each individual scrubber, incinerator, flare, carbon adsorber, or condenser at the facility, unless it is dedicated to gasoline service and/or to marine tank vessel loadings. For other types of control devices, provide the most important parameters of operation on a separate sheet.

b). Show ranges, averages, or design values for each parameter and indicate which value is being listed.

c). List specific storage tanks, loading racks/arms, and wastewater and semi-aqueous waste treatment or disposal processes, using ID codes and names from Tables 2, 3, 5, and 6.

d). For identifier codes, use the same codes as are listed in Table 2, footnote “h”.

ATTACHMENT A - HAZARDOUS AIR POLLUTANTS (HAP)

40 CFR 63.2. HAP means any air pollutant listed in or pursuant to section 112(b) of the Act.

CAS No.	HAP Name
79-34-5	1,1,2,2-Tetrachloroethane
79-00-5	1,1,2-Trichloroethane
57-14-7	1,1-Dimethylhydrazine
120-82-1	1,2,4-Trichlorobenzene
96-12-8	1,2-Dibromo-3-chloropropane
122-66-7	1,2-Diphenylhydrazine
106-88-5	1,2-Epoxybutane
75-55-8	1,2-Propylenimine (2-Methyl aziridine)
106-99-0	1,3-Butadiene
541-75-6	1,3-Dichloropropene
1120-71-4	1,3-Propane sultone
106-46-7	1,4-Dicylorobenzene(p)
123-91-1	1,4-Dioxane (1,4 Diethyleneoxide)
540-84-1	2,2,4-Trimethylpentane
1746-01-6	2,3,7,8-Tetrachlorodibenzo-p-dioxin
95-95-4	2,4,5-Trichlorophenol
88-06-2	2,4,6-Trichlorophenol
N/A	2,4-D, salts and esters
51-28-5	2,4-Dinitrophenol
121-14-2	2,4-Dinitrotoluene
95-80-7	2,4-Toluene diamine
584-84-9	2,4-Toluene diisocyanate
98-86-2	2-Acetylaminofluorine
532-27-4	2-Chloroacetophenone
79-46-9	2-Nitropropane
119-90-4	3,3'-Dimethoxybenzidine
119-93-7	3,3'-Dimethyl benzidine
91-94-1	3,3'-Dichlorobenzidine
101-77-9	4,4'-Methylenedianiline
101-14-4	4,4-Methylene bis (2-chloroaniline)
N/A	4,6-Dinitro-o-cresol and salts
92-67-1	4-Aminobiphenyl
92-93-3	4-Nitrobiphenyl
100-02-7	4-Nitrophenol
75-07-0	Acetaldehyde
60-35-5	Acetamide
75058	Acetonitrile
98-86-2	Acetophenone
107-02-8	Acrolein
79-06-1	Acrylamide
79-10-7	Acrylic acid
107-13-1	Acrylonitrile
107-05-1	Allyl chloride

ATTACHMENT A - HAZARDOUS AIR POLLUTANTS

CAS No.	HAP Name
62-53-3	Aniline
N/A	Antimony Compounds
N/A	Arsenic Compounds (inorganic including arsine)
1332-21-4	Asbestos
71-43-2	Benzene
92-87-5	Benzidine
98-07-7	Benzotrichloride
100-44-7	Benzyl chloride
N/A	Beryllium Compounds
57-57-8	beta-Propiolactone
92-52-4	Biphenyl
111-44-4	Dichloroethyl ether
117-81-7	Bis (2-ethylhexyl) phthalate
542-88-1	Bis(chloromethyl)ether
75-25-2	Bromoform
N/A	Cadmium Compounds
156-62-7	Calcium cyanamide
133-06-2	Captan
63-25-2	Carbaryl
75-15-0	Carbon disulfide
56-23-5	Carbon tetrachloride
463-58-1	Carbonyl sulfide
120-80-9	Catechol
133-90-4	Chloramben
57-74-9	Chlordane
7782-50-5	Chlorine
79-11-8	Chloroacetic acid
108-90-7	Chlorobenzene
510-15-6	Chlorobenzilate
67-66-3	Chloroform
107-30-2	Chloromethyl methyl ether
126-99-8	Chloroprene
N/A	Chromium Compounds
N/A	Cobalt Compounds
N/A	Coke Oven Emissions
1319-77-3	Cresols/Cresylic acid
95-48-7	o-Cresol
108-39-4	m-Cresol
106-44-5	p-Cresol
98-82-8	Cumene
N/A	Cyanide Compounds
75-55-9	DDE
334-88-3	Diazomethane
132-64-9	Dibenzofurans

