

# HOW TO CONSIDER FUEL THRESHOLDS UNDER EPCRA SECTION 313

This section provides general guidance for identifying fuels used at the installation, obtaining the material safety data sheet (MSDS), identifying fuel uses and quantities, applying exemptions, calculating the contributions from fuels to the facility-wide threshold calculations, and documenting the effort in compliance with DoD guidance and Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA). This section should be used in conjunction with ‘Getting Started with the Emergency Planning and Community Right-to-Know Act (EPCRA): A Primer for Navy Facilities,’ May 2009. In addition, an Excel spreadsheet, ‘Template – Fuels under EPCRA Section 313’ (Attachment A), provides a template for calculations and documentation for a Section 313 fuels analysis. Sample values (that must be deleted when used for a facility) are included in italics in the spreadsheet to assist the user.



*MSDSs from your fuel supplier are the best source of composition information for fuels.*

## BACKGROUND

Many different fuels are used in various applications at every military installation. Common fuels include gasoline, diesel, No. 2 Fuel Oil, and JP-8. These fuels are used in items such as motor vehicles, non-motor vehicle fuel-burning equipment (e.g., light stands), boilers, and personal heaters; or are sold as products to non-Department of Defense (DoD) entities both on- and off-base. These fuels often contain toxic chemicals subject to the EPCRA Section 313 Toxics Release Inventory (TRI) requirements. Specifically, naphthalene is a common component of JP-8 and benzene, toluene, ethyl benzene, and xylene are common components of gasoline; and all are toxic chemicals. In addition, when the fuels are burned, the combustion process will coincidentally manufacture new toxic chemicals such as metal oxides and some organics.

## GENERAL GUIDANCE

Even though every fuel must be evaluated under Section 313 separately, there is a common path for that analysis. First, a list of all fuels used at the facility must be developed. Once this list of fuels is created then the assessment of each fuel – the composition, uses of the fuel, available exemptions, quantities used, and threshold contribution calculations – can begin.



*No fuel is automatically exempt from all Section 313 calculations. Even fuels containing no toxic chemicals must be evaluated under the Manufacture threshold activity because the burning of the fuel may create new toxic chemicals.*

The following steps provide guidance in gathering the necessary data and present one possible path through this assessment. The order may change; however, all steps must be completed to develop an assessment of fuels at the installation for Section 313. Available data, the order in which data is collected, knowledge of the installation and fuel uses, or other factors may drive the order of the steps.

- Step 1: Develop a list all fuels used at the facility.
- Step 2: For each fuel listed, identify your supplier(s), obtain the MSDS, and review it for toxic chemicals.
- Step 3: For each fuel, identify all uses of the fuel at the facility. This step will assist in applying exemptions to the separate fuel uses.
- Step 4: Assign threshold activities (i.e., Manufacture, Process, or Otherwise Use) to each fuel use such that exemptions may be applied.
- Step 5: For each fuel and use, review the available exemptions and apply where appropriate. Eliminate any fuels that are completely exempt from further consideration. Some fuels may only be exempt from Otherwise Use and not Manufacture.
- Step 6: For the non-exempt fuel uses that remain, obtain the amount used for the reporting year being evaluated.
- Step 7: Calculate the threshold activity contributions for each of the fuel uses.
- Step 8: Summarize the threshold activity contributions from fuel uses which will be combined with threshold activity contributions from other non-exempt fuel uses at the facility.
- Step 9: Complete documentation – Ensure the evaluation (including calculations) are documented and filed in recordkeeping with all other documentation of Section 313 efforts.

## STEP 1: DEVELOP LIST OF ALL FUELS USED

EPCRA requires the best information available at the facility be used for compliance efforts. Fuels are rarely included in hazardous material tracking programs. Therefore, when identifying fuels used, it will be necessary to talk to all persons involved with obtaining, distributing, and using the fuels. Besides underground and aboveground storage tanks, other places to look for fuels include pickup tanks on the back of trucks and refueling trucks that supply fuels to non-DoD (e.g., Federal Bureau of Investigations) or off-base entities (e.g., fuel loaded into refueler trucks for nearby base). Figure 1 lists fuels commonly found at Navy installations.

