

SOP: VWR-224AC Analytical Balance

Purpose: Precisely measure the weight of biochemical reagents.

Location: BHE B8 (main area)

Required PPE: Flame-resistant lab coat; nitrile gloves; safety goggles; long pants; closed toe shoes

Protocol for Use:

1. The instrument will be in sleep mode, so click the “On/Off” button to boot up the system. There may be 30 sec of calibration if the instrument has not been utilized for a while, so please wait until the process is complete.
2. Once the system is initialized and before anything is placed onto the weighing pan, start by pressing the “0/Delete” button to zero the balance. This will ensure that the system is properly reset (**Figure 1**).



Figure 1. The main screen of the VWR-224AC analytical balance after zeroing the system.

3. The default unit of weight is set to “gram [g]”. If another unit is needed, press the “Units/Esc” button to choose the appropriate unit for measurement.
 - a. There are 16 different units of weight to select from but note that each unit has a different degree of scientific accuracy. For example, when in gram, there are four decimal places that the system can accurately quantify.
4. Depending on the amount of biochemical reagent that needs to be weighed, select the appropriate holder (either weighing paper or boat) (**Figure 2**). Place the paper/boat on the weighing pan and then press “T/Insert” to tare the system.
 - a. The weighing boat is used if a small amount of reagent needs to be weighed out and the weighing paper is for a larger amount of reagent. Ask the lab manager or teaching assistant for help if needed.



Figure 2. The tools needed for weighing biochemical reagents.

5. Once everything is set up as needed, use spatulas to slowly add the biochemical reagent. Please use the side doors (slides left to right) to pour the reagent, while minimizing any spills. Always keep the top door closed to minimize dust from entering. Close all the side doors after the appropriate amount of reagent is added.
 - a. If there are any spills on the weighing pan, please use Kimwipes to clean up. Residual reagents outside of the paper/boat can affect the weight reading.
6. Once everything is weighed out, press the “On/Off” button to put the system back into sleep mode. Clean up any remaining spills.
 - a. There are other buttons on this system (e.g. “Mode”, “Cal”, “Function”, etc.) that were not mentioned in this SOP. These functions are not relevant for the purpose of the teaching lab. If there are any questions regarding these functions, please ask the lab manager for more information.

Maintenance Schedule:

With each use: clean any spilled powder with a Kimwipe sprayed with 70% ethanol.

Contact Information:

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Vendor Information: VWR International

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