EMFACT
Energy & Materials Flow and Cost Tracker

Introduction to Inputs

The Inputs section of EMFACT enables users to track the materials and costs that go into a piece of equipment or production unit.

This guide contains the following sections. Click on the title to advance to that section.

Section 1. Entering Materials Purchased
This section outlines the steps for entering material purchase data into EMFACT, both electronically (using the automatic import feature) or manually (data entry). Once purchase data is entered, EMFACT converts it to pounds for reporting purposes. There are also steps on how to troubleshoot data that did not convert properly.

Section 2. Entering Materials Used
This section defines the process for documenting the amount of material used at a piece of equipment or production unit. This includes water, material with air emissions (i.e., stack, paint, fuelburn), and material without air emissions (i.e. other chemical usage).

EMFACT
Energy & Materials Flow and Cost Tracker

1. Materials Purchased

This section contains the following:

1. Preparing Electronic Purchase Data File
2. Importing/Converting Purchase Data (Electronically)
3. Repairing Bypassed Records
4. Reviewing Imported/Converted Data
5. Repairing Data that Failed to Convert
6. Entering Purchase Data Manually

Please review the Quick Start Guide section before starting.

Note: A Cue Card is not available for Inputs (Purchases). Instead, windows are accessed directly from the **Inputs** option on the main menu, as well as the **Inputs** buttons on the **EMFACT Dashboard** window.

Materials Purchased, cont.

1 | **Preparing Electronic Purchase Data File**

A file to collect electronic materials purchased data is provided. It is called:
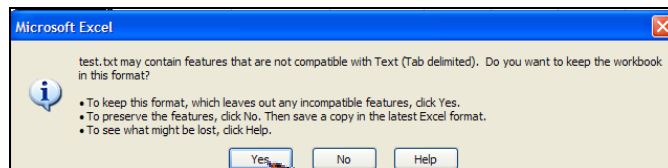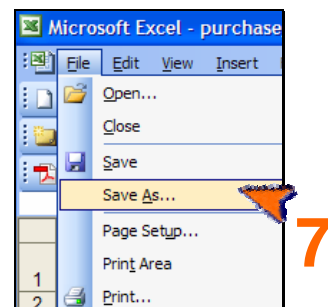
c:\program files\SYS Technologies\ EMFACT\purchase_import_template.xls

Prior to using the Import feature, obtain electronic data from purchasing and put it in the spreadsheet listed above and save to a new name in a new folder.

Complete each column as follows:

1 > **Column A**: Enter the **Material ID** for the purchase. Material IDs must be set up in EMFACT or the entry will be bypassed.

2 > **Column B**: Enter the **Purchase Date** of the purchase. The format is mm/dd/yyyy.

3 > **Column C**: Enter the **Purchase Unit.** This is the **Size Purchase Unit** established for the Material ID (**Container** tab on the **Material Detail** window) in EMFACT (e.g., bucket, drum, etc.

4 > **Column D**: Enter the **Purchase Quantity.** This is the number of the Material ID units that were purchased.

5 > **Column E**: Enter the **Purchase Cost.** This the total cost of the line item (not unit cost). Enter 0 (zero) if this is not known or is not being tracked.

6 > **Column F**: Enter the **Department ID.** Department IDs must be set up in EMFACT**.** Enter one blank space if not known.

7 > Once the file is complete, select **File > Save As** to save the file to a Tab-delimited text file (*filename*.TXT).

8 > If a **Microsoft Excel** popup displays, click **Yes**.

	A	B	C	D	E	F
1	Material ID	Purchase Date	Purchase Unit	Purchase Quantity	Purchase Cost	Department ID
2	003	4/24/2008	Each	1	50	OPS
3	GLIDDEN1	4/24/2008	Case	3	1000	OPS
4						

Microsoft Excel - purchase

File   Edit   View   Insert

Open...
Close
Save
Save As...
Page Setup...
Print Area
Print...

Microsoft Excel

test.txt may contain features that are not compatible with Text (Tab delimited). Do you want to keep the workbook in this format?

- To keep this format, which leaves out any incompatible features, click Yes.
- To preserve the features, click No. Then save a copy in the latest Excel format.
- To see what might be lost, click Help.

Yes   No   Help

Materials Purchased, cont.

2	**Import Purchase Data File Electronically**

Electronic materials purchased data can be automatically imported into EMFACT when it is put into the EMFACT template.

1 > Click on the **Purchases** button (🖲) on the **EMFACT Dashboard**.