ATTACHMENT A - HAZARDOUS AIR POLLUTANTS

CAS No.	HAP Name
84-74-2	Dibutylphthalate
111-44-4	Dichloroethyl ether (Bis(2-chloroethyl)ether)
62-73-7	Dichlorvos
111-42-2	Diethanolamine
64-67-5	Diethyl sulfate
60-11-7	Dimethyl aminoazobenzene
79-44-7	Dimethyl carbamoyl chloride
68-12-2	Dimethyl formamide
131-11-3	Dimethyl phthalate
77-78-1	Dimethyl sulfate
106-89-8	Epichlorohydrin (1-chloro-2, 3-epoxypropane)
107-21-1	Ethylene glycol
140-88-5	Ethyl acrylate
100-41-4	Ethylbenzene
51-79-6	Ethyl carbamate (Urethane)
75-00-3	Ethyl chloride (Chloroethane)
106-93-4	Ethylene dibromide (Dibromoethane)
107-06-2	Ethylene dichloride (1,2-Dichloroethane)
151-56-4	Ethylene imine (Aziridine)
75-21-8	Ethylene oxide
96-45-7	Ethylene thiourea
75-34-3	Ethylidene dichloride (1,1 dichloroethane)
N/A	Fine Mineral Fibers
N/A	Mineral fibers
50-00-0	Formaldehyde
N/A	Glycol ethers
76-44-8	Heptachlor
118-74-1	Hexachlorobenzene
87-68-3	Hexachlorobutadiene
77-47-4	Hexachlorocyclopentadiene
67-72-1	Hexachloroethane
822-06-0	Hexamethylene 1,6-diisocyanate
680-31-9	Hexamethylphosphoramide
110-54-3	Hexane
302-01-2	Hydrazine
7647-01-0	Hydrochloric acid
7664-39-3	Hydrogen fluoride
778-30-64	Hydrogen sulfide
123-31-9	Hydroquinone
78-59-1	Isophorone
N/A	Lead Compounds
N/A	Lindane (all isomers)
108-38-3	m-Xylenes
108-31-6	Maleic anhydride

ATTACHMENT A - HAZARDOUS AIR POLLUTANTS

CAS No.	HAP Name
N/A	Manganese Compounds
N/A	Mercury Compounds
67-56-1	Methanol
72-43-5	Methoxychlor
74-83-9	Methyl bromide
74-87-3	Methyl chloride
71-55-6	Methyl chloroform
78-93-3	Methyl ethyl ketone
60-34-4	Methyl hydrazine
74-88-4	Methyl iodide (Iodomethane)
108-10-1	Methyl isobutyl ketone (Hexone)
624-83-9	Methyl isocyanate
80-62-6	Methyl methacrylate
1634-04-4	Methyl tert butyl ether (MTBE)
75-09-2	Methylene chloride (dichloromethane)
101-68-8	Methylene diphenyl diisocyanate (MDI)
121-69-7	N,N-Dimethylaniline
684-93-5	N-Nitroso-N-methylurea
62-75-9	N-Nitrosodimethylamine
59-89-2	N-Nitrosomorpholine
91-20-3	Naphthalene
N/A	Nickel Compounds
98-95-3	Nitrobenzene
90-04-0	o-Anisidine
95-53-4	o-Toluidine
95-47-6	o-Xylenes
106-50-3	p-Phenylenediamine
106-42-3	p-Xylenes
56-38-2	Parathion
82-68-8	Pentachloronitrobenzene (quintobenzene)
87-86-5	Pentachlorophenol
108-95-2	Phenol
75-44-5	Phosgene
7803-51-2	Phosphine
772-31-40	Phosphorous
N/A	Phosphorus Compounds
85-44-9	Phthalic anhydride
1336-36-3	Polychlorinated biphenyls (aroclors)
N/A	Polycyclic Organic Matter (POM)
123-38-6	Propionaldehyde

