EMFACT
Energy & Materials Flow and Cost Tracker

Introduction to Outputs

The Outputs section of EMFACT enables users to track goods that are produced at a piece of equipment or production unit, along with air emissions and wastewater discharge associated with the production of the goods. The success of the Outputs feature depends greatly on whether the specific materials and outputs have been set up and linked to the equipment or production unit, whether emission factors are set up, and whether material usage has been input correctly.

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

Section 1. Entering Product Outputs
This section outlines the steps for documenting the volume/quantity of goods produced during a given timeframe and calculating the output in Lbs.

Section 2. Entering Non-Product Outputs
This section defines the process for reviewing material usage/air emissions data, entering wastewater discharge data and documenting waste management activity.

1. Enter Product Outputs

This section contains the following:

1. Entering Product Output Volume
2. Managing Product Volume (Optional)

Note: A Cue Card is not available for entering product volume/quantity. Instead, windows are accessed directly from the **Outputs** option on the main menu as well as the **Product** button on the **EMFACT Dashboard** window.

*Please review the Quick Start Guide section before starting.*

1 Entering Product Output Volume

Use the following steps to document the volume/quantity of product and/or intermediate product produced during a given timeframe. Products and their weight in lbs must be set up before performing this step.

1 > Click the **Product** icon ( ). The **Input Product Output Volume** window will open.

2 > Make a selection from the **Product Model No.** dropdown for the Product Model and optionally for the **Intermediate Product No.**

3 > If appropriate, make a selection from the **Production Unit/Equipment ID** field. Otherwise, volume will be associated with the entire site.

4 > Complete the **Output Date** and **Output Qty** fields.

5 > Make a selection from the **Frequency** dropdown.

6 > Click **Save Product Output**. The **Entered Data so far…** section at the bottom of the window will display the calculated amount. This section resets daily.

Repeat these steps until all product output data is entered.

7 > To view and/or change the output product volume data for a specific entry click the corresponding **Update** button. The **Manage Product Volume** window will open (see next step).
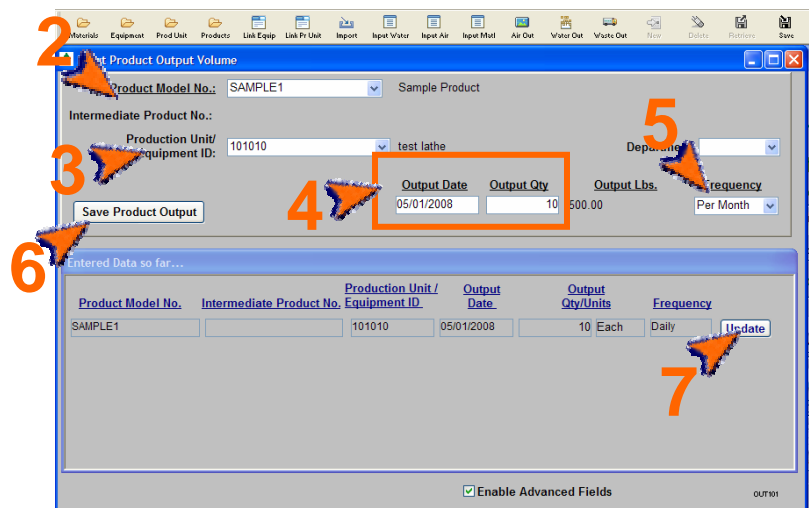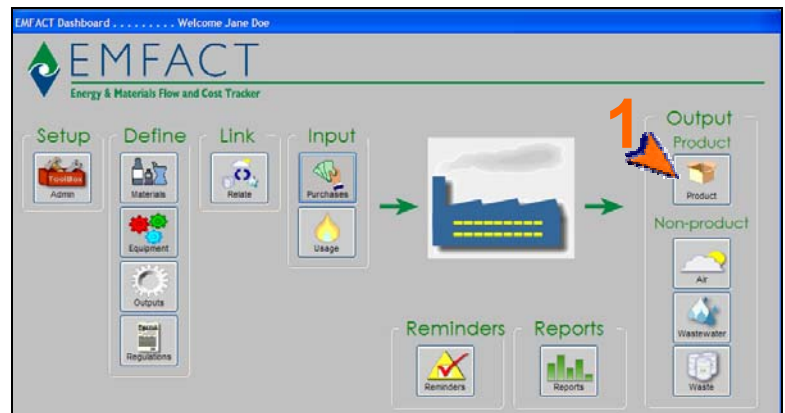
Enter Product Outputs, cont.