2 > Choose **Purchasing** from the **Data Source** dropdown. Refer to the Module 1 of the User Guide (Set Up Admin, Editing Standard Drop Down Lists) for instructions on how to create additional company specific data sources for future use.

3 > Click **Load Purchase Data.** The **Material Purchase File Format Verification** popup will open. .

4 > Click **OK**. The **Select Import File** window will open.

5 > Navigate to and click on the TXT file saved from Step 1 of this procedure.

6 > Click **Open**. The **Material Purchase load process is completed** popup will display and a .log file is created on your C drive.

Note: Review the popup information to determine the status of the import, including the number of records read, added and bypassed. Make a note of the .log file's location, as you will need to access this file to fix any bypassed records.

In this example, one record was bypassed (the header record) and the two records were processed.

7 > Click **OK**.

8 > Click **Close** on the **Import Data from a File** popup.

Proceed to the next step if any usage records were bypassed.* Otherwise, proceed to Step 5.

Note: EMFACT attempts to load every line in the usage file, including the header (column names). Therefore, if the import file contains a header, it will count as one bypassed record.
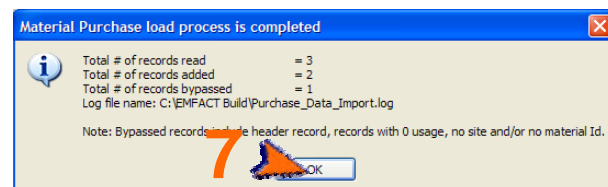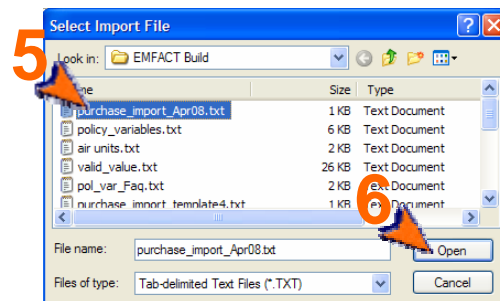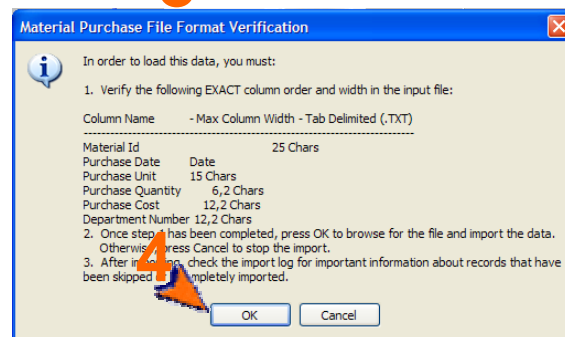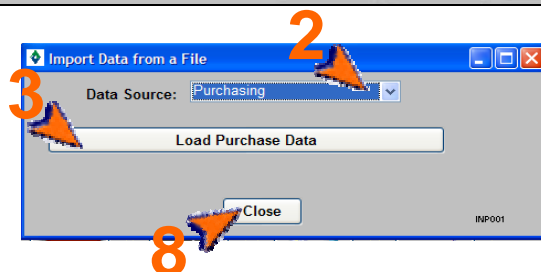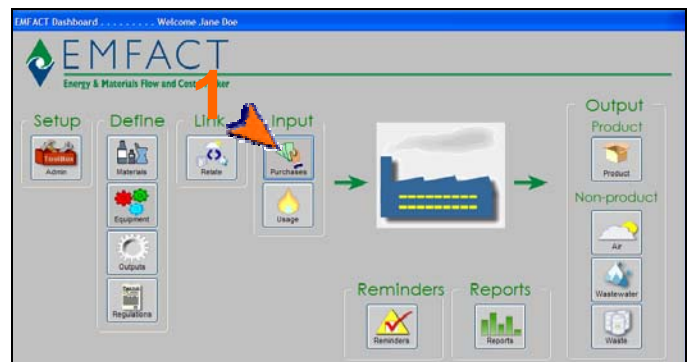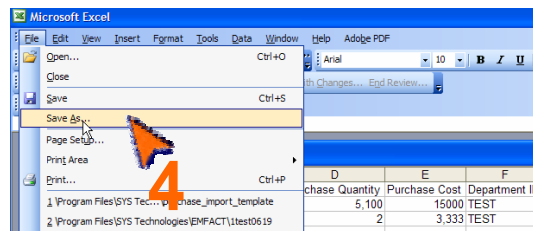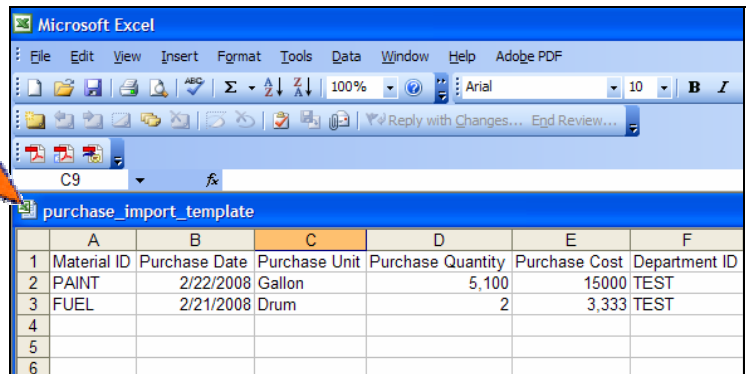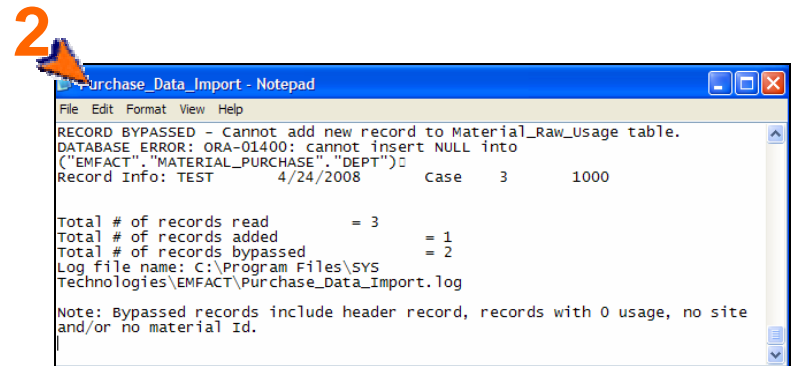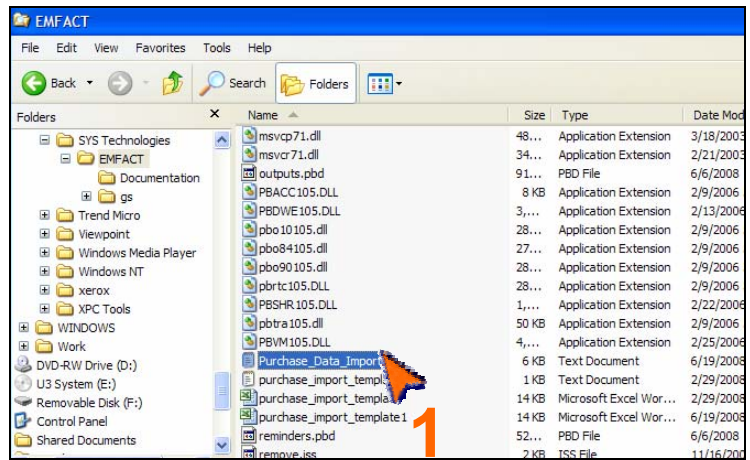
Materials Purchased, cont.