ATTACHMENT A - HAZARDOUS AIR POLLUTANTS (Concluded)

CAS No.	HAP Name
114-26-1	Propoxur (Baygon)
78-87-5	Propylene dichloride (1,2 dichloropropane)
75-56-9	Propylene oxide
91-22-5	Quinoline
106-51-4	Quinone
N/A	Radionuclides
N/A	Selenium Compounds
100-42-5	Styrene
96-09-3	Styrene oxide
127-18-4	Tetrachloroethylene (perchloroethylene)
7550-45-0	Titanium tetrachloride
108-88-3	Toluene
8001-35-2	Toxaphene (chlorinated camphene)
79-01-6	Trichloroethylene
121-44-8	Triethylamine
1582-09-8	Trifluralin
108-05-4	Vinyl acetate
593-60-2	Vinyl bromide
75-01-4	Vinyl chloride
75-35-4	Vinylidene chloride (1,1 dichloroethylene)
1330-20-7	Xylenes (isomeric mixtures)

ATTACHMENT B--EXAMPLE TABLES

ATTACHMENT B

EXAMPLE TABLE 1. ORGANIC LIQUIDS HANDLED AND HAP CONTENT (SURVEYED LIQUIDS)(a)

I. Organic Liquid Name (b) **Naphtha**

II. Properties (use the same reference temperature for a. and b., and indicate temperature.)

a. Average True Vapor Pressure (psia): **3.19 @ 72°F**
b. Density (lb/gal): **6.3**
c. Reid Vapor Pressure (psia): **5.45**
d. Liquid Molecular Weight (lb/lb-mol @ 70°F): **114.7**
e. Vapor Molecular Weight (lb/lb-mol @ 70°F): **77.3**

III. HAP Constituents (of the organic liquid listed above):

HAP Constituent (c)	CAS No.	Average Liquid Weight %	Average Vapor Weight %
2,2,4 Trimethylpentane	**540-84-1**	**0.779**	**2.42**
Benzene	**71-43-2**	**1.24**	**7.26**
Cresols	**1319-77-3**	**0.019**	**0.0002**
Cumene	**98-82-8**	**0.91**	**0.252**
Ethylbenzene	**100-41-4**	**1.37**	**0.810**

(Note: Insert lines as required to list all HAP constituents in the organic liquid. Make sufficient copies of this sheet to list all your organic liquids and their HAP constituents.)

a). Do not list wastewater in this table (for wastewater, refer to Tables 4 and 5).

b). Provide the complete name for the organic liquid being reported. If the liquid is pure HAP, refer to Attachment A and use the name or CAS number shown. For organic liquids referenced in Table 8, the family name of the liquid may be used in lieu of listing each individual blend.

c). List all the HAP constituents present in the organic liquid identified in item I. Refer to Attachment A for a complete HAP name and CAS No. listing.

EXAMPLE TABLE 2. STORAGE TANK CONTROL DATA

Tank ID Code (a)	Tank Capacity (gal) (b)	Name(s) of Stored Liquid(s) (c)	Annual Throughput (gal/yr) (d)	Roof Configuration (e)	Floating Roof Tank Only: Seal Type (f)	Tank Roof Fittings (g)	Add-on Control Device (h)	Applicable Air Regulations (i)
T01	**40,000**	**Naphtha**	**60,000,000**	**EFR**	**VM1**	**GPWUU**	**N**	**Kb**
T02	**60,000**	**Aviation Gas**	**1,000,000**	**EFR**	**VM1**	**GPWUU**	**N**	**Kb**

See end of table for footnotes.

