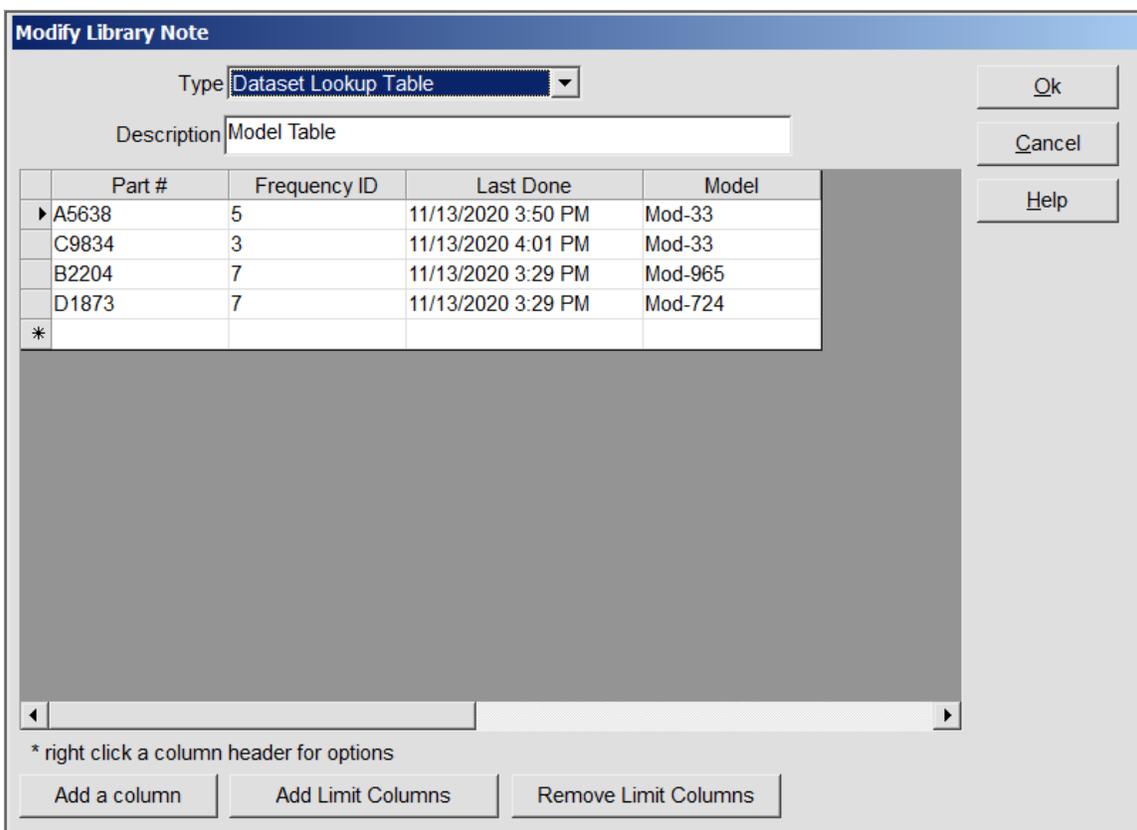# TrueLogic's: DataSet Lookup Tables

You may occasionally need to have a small table of information stored in TrueChem that you can retrieve values from given a "key" value. The *DataSet Lookup Table* library allows you to do this.

Create A *DataSet Lookup Table* Library

To create a *"DataSet Lookup Table"*, click the System Setup button at the top of the screen, then click the Library tab. See figure 1.

Use the "Add a column" button to add a new column to the table. Right click a column header to change the name of the column or to change the type. To remove a column, simply drag the column header and drop it outside of the grid. Change column positions by dragging a column header into a new position.

Most of your columns will be of type "Text", but you must have one column of type Unique Key. In the below example, "Part #" is the unique key column. And you can optionally have a column of type "Frequency ID" that can be used in other TrueChem features.