3	**Repairing Bypassed Records (as needed)**

A .log file is created each time the usage data is loaded into EMFACT. In the last step, you were instructed to make a note of the file's path. These files are stored in the same location each time.

1 > Navigate to the directory containing the .log file and double-click on the file. The file will open in Microsoft Notepad.

2 > Review the file to determine which records failed and why.

3 > Open the original import file and locate the record(s) that were bypassed. Correct the errors.

3 > Delete all other records so that the only records remaining in the import file are the ones that were bypassed and now fixed. Then select **File > Save As** from the main menu; and save the file with a new name.

Go back to Step 2 and reload the new file.

Materials Purchased, cont.

| 4	**Reviewing Imported/Converted Data**
	It is recommended that after importing data from a file, that the imported data is reviewed to make sure the data has imported as expected.

The conversion from original container size to Lbs. can be reviewed. The container size conversion takes the size quantity established during material setup multiplied by the purchase qty.

The result will be in the size unit. If the size unit is gallons, then the result is multiplied again by density to arrive at the Purchase Lbs.

1 > Select **Inputs > Materials Purchased > View List** from the main menu. The **Material Purchased List** will open and display data for the last 30 days..

2 > Review the imported/converted purchase data.

Note: Complete the fields in the Filter Data section in any combination to review more data; then click Refresh Data to display the data that meets the new filter criteria.