2	**Optional: Managing Product Volume** Use the following steps to view, edit or delete the output volume data. On the **Manage Product Volume** window: **1 >** View and make any necessary changes. **2 >** Click **Save**. **3 >** Optional: Complete one of the fields in the **Filter Data** section **4 >** Click **Retrieve**. The window will update with the data matching the search criteria.	

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2. Enter Non-Product Outputs

This section contains the following:

1. Reviewing Air Emissions
2. Entering Wastewater Discharge Data
3. Optional: Managing Wastewater Discharge Data
4. Documenting Waste Management Activity Details
5. Optional; Management Waste Activity

Please review the Quick Start Guide section before starting.

Note: A Cue Card is not available for entering non-product volume/quantity. Instead, windows are accessed directly from the **Outputs** option on the main menu as well as the **Non-product** buttons (Air, Wastewater, Waste) on the **EMFACT Dashboard** window.


**1** | **Reviewing Air Emissions**

Use the following steps to review material usage data or check that emissions are being calculated correctly.

Note: You must have previously entered material usage data (**Inputs > Material Usage > Enter Fuel/Paint/Other Air Use**) to continue.

As data was recorded on the **Enter Material Usage with Air Emissions** window, emissions per pollutant were calculated in Lbs based on the emission factors.

The factors must be se tup on the **Equipment Links** window or **Production Unit Links** window (**Link > Equipment** or **Link > Production Unit** from the main menu) on the **Air Factors** tab. Refer to the **Air Factors** tab for a description of emissions algorithms.

1 > Click **Air** ( ). The **Air Emissions** window will open and display usage for the last month.

2 > Review the data listed or use the **Filter Data** fields to search for different data.

3 > As appropriate, alter the original material usage data and click **Save**. The data in the pollutant/emissions box will recalculate.

4 > Click the **Report** buttons at the bottom of the page to run reports as needed. Refer to the Report Guide for descriptions of these reports.
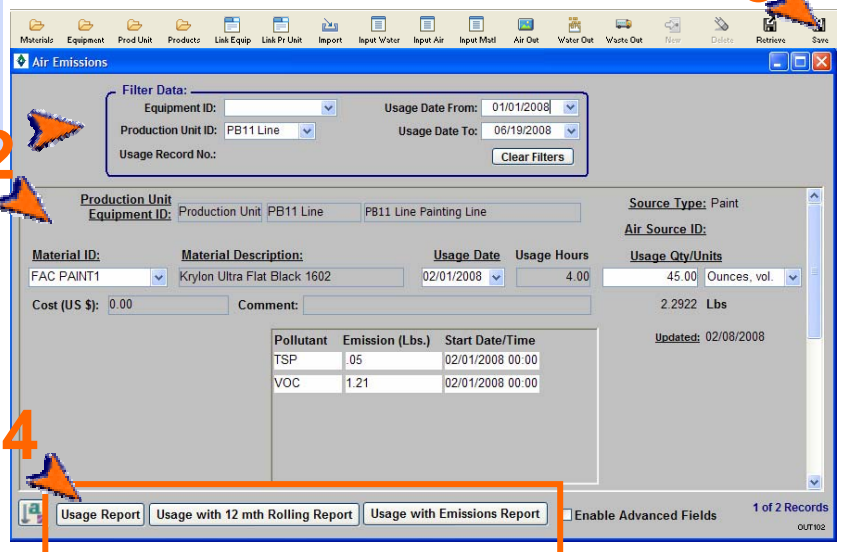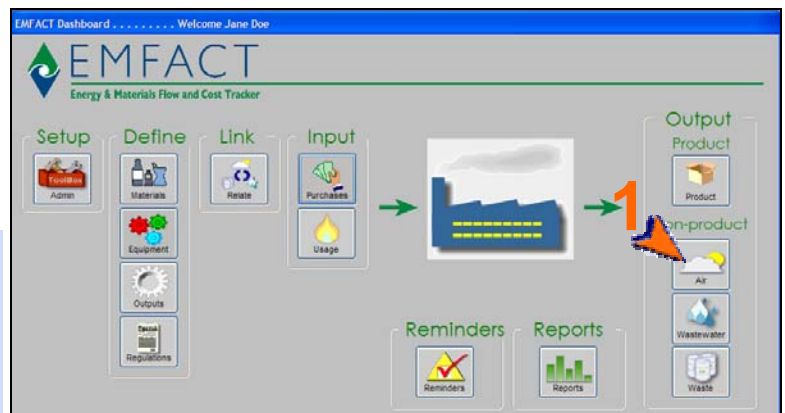
Above: Example with painting usage

