

Protein Residue Testing for Peanut Proteins with Aqueous Ozone from CleanCore Solutions

Aqueous Ozone from CleanCore Solutions will remove protein residue from surfaces. CleanCore contracted with a Third-Party testing and environmental firm (Wilcox EVS Solutions) to conduct the testing to prove the effectiveness of Aqueous Ozone.

For this test, four different peanut butters were used as the protein of concern. Hygiene PRO-Clean swabs were used to quickly and accurately monitor the cleanliness of surfaces by detecting protein residues left behind after cleaning.



Step 1 was validating that the swabs worked. Three swabs were inoculated with peanut butter and mixing it with the reagent to see it turn purple. Three swabs were also set up as controls and were not exposed to any peanut protein so the swab should be light green, this was exactly what happened so testing could proceed.

The testing was conducted on two substrates, stainless steel and Formica. Four different peanut butters were used to see any difference in the viscosity of the oils and butters that may change the cleaning / removal of the butter and proteins when cleaned.

The testing process that was used:

- Placed 1gm of each peanut butter on 3 stainless steel areas and 3 Formica areas
- Allowed peanut butter to sit for 5 minutes to adhere to the surface
- A swab of each surface was taken, and all swabs immediately turned purple
- Sprayed Aqueous Ozone of ~ 1.5 ppm onto the peanut inoculated surfaces until wet, ~ 3 sec - the solution sat for 10 seconds
- The solution and peanut butter were wiped with a clean microfiber cloth
- The surfaces were re-swabbed, and the color of the swabs was recorded.

Peanut Butters	Market Basket smooth PB		Jiffy Smooth Natural		Skippy Super Chunky Natural		Wegmans self-grind, just nuts.	
	dirty	clean	dirty	clean	dirty	clean	dirty	clean
Substrates								
stainless steel								
1	P	LG	P	LG	P	LG	P	LG
2	P	LG	P	LG	P	LG	P	LG
3	P	LG	P	LG	P	LG	P	LG
Formica								
1	P	LG	P	LG	P	LG	P	LG
2	P	LG	P	LG	P	LG	P	LG
3	P	LG	P	LG	P	LG	P	LG

Conclusion

It is the determination of Wilcox EVS Solutions that aqueous ozone produced by CleanCore Solutions equipment completely removes peanut protein residues on surfaces following the cleaning process performed in the testing. CleanCore's Aqueous Ozone solution is appropriate and recommended for use in places where it is important to remove peanut protein residue when cleaning hard surfaces.