

Allergen Testing of Food Contact Surfaces Laboratory

Objective:

- Determine the effect of cleaning for reducing an allergen on a food contact surface.

Allergen Notice:

- We will be working with allergens, please notify an instructor if you have any allergies prior to starting the lab activity.

Lab Safety - ATTENTION:

- Participants are required to wear gloves and a lab coat at all times during the laboratory sessions (All safety equipment will be provided).
- Participants must wash their hands when leaving the laboratory.

Materials and Methods:

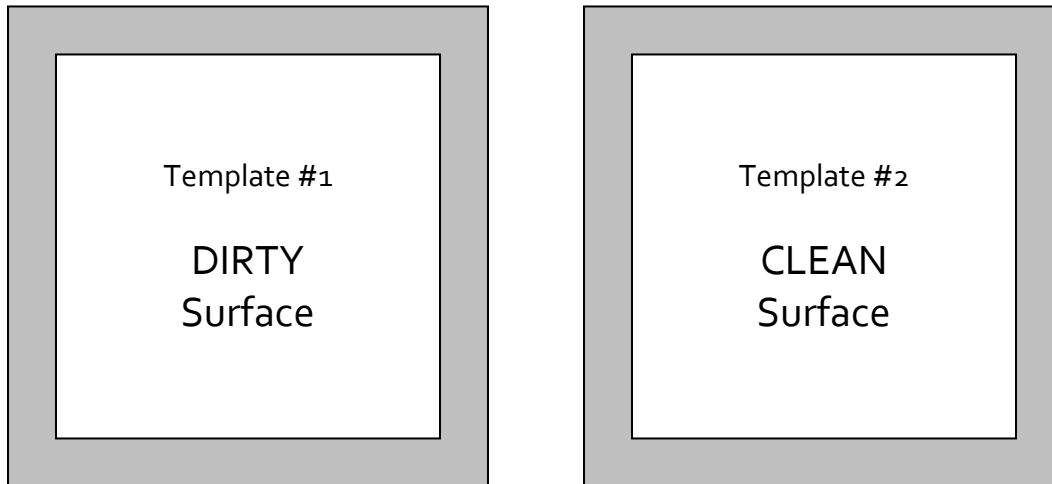
Cleaning stations:

Scrub brush
Soap - Detergent

Materials at each station:

- Contaminated cookie sheet
- 100cm² disposable plastic template (x2)
- Cotton swabs (x2)
- 5ml of extraction solution (tubes in 60°C water bath) (x2)
- Plastic transfer pipettes (x2)
- 1.5ml plastic tubes (x2)
- Allergen test strips (x2)
- Plastic tube rack (for the 1.5ml tubes) and test tube rack

Swabbing Template Diagram



Labeling:

Label the two 1.5 ml sample tubes according to the following example:

Lab Group – Suspected Allergen – Sample

Ex. A – 1 – D

Laboratory Groups		
2:00 – 2:50pm A	3:00 – 3:50pm B	4:00 – 4:50pm C

Suspected Allergens			
1	2	3	4

Samples	
D - Dirty	C - Clean

Procedure:

Reminder: Wear gloves and a lab coat for this experiment

1. Label both 1.5 ml samples tubes
 - a. One for a dirty sample
 - b. One for a clean sample
2. Remove a cotton swab and a 10cm x 10cm template from their wrappers.
3. Place the swabbing template on the cookie sheet treated with the suspected allergens.
4. Open a pre-warmed (60°C) test tube of extraction solution and dip the cotton swab into the solution
 - a. Wet the swab thoroughly by dipping and pressing the swab against the side of the extraction solution tube several times
5. Sample a 100cm² area with the moistened cotton swab by rubbing 10 times left to right and 10 times from top to bottom.
6. Return cotton swab to test tube of extraction solution
 - a. Shake tube for 2 minutes
 - b. Discard swab.
7. Using a transfer pipette, transfer 0.5 ml of the supernatant (liquid) to the respective 1.5 ml sample tube (D – Dirty or C – Clean)
8. Place a test strip, sample end down, into the 1.5 ml sample tube.
 - a. Allow the test strip to develop in the 1.5 ml sample tube for 10 minutes.
 - i. **Positive allergen test** - 2 lines appear on the strip
 - ii. **Negative allergen test** - 1 line appears on the strip.

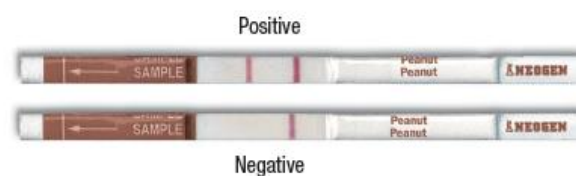


Figure 1: Reveal Peanut Allergen Test Results - Image Courtesy of Neogen

9. Using the brush provided, clean the cookie sheet with soap and water
 - a. Dry the cookie sheet with a clean paper towel
10. Repeat steps 4-8 with a fresh swab, sampling template, and test strip.
11. Record results on Table 1 below.

Special thanks to the Neogen Corporation for providing the Reveal Peanut Allergen Test Kits

Table 1: Allergen testing of surfaces contaminated with various suspected allergens before and after cleaning

Suspected Allergen	Dirty (POS or NEG)	Clean (POS or NEG)	Notes
1			
2			
3			
4			