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Enter Non-Product Outputs, cont.

2   **Entering Wastewater Discharge Data**

Use the following steps to enter material usage for water with emissions and compute Wastewater Pollutants based on Flow/Factors.

As data is recorded on this window, discharge/pollutant is calculated in Lbs.

The discharge information must be linked on the **Discharge** and **Water Poll** tabs* of the **Equipment Links** window or **Production Unit Links** window (**Link > Equipment** or **Link > Production Unit**) to use this feature.

1 >   Click **Wastewater** ( ). The **Enter Wastewater Discharge** window opens.

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

3 >   Select a **Flow Number**.

4 >   Enter an **Output Date**.

5 >   Complete the **Output Qty** field.

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

7 >   If the **Input Wastewater Output** popup displayed, click **Yes** to have EMFACT automatically calculate monthly records beginning on the **Usage Date** entered in **4 >**, going forward. Click **No** to cancel and create monthly records manually. *(Example to the right shows monthly records created automatically.)*

8 >   Click **Save Discharge**. The output (in Lbs) 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 resets.

9 >   To edit or delete data for a particular usage entry, click the corresponding **Update/View Pollutants** button. The **Wastewater Discharge with Pollutants** window opens (step 3).

10 >   Click the **Report** buttons to run reports as needed. Refer to the Report Guide for descriptions.
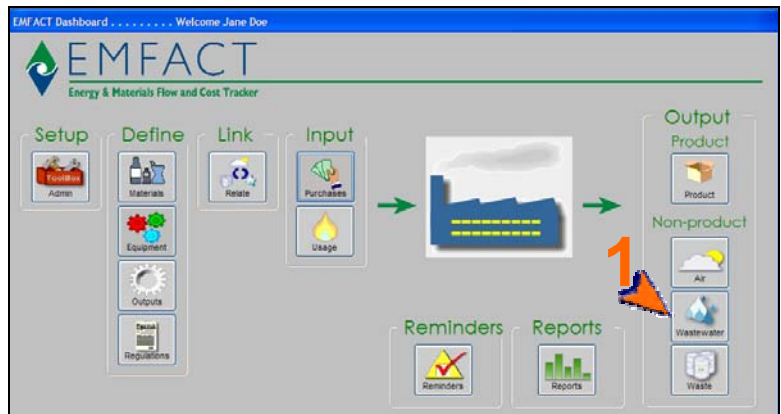
* The **Water Poll** tab is optional (if pollutants are not identified, emissions will not be tracked).

Enter Non-Product Outputs, cont.

| 3 | **Optional: Managing Wastewater Discharge Data**
Use the following steps to view, edit or delete the calculated pollutant discharge data**.** On the **Wastewater Discharge with Pollutants** window:

1 > View and make any necessary changes to the original entry.
2 > Click **Save**. Any changes will recalculate.
3 > Optional: Complete one of the fields in the **Filter Data** section
4 > Click **Retrieve**. The window will update with the data matching the search criteria.
5 > Click the **Report** buttons at the bottom of the page to run reports as needed. Refer to the Report Guide for descriptions of these reports.