The list of fuels used at the installation can be entered into the Section 313 Fuels Master Sheet, the first worksheet in the ‘Template – Fuels under Section 313’ spreadsheet. Once populated, this list will be the starting point for the Section 313 analysis.

*Figure 1: Fuels Commonly Found at the Installation*

- Gasoline
- Diesel
- Propane
- No. 2 Fuel Oil
- JP-8 or other jet fuels
- Natural Gas

## STEP 2: OBTAIN MSDS FOR EACH FUEL AND IDENTIFY TOXIC CHEMICALS

When a fuel is being included in a Process or Otherwise Use threshold activity calculation, **the composition of the fuel is critical**. Therefore, taking the time to obtain the correct MSDS will eliminate fuels not containing toxic chemicals from further consideration and thus the need for additional data collection. Obtaining the correct MSDS involves working with your fuel supplier to obtain a copy of the MSDS for the actual fuel received from the supplier, not a generic

MSDS. The fuel supplier may be a private company or a DoD or Navy fuel supply organization and is the first and best place to go to obtain the MSDS for the fuel used. If the MSDS from the fuel supplier is not available, there are many sources of fuel compositions from DoD resources and programs, Internet sources (e.g., fuel supplier’s website), and Environmental Protection Agency (EPA) guidance documents. Be sure to obtain as much information as possible about the fuel to enable the use of another source. In most cases it is not appropriate to use EPA’s generic fuel compositions as they are very conservative and were primarily developed for the air program and regulations.

Once the best MSDS available is obtained for each fuel used, copy or save the MSDS file for your records and calculations and document how the MSDS was identified. Then, review the MSDS and enter the source of the MSDS (and any comments), the fuel density (for the conversion from gallons to pounds), and all identified toxic chemicals and their weight percent into the appropriate columns in the Section 313 Fuels Master Sheet, the first worksheet in the ‘Template – Fuels under Section 313’ spreadsheet.



<i>Manufacture Threshold Calculation</i>	<i>Otherwise Use or Process Threshold Calculation</i>
<ul style="list-style-type: none"> <li>• <i>Composition of fuel is not used</i></li> <li>• <i>Need to obtain emission factors, source test data, etc.</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Composition of fuel is critical</i></li> <li>• <i>Need to obtain correct MSDS</i></li> </ul>

Many times the *de minimis* exemption is reviewed as the toxic chemicals on the MSDS are being identified. This exemption can be applied at this point in the assessment; however in this guidance, it is discussed in Step 5 with other exemptions.

### **STEP 3: IDENTIFY ALL USES OF EACH FUEL**

For each fuel at the installation, it is important to identify its location and use to determine which exemptions, if any, can be applied. Persons responsible for distributing the fuel can identify where the fuel goes (both on- and off-base) and provide quantity data. Persons using the fuel can provide information on the vehicles and/or equipment in which the fuel is used. The most recent Air Emission Inventory (AEI) may also be helpful in identifying fuel burning activities. Some common fuel uses are provided in Figure 2.

*Figure 2: Common Fuel Uses*

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Base vehicles</li> <li>• DoD tenant vehicles</li> <li>• Non-DoD tenant vehicles</li> <li>• Transient (gas and go) vehicles</li> <li>• Vehicles not owned or operated by the facility but present for mission-related purposes (e.g., training)</li> <li>• Boilers for heating</li> </ul> | <ul style="list-style-type: none"> <li>• Non-DoD off-base entities</li> <li>• Navy Exchange/privately owned vehicles (POVs)</li> <li>• Bullet heaters/portable heaters</li> <li>• Non-motor vehicle fuel burning equipment (e.g., aerospace ground equipment, ground support equipment, emergency generators, test cells)</li> <li>• Aircraft engine testing</li> </ul> |
|---|---|