3 > *Optional*: Click **More Detail** to view and make changes to the materials purchased data. The **Manage Materials Purchased** window will open (see next step).
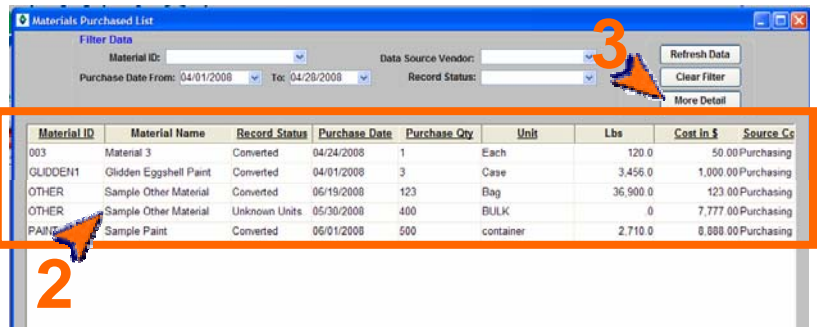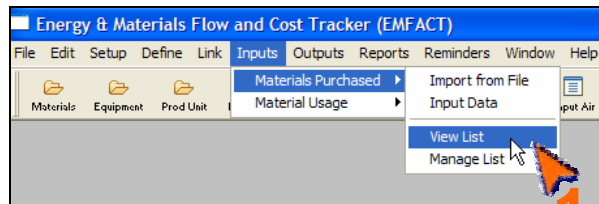
Materials Purchased, cont.

5	**Locating/Repairing Data that Failed to Convert (as needed)**

Locating/Repairing Data that Failed to Convert (as needed)
It is possible for data to import, but not convert. Purchase data records that did not convert properly will display something other than **Converted** in the **Record Status** field. On the **Materials Purchased List** window:

1 > Search the **Record Status** column for records that are not **Converted**. Below are possible values:

- **Unknown Material** – The **Material ID** does not exist in EMFACT and must be added on the **Material List** window. *
- **Unknown Units** - The **Size Purchase Unit** established for the Material ID (**Container** tab on the **Material Detail** window) does not match the one on the import file. Go to **2 >** below.
- **Unknown Density** – The **Density** on the **Material List** window is 0 and therefore, the purchase quantity cannot be converted to pounds. *

2 > If the **Record Status** is **Unknown Units**, click on the row containing the unconverted entry (the row will not highlight).

3 > Click **More Detail**. The **Manage Materials Purchased** window opens and displays the details of the purchase.

4 > Make a selection from the **Units** dropdown. This dropdown, is populated by information added on the **Material Detail** window, **Container** tab.

5 > Click **Save** and close the window.

6 > Click **Retrieve** on the **Materials Purchased List** window The **Record Status** will change to **Converted** (not shown).

* Refer to the User Guide (Module 2: Define Master Data) for instructions on adding materials.
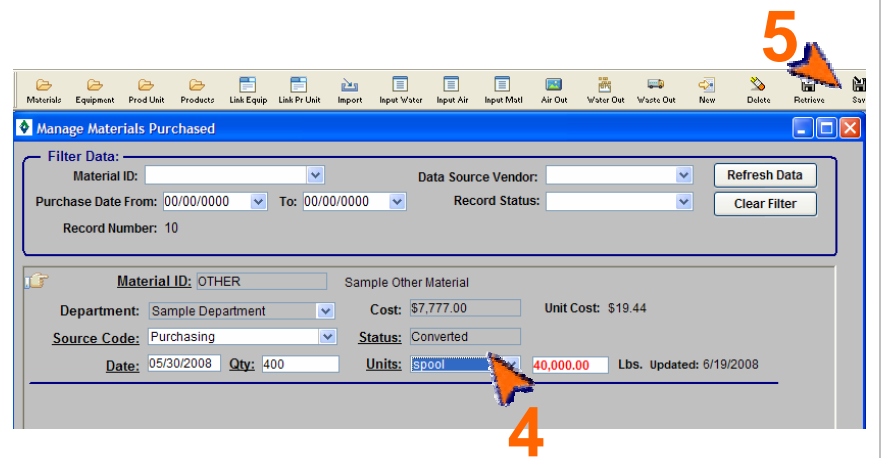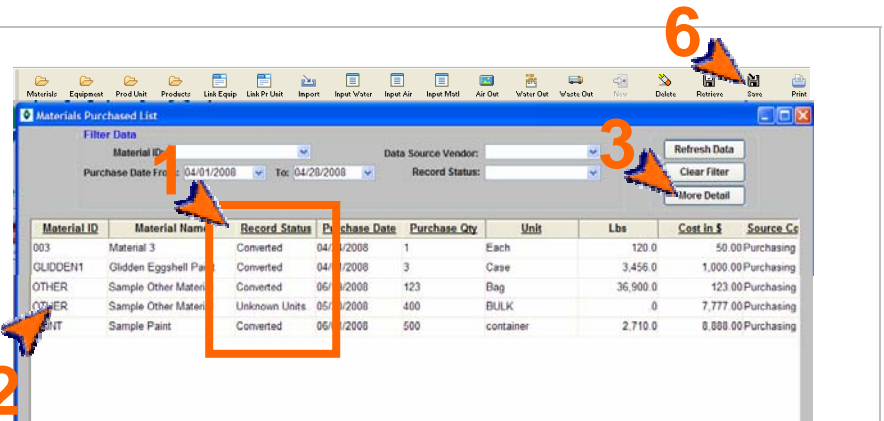
Materials Purchased, cont.

