# ELN: Well Plate Operations -- Chemistry: Basic Annotation & Formulation Information

One of the well plate annotation operations available in the ELN concerns chemical formulation-oriented plates. Here, you can create a general-purpose chemistry well plate (Fig 1). Two parameters must be defined before clicking 'Annotate Plate' will work: plate name (any label you wish to assign/designate as a name, up to 100 characters in length) and configuration (the number of wells on the well plate).

*Fig 1. Starting interface for adding a chemical/formulation well plate. There are two required fields: plate name (100 character limit) and plate config (number of wells).*

If you've provided the aforementioned values and are within the character limit for the plate name, then clicking on 'Annotate Plate' should bring you to the next step, where you can enter information about the chemicals in your stock solutions, as shown in Fig 2. Every cell of the table must have a valid value (you may enter 0 for values that are not relevant to you, e.g.: if you're dealing with solids, you won't have a liquid volume to report, so enter 0).

*Fig 2. Chemical plate reagent table. You can add or remove rows, but must have at least one entry (i.e. one row), and all cells must have a value (use 0 if the column is simply not applicable to you for that row).*

You can add however many rows you need for your stock solutions table. Each chemical added in these rows will then be used to generate a formulations table. This is where you can 1) enter information about what's in each well and 2) provide values for your compositions. Once you're finished providing stock solution information, clicking 'Confirm Stocks' will generate the Formulations table (Fig 3) for you to fill out.

*Fig 3. Chemical plate formulations table.*

Your formulations table will expect values for 1) occupied wells and 2) compositions/ratios/descriptor values for your formulations. You can enter values for the occupied wells of your plate using standard plate coordinate notation, i.e.: LETTER#. For example: A1, B2, C3, etc. You can also specify ranges of cells, like A1-D4, or mix and match: A1, B2-E5, F6. After you fill our your formulations table and click 'Confirm Formulations', you will see on your display a diagram of the plate (Fig 4). This diagram color-codes the occupied wells and also provides column and row inputs for you to specify things like gradients, temperature treatments, light exposure, etc. Finally, you can add comments about each well to the well comments fields below the plate.

*Fig 4. Chemical plate well plate diagram.*