While the amount of fuel used for each activity could be collected as part of this step since you will likely be collecting the MSDS and use data (Steps 2 and 3) from the personnel having this quantitative data, the amount of fuel used may not be needed after the exemptions are applied (Step 4). Although this may be a significant effort the first time, the approach may save time in the long run and eliminate the need to go back and collect this information if it is needed later for a threshold determination or release estimate. In addition, this approach will support multiple reporting years. Once all necessary data is identified and contacts for the data are established, only updates will be necessary. Collect this data when it makes the most sense for the situation at your facility. In the approach presented in this guidance, the amount used is collected as part of Step 6.

All fuels, their uses, and the location of use can be entered into the Uses of Fuels worksheet, the second worksheet, in the ‘Template – Fuels under Section 313’ spreadsheet. First, using the Section 313 Fuels Master Sheet, copy the fuels used at the installation into the Uses of Fuels worksheet and begin identifying their uses and locations. Each fuel and its corresponding fuel use should be on its own row in the worksheet (as shown in the sample data given in italics in the spreadsheet). It may be necessary to insert new rows to accomplish this. Make sure each row lists the fuel, its corresponding use, and its location of use so in the event the worksheet is sorted or filtered, data will not be lost or confused.

#### **STEP 4: ASSIGN THRESHOLD ACTIVITIES**

Under Section 313, there are three threshold activities that apply to the toxic chemicals in fuels – Manufacture, Process, and Otherwise Use – which must be calculated each reporting year. Assigning threshold activities to fuel uses must be done carefully because one activity (e.g., the use of the fuel) may be exempt but the other activity (e.g., the creation of products of combustion) may not be exempt.

Using the identified fuel uses, the three threshold activities (i.e., Manufacture, Process, and Otherwise Use), and the impact on the threshold determination identified in Figure 3, review each Use of Fuel in the Uses of Fuel worksheet, the second worksheet in the ‘Template – Fuels under Section 313’ spreadsheet and assign the applicable threshold activities. Enter ‘X’ under each column where the threshold applies or enter ‘Threshold activity not applicable’ if the threshold activity does not apply to the activity.

#### **STEP 5: APPLY EXEMPTIONS/ELIMINATE EXEMPT FUELS**

As noted above, in the approach presented in this guidance, exemptions are applied before any fuel quantities are obtained. Certain uses (e.g., motor vehicle maintenance and laboratory uses) may be exempt from all three threshold calculations where other uses may only be exempt from only one or two of the threshold calculations. Keeping the fuel uses and the applicable threshold activities straight is critical for the correct application of exemptions. Under Section 313, the following exemptions may be applied to the fuel based on activity or composition. A detailed list of fuel uses, applicable exemptions, and impact on threshold determinations is provided in Figure 3.

Figure 3: Summary of Fuel Uses, Exemptions, and Impact on Threshold Determination