6	**Entering Purchase Data Manually** Follow these steps to enter purchase data manually:	

1 > Select **Inputs > Materials Purchased > Enter Data** from the main menu. The **Enter Materials Purchased** window will open and display and data entered or imported today.

2 > Make a selection from the **Material ID** dropdown.

3 > Complete the **Purchase Date** field

4 > Complete the **Original Purchase Qty** field.

5 > Make a selection from the **Original Purchase Units** dropdown. The **Purchase Qty (Lbs.)** field will calculate and display.

6 > Click **Save Data**. The new entry will display in the **Entered Data so far…** section.

7 > To edit or delete data for a particular usage entry, click the corresponding **Update** button. The **Manage Materials Purchased** window (not shown) will open.
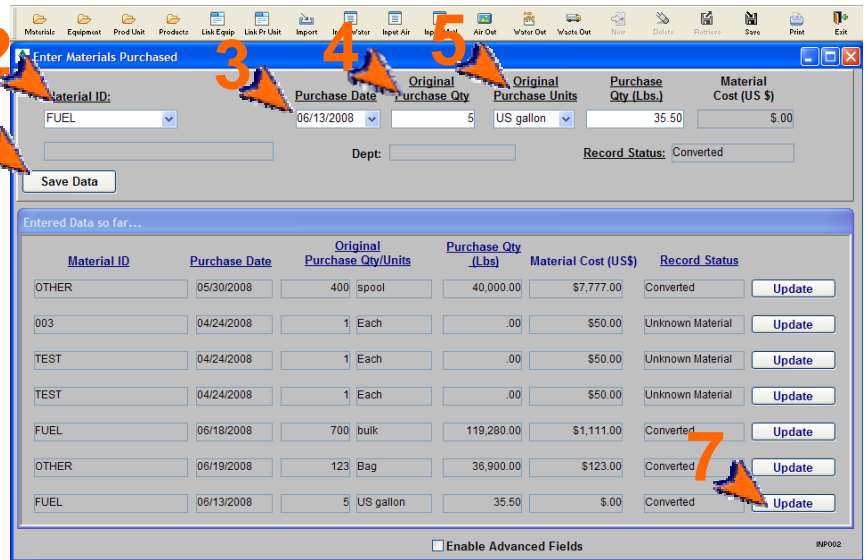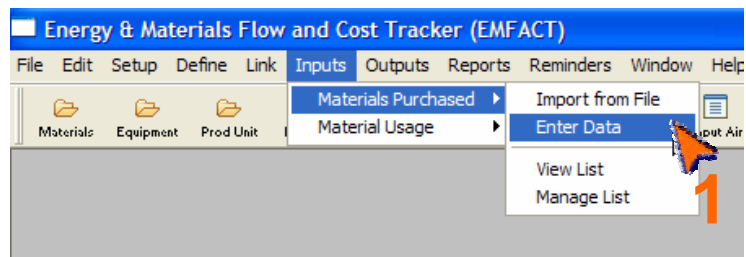
2. Materials Used

This section contains the following:

1. Accessing the Material Usage Cue Card (optional)
2. Enter Water Usage
3. Manage Water Usage Details
4. Enter Material Usage with Air Emissions
5. Manage Air Emissions Details
6. Enter Other Material Usage (Without Air Emissions)
7. Manage Material Usage Details
8. View Material Usage List

Please review the Quick Start Guide section before starting.