EXAMPLE TABLE 2. STORAGE TANK CONTROL DATA (Continued)

a). Provide a unique identifier code for each tank (i.e., T01, T02), matching the codes on the plot plan(s).

b). Provide the maximum or design capacity for each tank.

c). Names listed must match those shown in Table 1.

d). Annual throughput should be based upon 1997 values; if not, give year and justification.

e). Select the storage tank roof configuration:

FXR	=	fixed roof
IFR	=	internal floating roof
EFR	=	external floating roof
CEF	=	external floating roof converted to an internal floating roof
P	=	pressure vessel
RLT	=	refrigerated low pressure tank.

f). For floating roof tanks, enter the floating deck seal type:

VM1	=	vapor-mounted primary seal only
VM2	=	vapor-mounted primary seal with weather shield
VM3	=	vapor-mounted primary seal with rim-mounted secondary seal
LM1	=	liquid-mounted primary seal only
LM2	=	liquid-mounted primary seal with weather shield
LM3	=	liquid-mounted primary seal with rim-mounted secondary seal
MS1	=	mechanical shoe primary seal only
MS2	=	mechanical shoe primary seal with weather shield
MS3	=	mechanical shoe primary seal with rim-mounted secondary seal
OT	=	other (please specify type).

g). For floating roof tanks, select the codes that best describe the types of roof fittings in place:

GPWUU	=	guide pole well, unslotted, ungasketed sliding cover
GPWUG	=	guide pole well, unslotted, gasketed sliding cover
GPSWSUN	=	guide pole/sample well, slotted, ungasketed sliding cover, without float
GPSWSUF	=	guide pole/sample well, slotted, ungasketed sliding cover, with float
GPSWSGN	=	guide pole/sample well, slotted, gasketed sliding cover, without float
GPSWSGF	=	guide pole/sample well, slotted, gasketed sliding cover, with float
AHBG	=	access hatch, bolted, gasketed
AHUU	=	access hatch, unbolted, ungasketed
AHUG	=	access hatch, unbolted, gasketed
GFWUU	=	gauge-float well, unbolted, ungasketed
GFWUG	=	gauge-float well, unbolted, gasketed
GFWBG	=	gauge-float well, bolted, gasketed
GHSWG	=	gauge-hatch/sample well, gasketed
GHSWU	=	gauge-hatch/sample well, ungasketed
VBG	=	vacuum breaker, gasketed

EXAMPLE TABLE 2. STORAGE TANK CONTROL DATA (Concluded)

VBU = vacuum breaker, ungasketed.

h). Select the code(s) that best describe control systems, if any, used to control vapors emitted from any part of the tank, including rim seals, fittings, etc. (provide a unique identifier for each control system; e.g., VCS4-1 or VCS4-2).

VCS1	=	vapor collection system venting to a vapor/liquid absorption unit (scrubber)
VCS2	=	vapor collection system venting to an incinerator/boiler
VCS3	=	vapor collection system venting to a flare
VCS4	=	vapor collection system venting to a vapor/solid adsorption unit
VCS5	=	vapor collection system venting to a condenser
VCS6	=	vapor collection system returning to a process
VCS7	=	vapor collection system returning to a fuel gas system
B	=	ground level burner or thermal oxidizer
C	=	catalytic oxidizer
OT	=	other, please provide a full description (use extra sheet)
N	=	none.

i). Please identify any Federal regulations that apply to each storage tank:

K	=	40 CFR 60 subpart K, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction, Reconstruction, or Modification Commenced After June 11, 1973 and Prior to May 19, 1978.
Ka	=	40 CFR 60 subpart Ka, Standards of Performance for Storage Vessels for Petroleum Liquids for Which Construction , Reconstruction, or Modification Commenced After May 18, 1978, and Prior to July 23, 1984.
Kb	=	40 CFR 60 subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels (including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984.
Y	=	40 CFR 61, subpart Y, National Emission Standards for Benzene Emissions from Benzene Storage Vessels.
OT	=	Other, please identify.

EXAMPLE TABLE 3. LIQUID TRANSFER OPERATIONS

Organic Liquid Transferred through Facility (a)	Incoming Type of Transport Vehicle or Container (b)	Loading Rack ID Code (c)	Loading Arm ID Code (d)	Outgoing Type of Transport Vehicle or Container (b)	Annual Volume of Transferred Liquid (gal/yr)	Method of Loading or Unloading (e)	Average Loading or Unloading Rate per Arm (gal/min)	Vapor Control Device (f)	Control Device Efficiency (g)
Naphtha	**BG**	**LR1**	**LR1, A1-4**	**TT**	**1,000,000**	**BTM**	**500**	**VCS4-1**	**95%**
Naphtha	**BG**	**LR2**	**LR2, A1-4**	**RC**	**59,000,000**	**BTM**	**1,000**	**VCS4-1**	**95%**
Aviation Gas	**PL**	**LR3**	**LR3, A2-4**	**TT**	**1,000,000**	**BTM**	**500**	**VCS2**	**98%**

See end of table for footnotes.