	Fuel Use	Exemption	Impact on Threshold Determination
Exempt Vehicles	Base vehicles	Motor vehicle maintenance	<ul style="list-style-type: none"> <li>● M – Motor vehicle exhaust is exempt per DoD guidance</li> <li>● P – Threshold activity not applicable</li> <li>● OU – Amount of fuel used is exempt</li> </ul> <p><i>Do not need to quantify, unless needed to determine other fuel use value.</i></p>
	DoD tenant vehicles	Motor vehicle maintenance	
	DoD vehicles present for mission related activities (i.e., non-transient)	Motor vehicle maintenance	
	POVs	Personal use	
Transient Vehicles	DoD transient vehicles (e.g., present at the installation simply to obtain fuel)	NOT EXEMPT	<ul style="list-style-type: none"> <li>● M – Motor vehicle exhaust is exempt per DoD guidance</li> <li>● P – Threshold activity not applicable</li> <li>● OU – Amount of fuel provided included in threshold calculation</li> </ul> <p><i>Need to quantify for Otherwise Use threshold.</i></p>
Non-DoD Fuel Distribution	Non-DoD tenant vehicles	NOT EXEMPT	<ul style="list-style-type: none"> <li>● M – Threshold activity not applicable; once fuel is provided, part of their assessment</li> <li>● P – Amount of fuel provided included in threshold because distributed into commerce</li> <li>● OU – Threshold activity not applicable</li> </ul> <p><i>Need to quantify for Process threshold.</i></p>
	Non-DoD vehicles from off-base	NOT EXEMPT	
	Non-DoD entities from off-base	NOT EXEMPT	
Personal Comfort Heating	Boilers, heaters used for personal comfort	Personal use	<ul style="list-style-type: none"> <li>● M – Products of combustion included in threshold determination</li> <li>● P – Threshold activity not applicable</li> <li>● OU – Amount of fuel used is exempt</li> </ul> <p><i>Need to quantify for Manufacture threshold for use with emission factors.</i></p>
Fuel Burning	Boilers, heaters used for processes	NOT EXEMPT	<ul style="list-style-type: none"> <li>● M – Products of combustion included in threshold determination</li> <li>● P – Threshold activity not applicable</li> <li>● OU – Amount of fuel included in threshold calculations</li> </ul> <p><i>Need to quantify for BOTH Manufacture and Otherwise Use thresholds for use with emission factors.</i></p>
	ANY non-motor vehicle fuel burning equipment	NOT EXEMPT	
Laboratory Uses	Testing, research, or development under the direct supervision of a technically qualified person	Laboratory use	<ul style="list-style-type: none"> <li>● M – Products of combustion exempt from threshold determination</li> <li>● P – Threshold activity not applicable</li> <li>● OU – Amount of fuel used is exempt</li> </ul> <p><i>Do not need to quantify.</i></p>
De Minimis	Less than 1 weight percent (or 0.1 percent if carcinogenic) in fuel	<i>De minimis</i>	<ul style="list-style-type: none"> <li>● M – Threshold activity not applicable to manufacture and products of combustion included in threshold determination</li> <li>● P and OU – The <i>de minimis</i> toxic chemical is exempt (the fuel may contain other toxic chemicals that are not <i>de minimis</i> exempt)</li> </ul>
M – Manufacture                      P – Processing                      OU – Otherwise Use			

### **Motor Vehicle Maintenance**

The use of fuels in motor vehicles owned or operated by the base may be exempt from the Manufacture, Process, and Otherwise Use threshold determinations under the motor vehicle maintenance exemption as clarified by DoD's September 2006 "Consolidated Emergency Planning and Community Right-to-Know Act (EPCRA) Policy for Installations, Munitions Activities, and Operational Ranges". The coincidental Manufacture of toxic chemicals from the burning of fuels in motor vehicles (i.e., vehicle exhaust) is exempt from Section 313 per DoD's Consolidated EPCRA Policy. The following conditions clarify when the motor vehicle maintenance exemption may be applied to the Otherwise Use of fuels:

- The activity must be an Organizational-level maintenance activity. Fuels used in vehicles that are undergoing Intermediate- or Depot-level maintenance are not exempt.
- The item using the fuel must be a motor vehicle. In other words, the item burns fuel for propulsion. For example, cars, pickup trucks, aircraft, etc., are all motor vehicles; however, a light stand that burns fuel, not for propulsion, but for power is not a motor vehicle.
- The vehicle must be a base vehicle or a DoD tenant's vehicle.
  - Non-DoD tenant vehicles are not considered to be owned or operated by the base and cannot be exempted. The amount of fuel provided must be considered in the Process threshold calculation.
  - Non-DoD entities from off-base that obtain fuel from the base are also not exempt and the amount of fuel provided must be considered in the Process threshold calculation.
- The vehicles must be owned or under the custodial or operational control of the installation providing the fuel and have a purpose for being at the base other than simply to obtain fuel.

