

Human Immunology Center Core Laboratory

David H. Smith Center for Vaccine Biology and Immunology

Aab Institute of Biomedical Sciences

STANDARD OPERATING PROCEDURE: Operation and Maintenance of the Mettler Toledo B303-S Balance

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Author: Shelley Secor-Socha/

Terry Wightman

Approval: Dr. Sally Quataert

### 1. Purpose/Scope:

The purpose of this procedure is to outline the operation, maintenance and calibration of the Mettler Toledo B303-S Balance located in the Human Immunology Core Laboratory (HIC).

### 2. General Policy:

The HIC will adhere to the specific guidelines recommended by Mettler Toledo for the use and maintenance of the balance. The specific policy will be outline below for use and care of the balance. This will also include the proper documentation indicating that the maintenance recommended has been completed and also tracking of any issues or problems with the balance on the maintenance log worksheet.

### 3. Specific Policy

#### 3.1. Installation of the Balance

3.1.1. Reference the operation manual for the specific installation procedure of the balance.

3.1.1.1. Do not place it in direct sunlight and avoid excessive temperature fluctuations, and drafts.

3.1.1.2. Place in area free of vibrations.

3.1.1.3. Level the balance by adjusting the feet to account for uneven surfaces. The balance is exactly horizontal when the air bubble is in the middle of the level glass. You must adjust the level every time the balance is moved.

3.1.1.4. A Mettler Toledo representative, to adjust to higher and lower elevations, does a calibration with known weights.

#### 3.2. Operation of the Balance

3.2.1. Reference the manual, version from October 2003, for specific operating procedures. This manual will be located in the file for the balance in the drawer labeled "equipment files."

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- 3.2.1.1. Turn the balance on when the lab is opened every morning to allow 60 minutes for the balance to reach the optimum temperature. Turn off balance when all staff are finished using instrument, or at the end of day.
- 3.2.1.2. Press the on key briefly without any container on the balance. When zero is displayed, the balance is ready for operation.
- 3.2.1.3. Tare the instrument by placing the container on the balance. When weight is displayed press the <O/T> key briefly. When the stability detector “o” disappears, the net weight will then be displayed. The tare weight of the weighing pan will be stored in the balance until the <O/T> key is pressed or until the machine is switched off.
- 3.2.1.4. Add the sample to be weighed to the container. You can take the container off of the balance pan as long as you do not hit the <O/T> key. As previously noted the tare weight will be stored in the machine until you hit the <O/T> key or the machine is turned off.

### 3.3. Maintenance of the Balance

#### 3.3.1. After each use.

- 3.3.1.1. There should never be any visible chemicals left after weighing
- 3.3.1.2. Clean area with paintbrush located in the drawer labeled “balance supplies.” Remove weigh pan and brush underneath it and the bench around the area of balance. Wipe up with a cleaning agent compatible with the chemical being removed and with the stainless steel portion of the balance. (ie. no hypochlorite solution). HIC lab personnel suggests the use of distilled H<sub>2</sub>O or 70% ethanol when brushing alone does not effectively clean area. When unsure what cleaning agent to use and for safety precautions reference the specific chemical in the MSDS located in room 2-9905 or on the web at <http://www.safety.rochester.edu/msds.html>.

#### 3.3.2. Quarterly

- 3.3.2.1. Clean area with paintbrush located in the drawer labeled “balance supplies.” Remove weigh pan and brush underneath it and bench around the area of balance. Wipe surfaces with a soft cloth or kimwipes soaked in distilled H<sub>2</sub>O.
- 3.3.2.2. Clean balance with a soft cloth and 70% ethanol as well as surrounding lab bench area.
  - 3.3.2.2. Sign log sheet that is hanging above the balance, when quarterly cleaning is complete. Log sheets when full will be kept in a file in the equipment file drawer. These log sheets should be kept for a minimum of 3 years. Blank log sheets can also be found in the equipment file drawer.

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**3.3.3. Yearly**

3.3.3.1. Annual Maintenance and Calibration is performed by the approved University balance service contractor (Mettler). The technician responsible will contact the current University balance service contractor according to the master schedule for routine maintenance and calibration of the unit on a yearly basis. The master schedule will be located in the equipment maintenance log book along with equipment calibration documentation in the HIC lab drawer labeled “equipment files.” The certification sticker on the front of the balance should be checked prior to each use to insure that the balance calibration has not expired. The master schedule for equipment should be consulted on the first day of each month to insure that all maintenance is scheduled prior to expiration for that month and the beginning of the next.

3.3.3.2. The technician obtains the balance test and calibration documentation from the balance service contractor and signs the log sheet and the master schedule when yearly maintenance is completed

**Reference:**

Operating instructions for Mettler Toledo B-S line of Balances located in the drawer labeled “equipment files” Version from October 2003.

**Attachments:**

Maintenance Log Worksheet

**Revision History**

| Version    | Change | Impact | Justification | Change Date: |
|------------|--------|--------|---------------|--------------|
| HIC-1-0011 | New    |        |               | 10/24/07     |
|            |        |        |               |              |