EXAMPLE TABLE 3. LIQUID TRANSFER OPERATIONS (Concluded)

a). Organic liquid names must match those listed in Table 1.

b). Select the type of transport vehicle loaded or unloaded, or container filled:

TT	=	tank truck
RC	=	tank car (railroad)
PL	=	pipeline
BG	=	barge
TS	=	tanker ship
SC	=	small container (1 gal. or less; specify size)
MC	=	medium container (>1 gal., <55 gal.; specify size)
LC	=	large container (55 gal. drum or larger; specify size)
OT	=	other, please describe.

c). Provide a unique identifier code for each loading *rack* or other filling equipment (i.e., LR1, LR2, etc.).

d). Provide a unique identifier code for each loading *arm* in a rack or equipment unit (i.e., LA1, LA2, etc.).

e). Select the method of loading/unloading organic liquids:

SPL	=	splash (top)
SUB	=	top submerged
BTM	=	bottom loading/fill
OT	=	other, please specify.

f). Use the same control device codes as in footnote “h” of Table 2.

g). Please provide a control device efficiency estimate. In parentheses, include the basis for this estimate as follows:

SA	=	sampling and analysis
EJ	=	engineering judgment
ST	=	source test
OT	=	other, please describe.

EXAMPLE TABLE 4. WASTEWATER FLOW RATES AND DRAIN CONTROLS

Source of OLD Wastewater (a)	Total Flow Rate (gal/yr)	HAP Name (b)	HAP Concentration in Water (ppmw) (c)	Number of Drains with Emission Suppression (d)	Number of Drains without Emission Suppression (d)
Tank Cleanings (TC)	**500,000**	**Benzene**	**500**	**5**	**0**
		1,2 Dichloroethane	**10**		
		Methylene chloride	**300**		
		Phenol	**1,000**		
Line Cleanings (LC)	**100,000**	**Benzene**	**200**	**4**	**0**
		Methanol	**1,000**		
		Xylene	**560**		

a). OLD = Organic Liquids Distribution. Select the codes that best describe the points of wastewater generation (insert codes as required and provide a full description):

TC = tank cleanings
LR = loading racks (identify the specific racks using the same rack codes as in footnote “a” of Table 3.
LC = line cleanings
LB = liquid blending/packaging operations
OT = other, please provide full description (use extra sheet, if necessary).

b). List the principal HAPs typically present in each wastewater stream.

c). Estimated annual average concentration during periods of nominal flow in ppmw.

d). Emission suppression controls reduce emissions from drain pipes and include, but are not limited to, water seal pots and p-traps.

EXAMPLE TABLE 5. WASTEWATER COLLECTION AND TREATMENT CONTROL (a)

OLD Wastewater Treatment Unit	Total Number of Units on Site (c)	No. of Uncovered Units that Vent to the Atmosphere (d)	No. of Covered Units that Vent to the Atmosphere (d)	No. of Units that Vent Emissions to a Control Device	Control Device (e)
Source of Wastewater (b): **Tank Cleanings**					
Collection Units					
Manholes	**20**	**0**	**20**	**0**	**0**
Junction Boxes	**3**	**0**	**3**	**0**	**0**
Sumps/Catch Basins	**1**	**0**	**1**	**0**	**0**
Lift Stations	**0**	**0**	**0**	**0**	**0**
Storage Tanks	**1**			**1**	**VCS4-2**
(f)					
Treatment Units					
Oil/Water Separators	**3**	**3**			
Air Flotation Systems	**n/a**				
Coagulation/Precipitation Units	**n/a**				
Sand Filtration Unit	**n/a**				
Equalization Units	**n/a**				

See end of table for footnotes.