Fuels provided to transient vehicles (i.e., a gas and go) cannot be exempted under the motor vehicle maintenance exemption and are considered Otherwise Use per DoD's Consolidated EPCRA Policy.

### **Personal Use**

The personal use of fuels which includes use of fuels for reasons of personal necessity, comfort, or care per DoD's Consolidated EPCRA Policy is exempt from Section 313 reporting; however, the exemption only applies to fuel in the Otherwise Use threshold determination. The amount of fuel burned for personal comfort must be considered in the Manufacture threshold calculations to quantify the products of combustion. Common examples of fuel uses that would be exempt include:

- Heating for personal comfort such as in housing, barracks, offices, hangars, etc., as long as the heating is for personal comfort and not process-related activities (e.g., heating a paint booth to cure paints). Note that the products of combustion created are not exempt and must be considered in Manufacture threshold calculations.

- Use of fuels in POVs are exempt from Section 313 reporting, as is the vehicle exhaust, per DoD’s Consolidated EPCRA Policy.

### **Laboratory Use**

If a fuel is used in a laboratory under the direct supervision of a technically qualified individual for reasons of testing, research, development, etc., then the fuel is exempt from the Process and Otherwise Use threshold determination. In addition, any products of combustion are also exempt from Manufacture threshold calculations under this exemption.

### **De Minimis**

If a toxic chemical is present in a fuel in a weight percent less than 1 percent, or less than 0.1 percent if a carcinogen, then the contribution of that toxic chemical is exempt from the threshold determination. Application of this exemption can be determined by reviewing composition information on the MSDS. To identify the correct *de minimis* level for toxic chemicals, refer to the toxic chemical list provided in the most current version of the Toxic Chemical Release Inventory Reporting Forms and Instructions document, available from EPA’s TRI Home Page at <http://www.epa.gov/tri/>. In the Fuels Master Sheet, the first worksheet in the ‘Template – Fuels under Section 313’ spreadsheet, enter the *de minimis* levels for all the toxic chemicals identified in the fuels and determine if that particular toxic chemical is exempt by comparing the weight percent of the toxic chemical in the fuel to the *de minimis* level. It is important to note that the *de minimis* exemption applies only to the Process and Otherwise Use of toxic chemicals and cannot be applied to the Manufacture of a toxic chemical unless it is an impurity. Products of combustion are byproducts and the *de minimis* exemption cannot be applied.

### **Review Fuel Uses and Apply Exemptions**

Using the various fuel use activities, exemptions that apply, the resulting impact on the threshold determination identified in Figure 3, and the discussion of exempts above, review each ‘X’ under every threshold activity in the Uses of Fuel worksheet, the second worksheet in the ‘Template – Fuels under Section 313’ spreadsheet. Replace every ‘X’ with either the code for the exemption that applies or ‘Not exempt’.

Finally, it is necessary to populate the Eliminated from Further Consideration column. This column will identify the fuels that are completely exempt from every Section 313 threshold calculation and those that must continue to a threshold calculation. Where all activities are exempt and/or the threshold does not apply, enter ‘YES – All activities exempt’ in the Eliminated from Further Consideration column. No further effort is needed for any fuel with ‘YES – all activities exempt’ in the Eliminated from Further Consideration column. Where a threshold activity has ‘Not exempt’ entered under ANY threshold activity, enter ‘No’ plus a statement of the threshold(s)



#### ***Exemption Codes***

*LA – Laboratory Activity*

*MV – Motor Vehicle  
Maintenance*

*MVE – Motor Vehicle Exhaust  
(per DoD Guidance)*

*PU – Personal Use*

that apply. For example, enter 'No – Not exempt from Otherwise Use; transfer data to Otherwise Use worksheet.' These statements will guide you through transferring data to subsequent worksheets, described in Step 7.