1	**Optional: Accessing the Material Usage Cue Card**	
	Using the Cue Card is optional, since every window available through the Material Usage Cue Card is also accessed from the main menu (**Inputs > Material Usage**), and sometimes through shortcut buttons on the toolbar. To access the cue card for entering material usage: **1 >** Click the Usage button (Usage) on the **EMFACT Dashboard**. The **Cue Cards for Material Usage** window will open.	
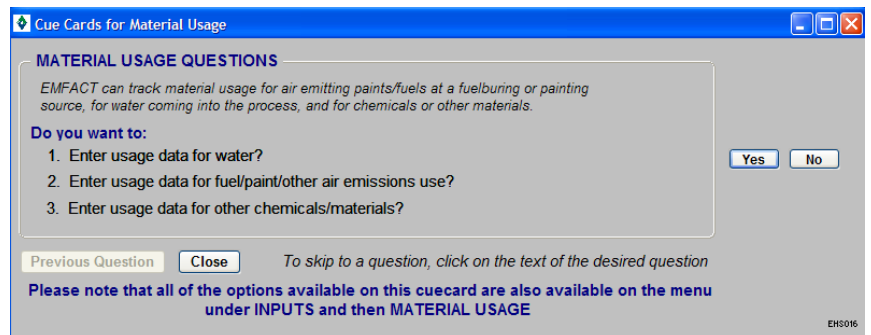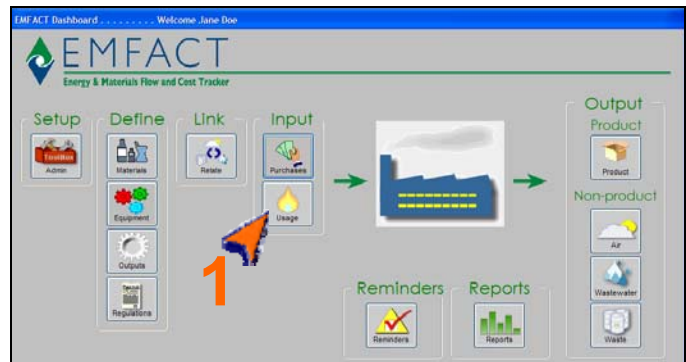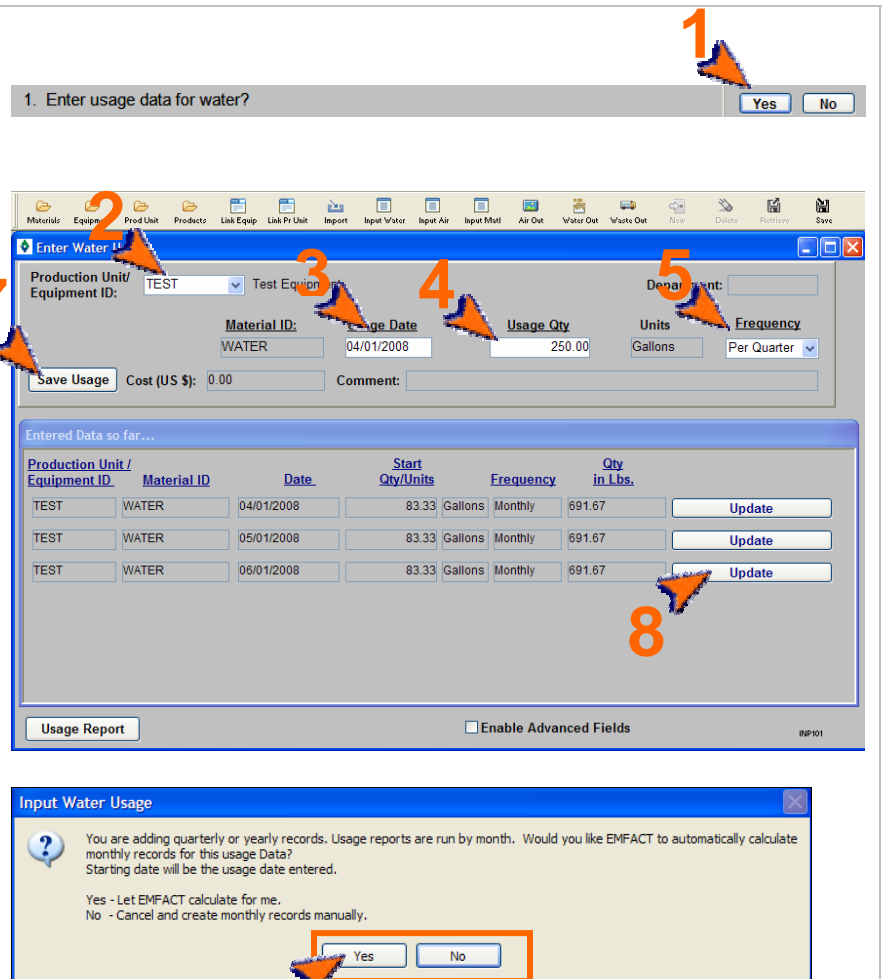
Materials Used, cont.