Modify Library Note

Type: Dataset Lookup Table

Description: Model Table

Part #	Frequency ID	Last Done	Model
A5638	5	11/13/2020 3:50 PM	Mod-33
C9834	3	11/13/2020 4:01 PM	Mod-33
B2204	7	11/13/2020 3:29 PM	Mod-965
D1873	7	11/13/2020 3:29 PM	Mod-724

* right click a column header for options

[Add a column] [Add Limit Columns] [Remove Limit Columns]

[Ok] [Cancel] [Help]

Figure 1: A *"DataSet Lookup Table"* Library

Associating the key column with an Input

On the Input setup screen in Tank Setup, you can choose to have the key column of a DataSet Lookup table be associated with that Input. And you can optionally have a list of the keys from the key column be presented to the user in a selectable list when the user clicks on that Input in the Perform Test screen.

If an Input has been associated with the key column of a DataSet Lookup table, then when a key is typed into the Input (or selected from a list) on the Perform Test screen, items for that key from other columns in the table can appear to the right of that Input or in the "Message" window near the bottom of the screen or in a pop-up message. Those values can also optionally show up in the Data Log. These options are located in the column settings when modifying a DataSet Lookup table via the System Setup > Library tab.

Automatically schedule a Result

If the DataSet Lookup table uses the optional "Frequency ID" column, and you associate the table with an Input (see above), then new scheduled items will be created for the Result that is under that Input. A new schedule item will be created for that Result *for every key in the table*. When the Print/Save button is clicked on the Perform Test > Output tab, the schedule for that Result/Key combination gets pushed forward like most TrueChem schedules do. The frequency used for that scheduled item is the one from the table for the Key that was typed into the Input.

A "Last Done" column is automatically created in the DataSet Lookup table when a Frequency ID column is used. You can change the Last Done date by clicking on a cell in the table. Changing the Last Done date causes the scheduling system to re-calculate when a schedule using that Key is next due. If more than one Result uses the same DataSet Lookup table, then changing the Last Done date for a Key in the table changes the Last Done date for every Result/Key combination in the schedule system.

TrueChem schedules are usually either type 'R' for Result or 'O' for Other – these new special schedules are of type 'D' for DataSet Lookup table. If you have the optional Dashboard Module, then if any of the 'D' schedules for a Result is late, then that Result will appear red on the Dashboard.

Automatically reset the spec limits of a Result

If an Input on the Perform Test screen is associated with a DataSet Lookup table that uses the optional spec limit columns (those columns are created via the "Add Limit Columns" button while creating the table) then the first Result under that Input will automatically use the spec limits from the table (for the Key that the user used in the Input).

The lib.DataSetLookup variable
The lib.DataSetupLookup variable returns a value from the table. The format of that variable is: lib.DataSetLookup (library name; KeyValue; returnColumn). Note that semicolons are used as parameter separators.

In the example from Figure 1, if you want to get the Model given a Part # of C9834, you'd use:
    [lib.DataSetLookup(Model Table; C9834; Model)]

Notice the square brackets around the entire variable. TrueChem variables must be enclosed in square brackets.

If a column consists of only numbers, it could be used in Result calculations which are set up in Tank Setup. In the below example, the user would type a unique key (say, 24a5c3) into Input 1, and a Saturation value would be returned from the Saturation Table library and used in a Result calculation:
    Result= 2.35 * [lib.DataSetLookup(Saturation Table; [INP1]; Saturation)]

The [DSF.fieldname] variable
In certain circumstances you can also use the DSF.fieldname variable, where fieldname is the name of the column in a DataSet table you are interested in. For example, [DSF.part width]. This variable assumes that you recently did something that "set" the last used DataSet Library Name and the key. For example, pressing Enter on an Input that is associated with a DataSet Lookup Table will set those items. Thus, the DSF variable does not require you to specify those items like the lib.DataSetLookup variable does. So you could use the DSF variable in a Rule for a Result that is under an Input that is associated with a DataSet Lookup table. Or you could use the lib.DataSetLookup variable.

Use In Graphs
Starting in TrueChem version 24.3.1, if an Input on the Perform Test screen is associated with a DataSet Lookup table then when the Graphs section of TrueChem will display a dropdown list of all the unique Keys from that DataSet Lookup table. Selecting one of the Keys filters the graph so that it only shows dots that involves that Key.

Also starting in TrueChem version 24.3.1, if that DataSet Lookup table contains the optional spec limit columns (see the above section called *"Automatically reset the spec limits of a Result"*) then the first Result under that Input on the Perform Test Screen will have its spec limits on the graph change whenever the Key is changed in the new dropdown list.

If you have any questions or need any help, please contact technical support at 1-800-448-2548 ext. 202