EXAMPLE TABLE 5. WASTEWATER COLLECTION AND TREATMENT CONTROL (a) (Continued)

OLD Wastewater Treatment Unit	Total Number of Units on Site (c)	No. of Uncovered Units that Vent to the Atmosphere (d)	No. of Covered Units that Vent to the Atmosphere (d)	No. of Units that Vent Emissions to a Control Device	Control Device (e)
Source of Wastewater (b): **Tank Cleanings**					
Treatment Units					
Oxidation Ponds	**n/a**				
Activated Sludge Units	**n/a**				
Trickling Filters	**n/a**				
Clarifiers	**n/a**				
Filter Presses	**n/a**				
Strippers	**n/a**				
Effluent/Recycle Pond	**n/a**				
Rotating Biological Contactors	**n/a**				
Ship Off Site	**n/a**				
(g)					

See end of table for footnotes.

EXAMPLE TABLE 5. WASTEWATER COLLECTION AND TREATMENT CONTROL (Concluded)

a). Include all wastewater collection and treatment units and any control devices controlling vapor emissions from such units. Do not report information on drains in this table; report drain information in Table 4.

b). Enter the sources of wastewater within the OLD operations. Use the same codes as in footnote "a" of Table 4.

c). Enter the total number of each type of collection unit and treatment system for each wastewater source that is associated with OLD operations.

d). A unit should be considered *covered* if it has emission suppression devices in place.

e). For each collection unit or treatment system vented to a control device, list the device and fill out the applicable section of Table 9. Use the same control device codes and format as in footnote "h" of Table 2.

f). Provide the name(s) and other information for any additional wastewater collection unit(s) present at the facility.

g). Provide the name(s) and other information for any additional wastewater treatment unit(s) used at the facility.

EXAMPLE TABLE 6. SEMI-AQUEOUS WASTE COLLECTION AND CONTROL (a)

Type of Waste (b)	Waste Generation Rate (tons/year) (c)	Waste Collected in a Closed System? (Yes/No) (d)	Method of On-Site Storage (e)	Waste Treated or Disposed of On-Site? (Yes/No) (f)	Method of On-Site Treatment or Disposal (g)	Control Device on Treatment or Disposal Unit (h)
AP	**10**	**Yes**	**DD**	**No**	**Off-site**	**N**
BI	**12**	**No**	**GG**	**Yes**	**LT**	**N**

See end of table for footnotes.

EXAMPLE TABLE 6. SEMI-AQUEOUS WASTE COLLECTION AND CONTROL (Continued)

a). Semi-aqueous waste contains any amount of HAP and is between 10 and 90 percent solids.

b). Select the waste code that best describes the semi-aqueous waste type:

AP	=	oil-water separator sludge
BI	=	biotreatment sludge
HC	=	contaminated soil
OD	=	oily trash and debris
SO	=	slop oil emulsions
SS	=	sump/sewer clean-out sludge
B	=	tank bottoms
OT	=	other, please specify (use extra sheet, if necessary).

c). List the annual semi-aqueous waste generation rate for each type in tons per year (tpy).

d). Identify (Yes/No) whether the waste is collected in a closed vapor collection system. A closed system has equipment to prevent or minimize waste contact with the atmosphere, such as: vapor recovery systems, enclosed pipes, or collection units with covers.

e). Select the storage code that best describes the method by which semi-aqueous waste is stored on-site prior to treatment or disposal:

AA	=	open tanks
BB	=	fixed roof tanks
CC	=	floating roof tanks
DD	=	sealed DOT containers (55 gallon drums, 110 gallon bins, etc.)
EE	=	open roll-off boxes
FF	=	covered roll-off boxes
GG	=	open ponds
HH	=	covered ponds
II	=	open pile
JJ	=	covered pile
OT	=	other, please specify (use extra sheet, if necessary).

f). Identify whether waste is treated or disposed of On-Site (Yes) or transported Off-Site (No) for treatment and/or disposal.

g). If waste is treated or disposed of On-Site, select the treatment and/or disposal code(s) that best describe(s) how the waste is managed (if more than one code is applicable, separate multiple codes with a comma):

LB	=	land burial
LT	=	land treatment/farming
DW	=	dewatering
ST	=	solidification/stabilization
BI	=	biotreatment

EXAMPLE TABLE 6. SEMI-AQUEOUS WASTE COLLECTION AND CONTROL (Concluded)

IN = incineration/thermal destruction
RE = recycled
OT = other, please specify (use extra sheet, if necessary).

h). Use the same control device codes as in footnote “h” of Table 2 or describe other devices on a separate sheet.

