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Instructions for Collecting Dust by Vacuum Sampler (qPCR / ERMI)

Vacuum Dust Sampling Procedures for qPCR (ERMI) Analysis.

I. qPCR (ERMI) Dust Sampling Kit:

- Dust Collector (a main holder, a cap on each end, and a filter insert).
- 1 re-sealable bag for the dust collector.
- Sampling Instructions and Chain-of-Custody (CoC) form.
- 1 pair of clean disposable gloves.

II. Equipment & consumables (not provided in kit):

- Vacuum cleaner.
- 1 tape measure.
- Timer, or a clock/watch with a second hand.
- 1 roll of masking tape (or any tape to map out the sampling area).

III. Sampling procedure using the vacuum dust collector:

1. Retrieve the equipment and supplies listed above.
2. Locate the floors of two primary rooms, such as the Common Living Area (CLA) and the Bedroom (BR). (Combining basement or crawl-space dusts with upstairs living-space samples is strongly discouraged.)
3. Wear gloves through all the procedures (optional).
4. In the CLA, locate the sofa or most commonly used chair. Using the tape measure and masking tape, mark a 1 m x 2 m rectangular sampling area on the floor immediately against the selected sofa/chair. If the location cannot accommodate these dimensions, adjust them (aim for a total of 2 square metres) and record the dimensions on the qPCR (ERMI) Sample Log section of the CoC form.
5. Plug in and test the vacuum to ensure it runs properly.
6. Detach the head/nozzle from the vacuum cleaner, carefully remove the caps from both ends of the dust collector (set them aside) and insert it onto the vacuum cleaner. Note: it may fit loosely until the vacuum is turned on; you may wrap a piece of tape between the dust collector and the hose to stop it falling off in use.
7. Turn on the vacuum (the dust collector and hose should fit tightly together). Place the dust collector at one corner and begin timing.
8. Vacuum the sampling area (total 2 square metres) for at least 5 minutes. Check the filter insert for dust accumulation; if too little has accumulated, increase the vacuuming time or expand the area. Note: tilt the dust collector slightly to one side while vacuuming - holding the opening in total contact with the floor blocks airflow and will not collect the sample.

9. At the end of collection in the CLA, hold the dust collector facing up, turn off the vacuum and replace one plug in the end so the dust does not fall out.
10. Move all required equipment to the Bedroom (BR). Locate the bed and repeat Steps 4 to 9: mark a 1 m x 2 m area on the floor immediately against the selected bed, adjusting dimensions if needed.
11. Turn on the vacuum, place the dust collector at one corner and begin timing.
12. Vacuum the sample area (total 2 square metres) for at least 5 minutes, again checking the filter insert and increasing time/area if too little dust has accumulated.
13. At the end of collection in the BR, hold the dust collector facing up, then turn off the vacuum.
14. Replace the plug in the small end of the dust collector, remove it from the hose, turn it so the big side faces up and replace the other plug.
15. Place the capped dust collector into the re-closable bag.
16. Place the dust collector and the CoC form in the re-closable bag and send back to NSJ EnviroSciences at the address on the Chain of Custody form.

IV. Other sampling methods (when a vacuum is not feasible):

If you are unable to use the standard vacuum procedure due to space or other restrictions, please refer to the Instructions for Collecting Dust by Swiffer Cloth.