## **STEP 6: OBTAIN AMOUNT OF FUEL USED FOR NONEXEMPT ACTIVITIES**

For the fuels that could not be eliminated from further consideration after applying exemptions, obtain the amount used for the reporting year being evaluated. Remember, the reporting year is the calendar year, not fiscal year. Fuel amounts are usually provided in gallons per year. Fuel amounts provided in different units (such as thousand standard cubic feet (Mscf) for natural gas) will need to be converted for use in appropriate threshold activity calculation worksheet. Enter all usage values and their units in the Amount Used column in the Uses of Fuel worksheet, the second worksheet in the 'Template – Fuels under Section 313' spreadsheet. A summary of data to collect for Steps 1 through 6 is presented in Figure 4.

*Figure 4: Summary of Data to Collect*

- Fuel name and supplier (to obtain MSDS)
- MSDS from supplier (alternate source if not available from supplier)
- *De minimis* levels for toxic chemicals
- Fuel uses
- Location of use (e.g., emergency generators, vehicle maintenance)
- Amount of fuel per use
- Notes to support use of an exemption

## **STEP 7: CALCULATE THRESHOLD CONTRIBUTIONS**

In Steps 4 and 5, each fuel and its applicable threshold activities were reviewed and the then exemptions were applied. In Step 6, the amount used was obtained. Now in Step 7, this data will be transferred to the appropriate threshold activity calculation worksheet. Separate worksheets (the third, fourth, and fifth worksheets in the 'Template – Fuels under Section 313') have been developed for each threshold activity – Manufacture, Process, and Otherwise Use. Fuel activities are separated into the necessary threshold activities using the information under the Manufacture, Process, and/or Otherwise Use columns and Eliminated from Further Consideration column on the Uses of Fuel worksheet, the second worksheet in the 'Template – Fuels under Section 313' spreadsheet.

### **Manufacture Threshold Calculation**

Where there is 'Not exempt' under the Manufacture column and a note to transfer information to the Manufacture worksheet in the Eliminated from Further Consideration column in the Uses of Fuel worksheet (second worksheet), copy the Fuel, Use of Fuel, Annual Amount Used, and Unit from the Uses of Fuel Worksheet (second worksheet) to the columns with the same name in the Manufacture worksheet (third worksheet).

For each fuel and use, it is necessary to identify the products of combustion and emission factors to estimate the amount manufactured. It is recommended to talk with the base Air Program Manager (APM) who should be familiar with calculating emissions and sources of emission factors. The most recent AEI is a valuable source of emission factors. If the AEI was completed for the same year as the reporting year, then some calculations may already be completed. If not, then the emission factors are already identified but the amount of fuel used can easily be changed

for the reporting year. It is important to note that the scope of the AEI is not the same and the scope of EPCRA Section 313. For example, the AEI may calculate emissions for ‘mobile sources.’ A ‘mobile source’ in the AEI is not equivalent to a ‘motor vehicle’ under Section 313. Therefore, it is important to discuss the emissions calculated in the AEI with the APM to make sure they are the values needed for EPCRA Section 313 reporting or understand their limitations.

Where data are not available in the AEI or the AEI calculation approach cannot be used, the manufacture calculations can be performed as follows. For each fuel and use, enter the toxic chemicals created in the Toxic Chemicals Created column of the Manufacture worksheet (third worksheet). It will be necessary to add a new row for each toxic chemical to enable use of a spreadsheet formula to calculate the amount created. Then, for each toxic chemical enter the emission factor for the amount created into the Emission Factor column and the emission factor units into the EF Unit column. Enter the source of the emission factor in the Source of Emission Factor column.

It is necessary at this point in the calculation to compare the units of the fuel data against the units of the emission factor and make any necessary conversions when calculating the pounds of toxic chemical manufactured. Make any necessary conversion comments in the Source of Emission Factor and Comments Column of the Manufacture worksheet (third worksheet).