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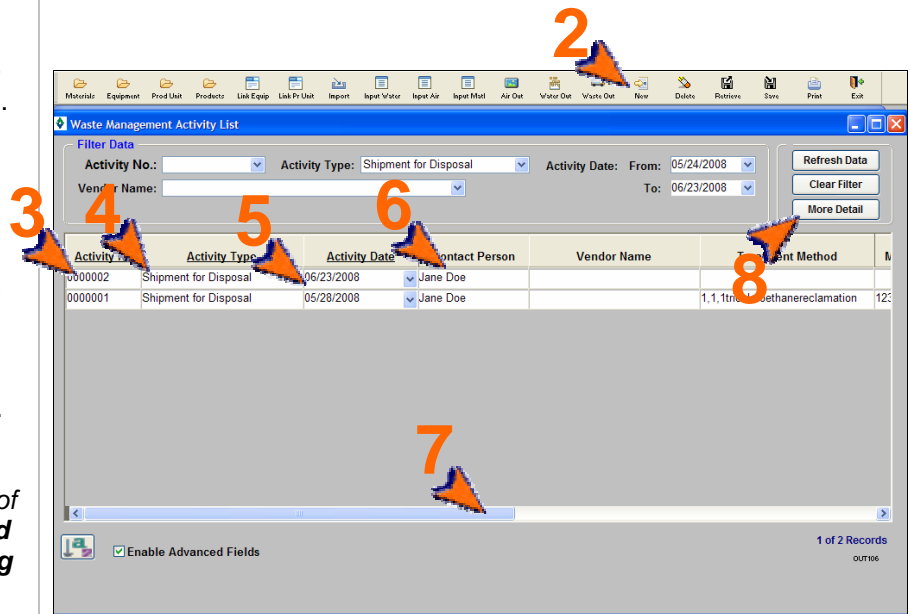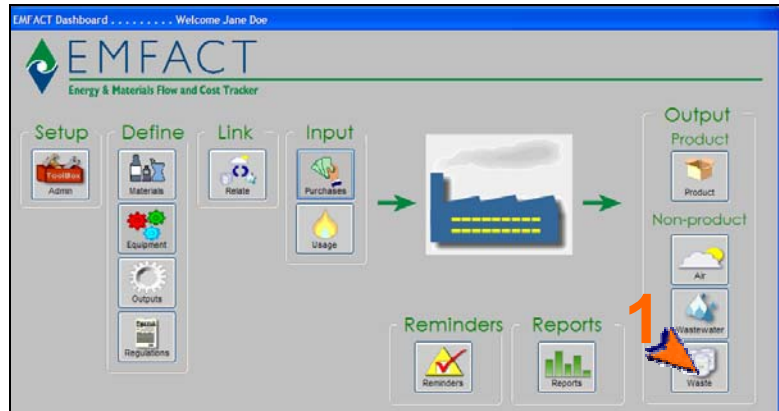# Enter Non-Product Outputs, cont.

4	**Documenting Waste Management Activity**

Documenting Waste Management Activity

Use the following steps to document waste shipments, treatments and recycling.

1 > Click **Waste** ( ). The **Waste Management Activity List** window will open and display activity for the last month.

2 > Click **New**. A new line will display on the page.

3 > The **Activity No** defaults to the next sequential number.

4 > The **Activity Type** defaults to **Shipment for Disposal** and can be changed if it is appropriate.

5 > The **Activity Date** defaults to the current date and can be changed.

6 > The **Contact Person** defaults to the currently logged on user.

7 > Use the scroll bar to view and complete the remaining fields as needed.

8 > To add additional optional details about the waste activity, click **More Detail**. The **Waste Management for Activity No.** window will open (see next step).

*Note: When manifest information is entered, EMFACT tracks the number of days outstanding (**Days Not Returned** field) until the **Manifest Returned Flag** field is checked.*

Enter Non-Product Outputs, cont.

5	**Optional: Managing Waste Activity Details**	

Optional: Managing Waste Activity Details

Use the following steps to document waste amounts/costs per waste type for each shipment. On the **Waste Management for Activity No.** window.

*Note: Waste Types must be set up (**Define > Outputs > Waste Type List**) before using this window.*

1 > View and make any necessary changes to the waste activity and manifest detail.

2 > Optional: Complete the fields on the **Waste** tab.

Note: Negative costs and weights can be entered.

*The waste must be linked to the equipment/production unit on the **Equipment Links** window or **Production Unit Links** window (**Link > Equipment or Link > Production Unit)** in order to select the Equipment/Production Unit ID on the **Waste** tab.*

2 > Click **Save**.

Note: When manifest information is entered, EMFACT tracks the number of days outstanding (Days Not Returned field) until the Manifest Returned Flag field is checked.