EXAMPLE TABLE 7. EQUIPMENT LEAK CONTROL DATA

1. Is there a formal, periodic equipment leak detection and repair (LDAR) program? Yes ☐ No ☐

Comments:_____
_____
_____

2. Please indicate which Federal/State/local rules require an LDAR program at this facility:

a)._____
b)._____
c)._____

3. If a formal equipment LDAR program has been implemented at your plant, provide the following information:

Definition of a Leak[a]	**B**
Leak Detection Method[b]	**A**
Leak Response Time[c]	**Begin 5 days, Complete 15 days**

a). Leak definition codes:

A = 500 ppmv	C = 10,000 ppmv	E = Sensory detection
B = 1,000 ppmv	D = Bubble formation	OT = Other (specify)

b). Leak detection codes:

A = EPA Method 21 (vapor detector)	D = Soap water application
B = Sight (e.g., drips), smell, sound	E = None
C = Gas detection/alarm system	OT = Other

c). Provide the maximum allowable time after detection to begin and complete repair of a leak.

EXAMPLE TABLE 7. EQUIPMENT LEAK CONTROL DATA (Concluded)

Equipment Component	Inspection Frequency (a)	Total Equipment Count	Equipment Count in LDAR Program	Equipment Count in LDAR with HAP Service	Equipment Counts with Mechanical Control Devices (b)	Equipment Counts with a Closed Vent System (c)	Closed Vent System Control Device (d)
Valves	**M**	**2,000**	**2,000**	**1,000**	**200**		
Compressors	**M**	**25**	**25**	**15**	**25**		
Flanges							
Pumps	**M**	**200**	**200**	**100**	**20**		
Sampling Connections							
Pressure relief valves (to atmosphere)	**OT - after releases**	**100**	**100**	**100**			

a). Inspection Frequency Codes:

M = Monthly T = One time only A = Annually
Q = Quarterly OT = Other (specify) E = After equipment change

b). Provide equipment counts for equipment in HAP service with mechanical control devices such as: sealless valves, pumps with dual mechanical seals and a barrier fluid, compressors with mechanical seals and a barrier fluid, and pressure relief valves with rupture disks.

c). Provide equipment counts for equipment with a vapor collection and recovery (closed vent) system.

d). Use the same control device codes and formats as in footnote “h” of Table 2.

EXAMPLE TABLE 8. COMPOUNDING/BLENDING/PACKAGING OPERATIONS

Part I.

Product Name (a)	Chemical Composition (b)	Annual Quantity Produced (gal) (c)	Does a chemical reaction take place? (d)	Applicable Regulations (e)
Den. Ethanol	**Ethanol & Methanol**	**500,000**	**No**	**None**
Ethylene Glycol	**Water, Ethy. Glycol**	**2,000,000**	**No**	**None**

a). Provide the product names resulting from blending, compounding, and packaging operations. Names must match those provided in Table 1. For families of blends, include only the family name listed in Table 1.

b). Provide the names of the raw materials (must match Table 1) that are used to blend/compound the product.

c). Provide the annual quantities of the products produced.

d). Specify whether a chemical reaction takes place during the compounding or blending of organic liquids (i.e., yes-compounding, no-blending, etc.).

e). Please identify any regulations (pertaining to air emissions) that apply to the compounding/blending operation.

Part II.

The questions below are facility-wide, and do not need to be answered on a product-by-product basis. Please answer the following questions with as much detail as possible. Insert sheets as necessary.

1. Provide a description of the principal methods/mechanisms used for blending/compounding.

2. Provide a detailed description of any mechanisms of vapor balancing or other vapor emission control utilized for these processes (e.g., submerged fill).

