



Mercury Deposition Network: System Blank Instructions

**ONLY PROCESS AND SUBMIT A SYSTEM BLANK SAMPLE AFTER A WEEK
WITH NO PRECIPITATION AT YOUR SITE**

Step 1: Verify that no precipitation occurred

- ☐ Make sure that no precipitation was measured by the rain gauge.
- ☐ Verify that the collector worked properly. If equipment malfunctioned during the week, please do not process the system blank sample.
- ☐ If a lid opening occurred, ensure that no precipitation was recorded. Explain any lid openings due to humidity, dew or fog in the remarks section (Block 9) of the observer form.

Step 2: Transfer half of the system blank solution into the sample collection bottle

- ☐ Wet the sensor to expose the sample train (funnel/thistle/sample bottle)
- ☐ Always wear laboratory gloves and be careful not to contaminate the sample in any way.
- ☐ Pour 50% of the system blank solution (down to the line marked on the bottle) into the collection funnel. The sample will pass through the funnel and thistle tube, into the collection bottle. Replace the cap on the system blank solution bottle and seal it in its original ziploc bag.
- ☐ Screw the cap onto the sample bottle (which now contains 50% of the transferred system blank solution) and remove it from the collector. Place this sample bottle into a sample bottle bag as normally done with a sample.

Step 3: Fill out the provided MDN Observer Forms (MOFs) for the samples

- A) “System Blank Solution Remainder - DK” (bottle containing the remaining 50% of the original solution NOT poured through the sample train). Fill in the following:
- 1) SITE: Site ID
 - 2) OBSERVER: Operator name and Initials
 - 3) COLLECTION:
 - a. Bottle ID (leave blank)
 - b. Cooler ID
 - c. Bottle ON and OFF Dates and Times (fill these in as if you were collecting a regular sample. These dates/times are needed to account for the sampling interval)
 - 4) SITE OPERATIONS: all equipment should have worked properly during the previous dry week in order to process the system blank sample. Note any special circumstances in the Remarks field.
 - 5) SAMPLE CONDITION: All should be marked “NO”. Note any special circumstances in the Remarks field.
 - 6) OVERFLOW and ENCLOSURE TEMPERATURE: Mark Overflow as “NO”, fill in Max and Min Temps as usual.
 - 7) PRECIPITATION RECORD: Fill in as normal, there should be zero precipitation.
 - 8) SUPPLIES: Circle any supplies that are needed as normal
 - 9) REMARKS: Note any special circumstances as needed

****Add a matching barcode label to the form and the system blank bottle****

B) “MDN Sample Bottle Portion - DF” (Sample bottle that was installed in the collector and now contains half of the system blank solution). Fill in the following:

- 1) SITE: Site ID
- 2) OBSERVER: Operator name and Initials
- 3) COLLECTION:
 - a. Bottle ID (Fill in)
 - b. Cooler ID
 - c. Bottle ON and OFF Dates and Times (fill these in as if you were collecting a regular sample. These dates/times are needed to account for the sampling interval)
- 4) SITE OPERATIONS: all equipment should have worked properly during the previous dry week in order to process the system blank sample. Note any special circumstances in the Remarks field.
- 5) SAMPLE CONDITION: All should be marked “NO”. Note any special circumstances in the Remarks field.
- 6) OVERFLOW and ENCLOSURE TEMPERATURE: Mark Overflow as “NO”, fill in Max and Min Temps as usual.
- 7) PRECIPITATION RECORD: Fill in as normal, there should be zero precipitation.
- 8) SUPPLIES: Circle any supplies that are needed as normal
- 9) REMARKS: Fill in the “Date/Time Processed” on the green label. This is the date and time that the system blank solution was poured into the funnel/thistle/bottle. Note any special circumstances as needed.

****Add a matching barcode label to the form and the MDN sample bottle****

Step 4: Fill out the survey using this link (<https://go.wisc.edu/m44345>) or by scanning the QR code to alert the lab and QA personnel that you have processed the system blank sample (this replaces the post card system that was used in the past).



Step 5: Ship the system blank samples to NADP Sample Receiving.

- ☐ Place both bottles and their respective forms into the cooler (keep the pink copies of the forms for your records)
- ☐ Place dirty glassware in cooler as usual
- ☐ Send cooler back to the lab

NADP SAMPLE RECEIVING
465 Henry Mall
Madison, WI 53706

DO NOT FILL OUT AN ADDITIONAL OBSERVER FORM FOR THE WEEK. ONLY SUBMIT THE 2 OBSERVER FORMS THAT WERE COMPLETED IN STEPS 3 A AND B.

EXPIRED SYSTEM BLANK? If the expiration date on your system blank solution has passed, ship the sample and unused forms back to NADP inside any standard MDN cooler. **Fill out the survey in step 4 above to indicate that no System Bank sample was processed** during the indicated time period. You can write “NOT USED” on the System Blank bottle bag.

Thank you for participating in the System Blank Program. We appreciate your time.
If you have questions please call NADP at 1-800-952-7353 or e-mail: mdn@slh.wisc.edu