Hands-on Management

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Using Excel to Help with Form "R" Reporting

Form "R" reporting can be a daunting task. After all, you have to track and total all of the reportable chemicals you use during the year. Then you must break out all the chemicals that are a component of the proprietary chemicals in the shop. By using the Inventory Control Worksheet we built last month as a starting point, we can make this job a little easier.

Bring up Excel, and begin with Book 1. When Excel Book 1 opens, you are ready to type in the first-cell (**A1**) of the heading row. Select and type your column headings. For this example, I am using the headings **Chemical, January, February, March** (in your workbook, you will need to list all of the months), **Total** and a list of the chemicals (one per column) that may need to be reported on the Form R. **Nitric Acid** and **Chromic Acid** will be used for this example—both of these chemicals could be found in chromates. The final headings are both labeled **MSDS** and will represent the percentage of nitric acid and chromic acid in the two products. (Refer to last month's column for directions on **Bolding** and **Centering**.) Let's freeze the header row and the first column. (Directions are in the December column.) The cell you need to be in (**B2**) is a little different than the last time, because we are only freezing the first column.

Entering Data

We are now ready to enter some data from the Inventory Control Worksheet. First, find and open the workbook under its file name (mine is called Chemicals.xls). We can do this by moving the cursor with the mouse to **File** and dropping the menu down with a left-button mouse click. If we have used the workbook recently, it may be listed at the bottom of the menu. If so, all you need to do is move the cursor down to highlight the title of the workbook and left-click to open. A larger list of documents can be found by (Windows 95® or higher only), clicking on the **Start** icon in the lower left-hand corner of the screen and highlighting **Documents**. Pause the cursor on **Documents** until the list appears to the right, then move the cursor to the right onto the list and choose the document you need. If the document you need is not on any of these lists, then we can find any workbook or other file by moving the cursor to **File** and dropping the menu down. Highlight **Open** and click to reveal a very powerful tool for opening files or documents from any of the drives (storage areas) on your computer. By using the drop-down menu, any of the drives can be
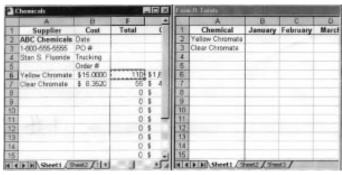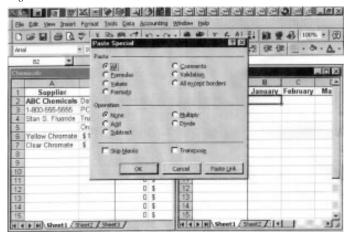

Fig. 1.

Fig. 2.

accessed, and consquently, the directories and subdirectories (to expand these directories, double-click on them) in which the file or document may be found. By now, you should have found and opened your Inventory Control Worksheet.

Next, the two workbooks need to be arranged in order to be able to work back and forth between them. Move the cursor to **Window** on the tool bar and drop the menu. Click on **Arrange** to pop-up the Arrange Windows box. The default setting is **Tiled**; click **OK** to accept this setting.

The tiled worksheets should then be side-by-side (see Fig. 1). Only one worksheet can be active at any one time, and the active workbook title line will be dark blue. You can change workbooks by clicking on the inactive one.

Working in "Chemicals," highlight cells **A6** and **A7** (Yellow Chromate and Clear Chromate) and click on the copy button on the tool bar (refer to last month's column for help). Now, click on the workbook to the right to activate it, then move the cursor to **A2** and click. Next, click on the paste button. This will save a lot of typing, because

Fig. 3.

Fig. 4.

you can enter the names of all the chemicals listed in the workbook. Click back to the "Chemicals" workbook and click on cell **F6**. Remember that the **Total** column is the sum of all the chemicals ordered in the month of January. We are going to "special paste" this number into the workbook (mine is named "Form R Totals") that will be used to total the chemical usage for the entire year. **Paste Special** will create an active link between the databases. The linked numbers in "Form R Totals" will change as the numbers in "Chemicals" are changed. For example, when I order 40,000 lb of hydrochloric acid, the delivered amount in the shipment will always be different. I will go back into the "Chemicals" database and change the amount of acid, based on the invoice, and the correct cells will be automatically updated in the "Form R Totals" database. Ready? Here goes.

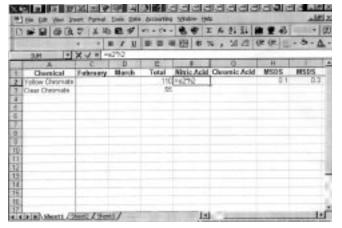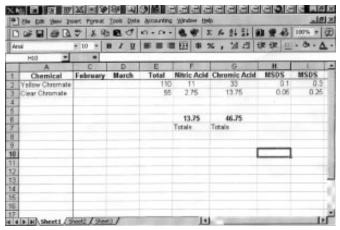Highlight **F6** and **F7**, then click on the copy button. Activate the database

"Form R Totals" and go to the cell **B2** and click. Click **Edit** on the tool bar to drop the menu, then highlight and click on **Paste Special** to pop-up the Paste Special box. The default settings are pictured in Fig. 2. Now click on the **Paste Link** and the totals for both the yellow chromate and the clear chromate should be active in the "Form R Totals" workbook.

In this example, I will use 0.1 for the percent of nitric acid in **MSDS** header **F1**, and 0.3 percent in **MSDS** header **G1**. Next, we need a formula in cell **F2** that will multiply the totals and percentages for nitric acid and chromic acid (see Fig. 3). The formulas for yellow chromate are for **F2** (=e2*h2) and for **G2** (=e2*i2). Please take particular notice of the units (pounds or gallons) that must be reported. A column could also be added to keep track of the units. Using specific gravity (found in the MSDS) in the formula, if needed, can change liquids from gallons to pounds. By highlighting cells **F2** and

G2, we can copy and paste the formulas into **F3** and **G3** at the same time. As a time-saver, highlight all the cells (**Fsomething** and **Gsomething**) that need the formulas and paste them all at one time.

To finish this database, total the nitric acid and chromic acid. Go to cell **F6** and highlight upward to **F2**, and then click on the AutoSum button on the tool bar. Repeat this operation for the **G** column, or copy and past **F6** to **G6** (see Fig. 4). As always, please take the time to save your work.

That takes care of the month of January. Just repeat the process for the rest of the year as it happens, and you'll be all set for an easy filing of Form R. You can also use these types of linked databases to track money or the number of hours worked. With a little imagination, you can have a lot of fun playing around with your computer. After all, what's the worst thing you could do ... shut down the entire industrialized world *before* Y2K? P&SF