2	**Enter Water Usage**

Enter Water Usage

Use the following steps to enter material usage (in gallons) for water:

1 > Click **Yes** for the 1st question on the **Cue Cards for Material Usage** window. The **Enter Water Usage** window will open. A shortcut to this window is also available by clicking the **Input Water** button ( ) in the toolbar.

2 > Make a selection from the **Production Unit/Equipment ID** dropdown.

3 > Enter a **Usage Date**.

4 > Complete the **Usage Qty** field.

5 > Make a selection from the **Frequency** dropdown. If selecting **Quarterly** or **Yearly** as the **Frequency**, the **Input Water Usage** popup will display.

6 > If the **Input Water Usage** popup displayed, click **Yes** to have EMFACT automatically calculate monthly records beginning on the **Usage Date** entered in **3 >**, going forward. Click **No** to cancel and create monthly records manually. *(Example to the right shows monthly records automatically created by EMFACT.)*

7 > Click **Save Usage**. The usage will calculate and display in the **Entered Data so far…** section of the window. The data in this section displays for one day and then it is reset.

8 > To edit or delete data for a particular usage entry, click the corresponding **Update** button. The **Manage Material Usage** window will open (see next step).

*Note: Click the **Usage Report** button at the bottom of the window to run the **Usage (Water): Weight per Material Report**.*

Materials Used, cont.

3	**Manage Water Usage Details (optional)**	
	To view or make changes to water usage:	
	1 > Review the information for the water entry on the **Manage Material Usage** window. Make any necessary changes.	
	2 > If making changes, click **Save**.	
	*Note: To review other data, click **Clear Filter** (to clear the **Record Number** field); complete the fields in the **Filter Data** section in any combination; then click **Refresh Data** to display the data that meets the new filter criteria.*	

Materials Used, cont.

4	**Enter Material Usage with Air Emissions** Use the following steps to enter material usage for stack, paint/spray and fuelburn usage. **1 >** Click **Yes** for the 2nd question on the **Cue Cards for Material Usage** window. The **Enter Material Usage with Air Emissions** window will open. A shortcut to this window is also available by clicking the **Input Air** button in the toolbar. **2 >** Make a selection from the **Production Unit/Equipment ID** dropdown. **3 >** Make a selection from the **Material ID** dropdown. This dropdown is populated with materials set up on the **Air Factors** tab of the **Equipment** (or Prod Unit) **Links** window. **4 >** Enter a **Usage Date**. **5 >** Complete the **Usage Hours** field. This is required for fuelburn; otherwise it is optional). **6 >** Enter the **Usage Qty** and select a **Unit** from the dropdown. **7 >** Click **Save Usage**. The usage will calculate and display in the **Entered Data so far…** section of the window. The data in this section displays for one day and then it is reset. **8 >** To view, edit or delete data for a particular usage entry, click the corresponding **Update/View Emissions** button. The **Air Emissions** window will open (see next step). *Note: Click the **Report** buttons at the bottom of the window to run the **Usage (Air): Weight per Material Report** and the **Usage (Air): Weight per Material with 12 month Rolling Report**.*	

Materials Used, cont.

5	Manage Air Emissions Details (optional)	
	To view or make changes to material usage: **1 >** Review the information for the usage entry on the **Air Emissions** window. Make any necessary changes. **2 >** If making changes, click **Save**. *Note: To review other data, click **Clear Filters** (to clear the **Usage Record No.** field); complete the fields in the **Filter Data** section in any combination; then click **Refresh Data** to display the data that meets the new filter criteria.* *Note: Click the **Report** buttons at the bottom of the window to run the **Usage (Air): Weight per Material Report**, **Usage (Air): Weight per Material with 12 month Rolling Report**, and **Air Emissions: Weight per Pollutant with 12 Month Rolling Report**.*	

Materials Used, cont.

6 **Enter Other Material Usage (Without Air Emissions)**

Use the following steps to enter usage for other chemicals/materials.

1 > Click **Yes** for the 3rd question on the **Cue Cards for Material Usage** window. The **Enter Material Usage** window will open. A shortcut to this window is also available by clicking the **Input Matl** button in the toolbar.

2 > Make a selection from the **Material ID** dropdown.

3 > Enter a **Usage Date**.