When the emission factor identifies a toxic chemical metal (e.g., lead) as a product of combustion, it is actually a metal compound being released. The accepted approach is that the metal is released as the metal oxide. To convert the metal to the metal oxide, use a ratio of molecular weight. Molecular weight (MW) can be found on the periodic table, in various chemical resources, and via Internet search tools. An example of this calculation for lead and lead oxide is provided below in Figure 5.

*Figure 5: Sample Calculation for Metal Compound Manufacture Threshold*

As shown in the Manufacture worksheet, the use of No. 2 Fuel Oil in boilers produces lead emissions. Based on knowledge regarding the combustion process, the lead is being released as lead oxide. As a result, the weight of the lead must be converted to the weight of lead oxide for the Manufacture threshold calculation. This conversion is done by multiplying the amount of lead released by a ratio of the MW of the lead oxide/MW of lead.

Lead manufactured (from Manufacture worksheet) = 1.04 lbs/yr

Ratio of MW = MW of lead oxide/MW of lead

Ratio = (207 + 16)/207

Ratio = 1.077

Lead oxide manufactured = 1.04 lbs lead × 1.077 = 1.12 lbs

### Process Threshold Calculation

Where there is 'Not exempt' under the Process column and a note to transfer information to the Process worksheet in the Eliminated from Further Consideration column in the Uses of Fuel worksheet, copy the Fuel, Use of Fuel, and the Amount Used (in gallons per year) from the Uses of Fuel Worksheet (second worksheet) to the columns with the same name in the Process Worksheet (fourth worksheet).

For each fuel and use, it is necessary to identify the toxic chemicals in the fuel using the MSDS information from the Section 313 Fuels Master Sheet (first worksheet). Copy the density, toxic chemical, and weight percent values for each fuel into the column with the same name in the Process worksheet (fourth worksheet). If a fuel contains more than one toxic chemical, then it is necessary to add a new row for each toxic chemical to enable use of spreadsheet formula function to calculate the amount processed. If a fuel that is processed does not contain any toxic chemicals, then enter 'No toxic chemicals given on MSDS, no further consideration required' in the Comments column. The Comments column can also be used to add notes on other toxic chemicals, such as those that are *de minimis* exempt.

Before the amount of each toxic chemical can be calculated, the amount of fuel used (entered as part of Step 6 above) must be converted to pounds by multiplying the Amount Used (gal/yr) by the density (lb/gal). The next step is to calculate the pounds of toxic chemical Processed by multiplying the Pounds of Fuels Used by the Weight Percent. A sample calculation is provided in Figure 6.

*Figure 6: Sample Calculation for Process Threshold*

A total of 1,650,000 gal of JP-8 were issued in calendar year 2010. Following is the breakdown of the fuel use:

- 385,450 gal were provided to base aircraft (Otherwise Use activity)
- 848,550 gal were provided to DoD tenant aircraft (Otherwise Use activity)
- 416,000 gal were provided to non-DoD tenant aircraft (Processing activity)

As shown on the Process worksheet of the 'Template – Fuels under Section 313' spreadsheet, the fuels provided to non-DoD tenant aircraft are considered Processed and must be included in the Process threshold calculations.

Using the MSDS for the JP-8 provided by the supplier, naphthalene is present at 3% by weight and the density of the JP-8 is 6.8 lb/gal.

$$416,000 \text{ gal JP-8} \times 6.8 \text{ lb/gal} = 2,828,800 \text{ lbs JP-8}$$

$$2,828,800 \text{ lbs JP-8} \times 0.03 = 84,864 \text{ lbs naphthalene}$$

### Otherwise Use Threshold Calculation

Where there is 'Not exempt' under the Otherwise Use column and a note to transfer information to the Otherwise Use worksheet in the Eliminated from Further Consideration column in the Uses of Fuel worksheet (second worksheet), copy the Fuel, Use of Fuel, and

Amount Used (in gallons per year) to the appropriate columns on the Otherwise Use worksheet (fifth worksheet).

