User Guide: Dew Point & Bubble Point Calculation

This process helps calculate the **Dew Point and Bubble Point** for different gas compositions. It begins by cleaning the input data in Composition Table.xlsx, removing unwanted rows and checking for unmatched component names. Once cleaned, the script automatically transfers the component names and their normal values into the Dew & Bubble Point Calculation.xlsm file. For each composition (sheet), a separate .xlsm output file is generated. You simply open each file, enter the pressure, and click "Calculate"—the macro then instantly provides the Dew and Bubble Point results.

What You Need:

- ✓ Composition Table.xlsx – This is your input file.
- ✓ Dew & Bubble Point Calculation.xlsm – The macro-enabled calculation file.
- ✓ Python script.

Note: Keep all files in the **same folder**.

Step 1: Clean and Check the Input File

1. Run the **first script**.
   This script will:
   a. Remove rows with "PPM" in **Column C**.
   b. Highlight unmatched component names in **red** in **Column A**, based on a reference list in the target file.
   c. Save the cleaned file as Composition_Table_Processed.xlsx.

2. Open Composition_Table_Processed.xlsx and check:
   a. If any cells in **Column A** are red → correct those names in Composition Table.xlsx.
   b. Then **save it**, and **re-run the script** until there are **no red cells**.

Step 2: Generate Output Files

1. Once all red cells are fixed, run the **second script**.
    This script will:
    a. Copy data from the cleaned source file.
    b. Automatically run macros and calculations using Dew & Bubble Point Calculation.xlsm.
    c. Save one new .xlsm output file **per sheet** (e.g., Sheet1.xlsm, Sheet2.xlsm, etc.).

Manual Input for Pressure

After the files are generated:

- Open each output file (e.g., Sheet1.xlsm).
- ✅ Enter the **pressure** in the required input cell.
- If the pressure is the same across all sheets, you can **enter it once** in the main target file before running the second script.
- ✅ Click the **"Calculate"** button in to get the results.

✅ You're Done!

All output files are now ready with the calculated values.

✅ What You Should Do:

- ✅ Use **only** the provided Excel templates.
- ✅ Make sure Composition Table.xlsx is saved properly before running scripts.
- ✅ Enter pressure values into the target .xlsm output files as needed.

✖ What You Should NOT Do:

- ✖ Do **not** change the column headers or their order.
- ✖ Do **not** modify or delete any macros inside Dew & Bubble Point Calculation.xlsm.

How to Run the Script

1. Right-click in the folder with the scripts and Excel files.
2. Choose **"Open in Terminal"** or **"Open in Command Prompt"**.
3. Type this command and hit Enter:

        python scriptname.py

Replace scriptname.py with the actual file name