4 > Complete the **Original Usage Qty** field.
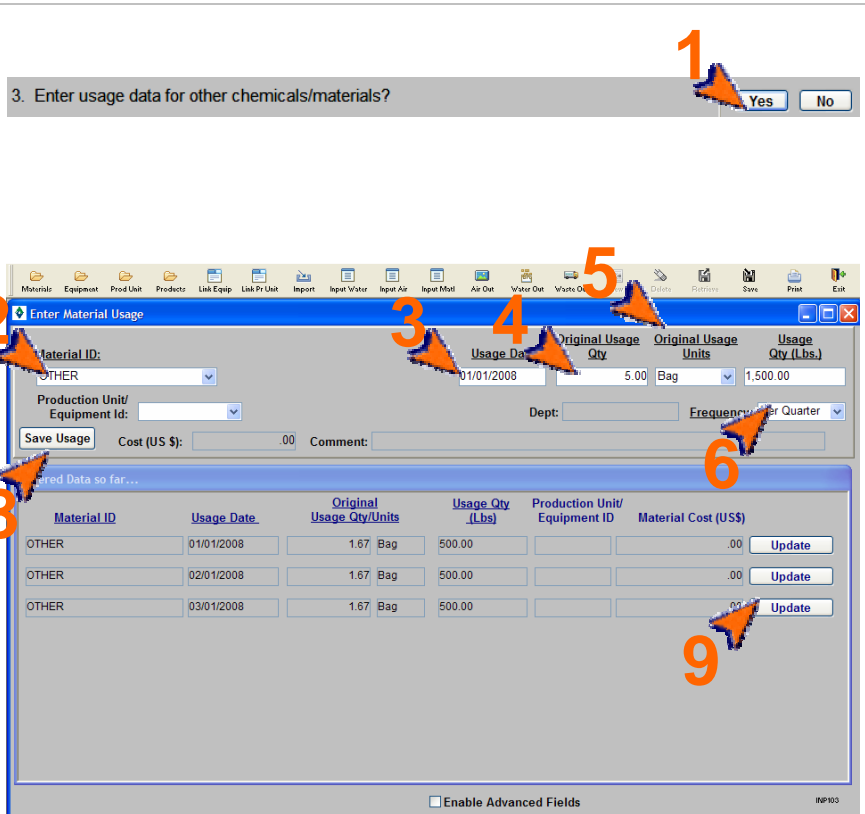
5 > Make a selection from the **Original Usage Units** dropdown. The **Usage Qty (Lbs.)** field will calculate.

6 > Make a selection from the **Frequency** dropdown. If selecting **Quarterly** or **Yearly** as the **Frequency**, the **Input Material Usage** popup will display.

7 > If the **Input Material Usage** popup displays, click **Yes** to have EMFACT automatically calculate monthly records beginning on the **Usage Date** entered in **3 >**, going forward. Click **No** to cancel and create monthly records manually. *(Example to the right shows monthly records automatically created by EMFACT.)*

8 > Click **Save Usage**. The usage will calculate and display in the **Entered Data so far…** section of the window. The data in this section displays for one day and then it is reset.

9 > To view, edit or delete data for a particular usage entry, click **Update**. The **Manage Material Usage** window will open (see next step).

Materials Used, cont.

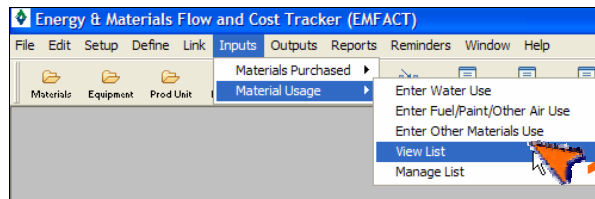| 7	**Manage Material Usage Details (optional)** To view or make changes to material usage: **1 >** Review the information for the usage entry on the **Manage Material Usage** window. Make any necessary changes. **2 >** If making changes, click **Save**. *Note: To review other data, click **Clear Filter** (to clear the **Record Number** field); complete the fields in the **Filter Data** section in any combination; then click **Refresh Data** to display the data that meets the new filter criteria.*	
8	**View Material Usage List** A window is available to view the materials usage data using various filters. **1 >** Select **Inputs > Material Usage > View List** from the main menu. The **Material Usage List** window will open and display all usage data entered for the last 30 days. This window is *read-only* and cannot be edited. **2 >** Double-click on a row to access the details of that entry; or click on the row and click **More Detail**. The **Air Emissions** or **Manage Material Usage** window will open (Refer to Steps 3, 5 or 7 for more information on these windows).	