For each fuel and use, it is necessary to identify the toxic chemicals in the fuel using the MSDS information entered into the Section 313 Fuels Master Sheet (first worksheet). Copy the density, toxic chemical, and weight percent values for each fuel into the column with the same name in the Otherwise Use worksheet (fifth worksheet). If a fuel contains more than one toxic chemical, then it is necessary to add a new row for each toxic chemical to enable use of spreadsheet formula function to calculate the amount Otherwise Used. If a fuel that is Otherwise Used does not contain any toxic chemicals, then enter 'No toxic chemicals given on MSDS, no further consideration required' in the Comments column. The Comments column can also be used to add notes on other toxic chemicals, such as those that are *de minimis* exempt.

Before the amount of each toxic chemical can be calculated, the amount of fuel used (entered as part of Step 6 above) must be converted to pounds. In most cases, the amount of fuel used will be given in gallons (or can easily be converted to gallons) and is multiplied by the density for pounds of fuel used. This calculation is shown as the first three calculations in Figure 7. If specific gravity is given, multiply the gallons of fuel times the specific gravity times the density of water (8.34 lb/gal) to calculate pounds of fuel. The next step is to calculate the pounds of toxic chemical Otherwise Used by multiplying the Pounds of Fuel Used by the Weight Percent of the toxic chemical (the last calculation in Figure 7).

**Figure 7: Sample Calculation for Otherwise Use Threshold**

The following non-exempt Otherwise Uses of JP-8 were identified for the reporting year:

- 1,200,000 gal – Provided to transient aircraft
- 165,200 gal – Provided to another DoD base via refueler trucks

As shown on the Otherwise Use worksheet of the 'Template – Fuels under Section 313' spreadsheet, the fuels provided to transient aircraft and to other DoD entities that are off base are considered Otherwise Used and must be included in the Otherwise Use threshold calculations.

Using the MSDS for the JP-8 provided by the supplier, naphthalene is present at 3% by weight and the density of the JP-8 is 6.8 lb/gal.

$$1,200,000 \text{ gal JP-8} \times 6.8 \text{ lb/gal} = 8,160,000 \text{ lbs JP-8}$$

$$165,200 \text{ gal JP-8} \times 6.8 \text{ lb/gal} = 1,123,360 \text{ lbs JP-8}$$

$$8,160,000 \text{ lbs} + 1,123,360 \text{ lbs} = 9,283,360 \text{ lbs JP-8}$$

$$9,283,360 \text{ lbs JP-8} \times 0.03 = 278,501 \text{ lbs naphthalene}$$

## **STEP 8: CALCULATE SUMMARY OF THRESHOLD CONTRIBUTIONS FROM FUEL ACTIVITIES**

The final worksheet in the ‘Template – Fuels under Section 313’ spreadsheet is the Summary worksheet. This worksheet can be used to summarize all contributions by toxic chemical and by threshold activity to simplify adding these threshold contributions from fuels with contributions from other activities at the base.

For each toxic chemical and each threshold activity, using either spreadsheet functions to link to prior worksheets or sum each contribution by hand and enter into the appropriate column, create totals by toxic chemical and activity. These values cannot be compared to the threshold activities for a NO REPORTING REQUIRED determination because the value does not represent the entire base; these totals must be added to the totals of other contributions from other areas of the facility for each of the toxic chemicals. However, the values can be used to identify toxic chemicals that MUST BE REPORTED based on this calculation alone.

## **STEP 9: DOCUMENTATION**

As with any regulatory requirement, it is important to complete documentation of any compliance effort, including identification of covered chemicals, calculations of thresholds, the report/no report determination, completion of the reporting forms, and proof of delivery. The documentation developed as part of assessing fuel activities under Section 313 should be combined with any other documentation for other parts of EPCRA reporting and activities conducted at the base for complete, facility-wide documentation. Documentation must be retained for a period of 5 years, per DoD guidance.