EXAMPLE TABLE 9. AIR POLLUTION CONTROL EQUIPMENT PARAMETERS (a)

Control Device: Scrubber (b)	Emission Sources (c)
Identifier Code(d): **Scrubber #1** Type of scrubber: venturi **X** packed bed _____ impingement _____ other (specify) _____ Gas inlet temperature, °F: **75** Pressure drop, in. H_2O: **2** Liquid-to-gas ratio, gal/10^3 acfm: **1,000** Inlet scrubbing liquor: pH: **2.3** percent solids: **10** type of alkali added, if any _____ rate (lb/gal) _____ Wastewater generation rate, gal/min: **50** HAP composition of wastewater, mg/l: **20**	1. Acrylate storage tanks 2. Acrylate transfer operations 3._____ 4._____ 5._____ 6._____

See end of table for footnotes.

EXAMPLE TABLE 9. AIR POLLUTION CONTROL EQUIPMENT PARAMETERS (a) (Continued)

Control Device: Incinerator (b)	Emission Sources (c)
Identifier Code (d): **Incinerator #1** Type: thermal: **X** catalytic: _____ Combustion chamber temperature, °F: **1,450** (please note if temperature measurement is not in chamber) Excess air, % **10** Nominal residence time, s: **1.0** Heat recovery: recuperative, percent heat recovery: **25** regenerative, percent heat recovery _____	1._____ 2._____ 3._____ 4._____ 5._____ 6._____

See end of table for footnotes.

EXAMPLE TABLE 9. AIR POLLUTION CONTROL EQUIPMENT PARAMETERS (a) (Continued)

Control Device: Flare (b)	Emission Sources (c)
Identifier Code (d): **Flare #1** Type: no assist: _____ steam assist:_____ air assist: **X** pressure assist: _____ Location: ground: _____ elevated: **X** Heat content of vented stream, Btu/scf: **300** Flare gas exit velocity, ft/s: **60** Flare tip diameter, in. **48** Flare height, ft **30** Supplementary fuel for: pilot, scfm: **6,200** combustion purposes, scfm _____ Steam requirement, lb/hr: **N/A**	1. Railcar loading (s) 2. Excess emissions from AST's. 3._____ 4._____ 5._____ 6._____

See end of table for footnotes.

EXAMPLE TABLE 9. AIR POLLUTION CONTROL EQUIPMENT PARAMETERS (a) (Continued)

Control Device: Carbon Adsorber (b)	Emission Sources (c)
Identifier Code (d): **Adsorber #1** Type of carbon bed and number: regenerative: **2** non-regenerative: _____ fixed: **X** fluidized _____ How many pounds of carbon per bed: **1,000** Configuration: parallel: **X** serial _____ Number of beds on-line: **1** Number of beds desorbing: **1** Pressure drop, in. H_2O: **2 inches** Gas inlet temperature, °F: **75** Type of regeneration: **vacuum** Regeneration time: **5 min.** Adsorption time: **20 min.**	1. Loading racks 2. Aviation gasoline loading racks 3._____ 4._____ 5._____ 6._____

See end of table for footnotes.

EXAMPLE TABLE 9. AIR POLLUTION CONTROL EQUIPMENT PARAMETERS (a) (Continued)

Control Device: Condenser (b)	Emission Sources (c)
Identifier Code (d): **Condenser #1** Type of condenser: surface: **X** contact [if contact, see scrubber] _____ Gas inlet temperature, °F **75** Gas outlet temperature, °F **-40**	1. Solvent(s) loading 2._____ 3._____ 4._____ 5._____ 6._____

See next page for footnotes.

EXAMPLE TABLE 9. AIR POLLUTION CONTROL EQUIPMENT PARAMETERS (Concluded)

a). A separate table should be filled out (after making copies of the blank table) for each individual scrubber, incinerator, flare, carbon adsorber, or condenser at the facility, unless it is dedicated to gasoline service and/or to marine tank vessel loadings. For other types of control devices, provide the most important parameters of operation on a separate sheet.

b). Show ranges, averages, or design values for each parameter and indicate which value is being listed.

c). List specific storage tanks, loading racks/arms, and wastewater and semi-aqueous waste treatment or disposal processes, using ID codes and names from Tables 2, 3, 5, and 6.

d). For identifier codes, use the same codes as are listed in Table 2, footnote “h”.