



Neutralizing Solution Comparison

Compendial Neutralizing Media

Neutralizing Solution	Neogen® Wide Spectrum Neutralizer ^{1,2}	Lethen Broth ^{1,3,4,5,6,7,8}	Neutralizing Buffer ^{1,3,7,8,9}	Dey-Engley (D/E) Neutralizing Broth ^{1,2,7,8,11,12}	Buffered Peptone Water (BPW) ^{1,2,7,8}
Effective neutralization of quaternary ammonium (quats) compounds	✓	✓	✓	✓	✗
Effective neutralization of high acid cleaners	✓	✓	✗	✓	✗
Effective neutralization of chlorine-based sanitizers	✓	✓	✓	✓	✗
Effective neutralization of hydrogen peroxide and peroxyacetic acid-based sanitizers	✓	✗	✗	✓	✗
Free from known allergenic components*	✓	?	✓	?	?
Free from known PCR-inhibitors	✓	✓	✗	✓	✓
Free from animal derived materials (ADM)	✓	✗	✓	✗	✗
Free from Genetically Modified Organism (GMO)-based components*	✓	✓	?	?	?
Maximum sample hold time before processing (at 2-8°C)	Up to 96 hours	Up to 48 hours	Up to 48 hours	Up to 48 hours	Up to 48 hours
Room temperature storage (15-25°C)	Up to 3 months	12 months	12 months	✗	12 months
Designed for compatibility with Petrifilm™ Plates	✓	✓	✗	✗	✓
Designed for compatibility with Molecular Detection System	✓	✓	✓ <i>dilution necessary</i>	✓	✓
AOAC® Performance Tested Methods SM Program certified	✓ <i>Certificate #022104</i>	✗	✗	✗	✗

1 Internal Neogen® data.

2 Performance Tested MethodsSM. Program certificate number 022104. AOAC Research Institute.

3 Laboratory procedures for the microbiological analysis of foods. Vol 3. The compendium of analytical methods. MFLP-41: Environmental sampling for the detection of microorganisms. 2010.

Available at: <https://www.canada.ca/en/health-canada/services/food-nutrition/research-programs-analytical-methods/analytical-methods/compendium-methods/laboratory-procedures-microbiological-analysis-foods-compendium-analytical-methods.html>.

4 Lethen broth: A neutralizing solution for iodine, chlorine, quaternary ammonium and acid sanitizers. 3M Food Safety. 1985.

5 Sample handling sponges – new sponge qualification performance summary. TB.119.00. 3M Food Safety. 2012.

6 Environmental monitoring procedures. 3M Food Safety. 2018. Available at: <https://multimedia.3m.com/mws/media/2411110/environmental-monitoring-procedures-article.pdf>

7 Ellerbroek, L., John, R., Schrader, C., and Schielke, A. (2012). PCR inhibitors – occurrence, properties, and removal. Journal for Applied Microbiology. 1365-2672.05384.x.

8 Jersek, B., Klančnik, A., Kovac, M., Piskernik, S., and Toplak, N. (2012). PCR in food analysis, polymerase chain reaction, Patricia Hernandez-Rodriguez and Arlen Patricia Ramirez Gomez. IntechOpen, DOI: 10.5772/38551. Available at: <http://www.intechopen.com/books/polymerase-chain-reaction/pcr-in-food-analysis>

9 3M Molecular Detection Assay 2 - Salmonella, Listeria, Listeria monocytogenes, E. coli O157 (including H7), Cronobacter, Campylobacter, STEC Gene Screen (stx), STEC Gene Screen (stx and eae). Product instructions. 3M Food Safety.

10 Ignatovich, I., Leishman, O., Podtburg, T., Steinagel, S. (2017). Comparison of neutralizing buffered peptone water and Dey/Engley Broth in the recovery of Salmonella enterica from broiler carcass rinsates. J Food Protection. 80 (Supplement A): 163.

11 Chen, J., Park, Y.J. (2011). Mitigating the antimicrobial activities of selected organic acids and commercial sanitizers with various neutralizing agents. Journal of Food Protection. 74: 820-825. Available at: <https://doi.org/10.4315/0362-028X.JFP-10-447>.

*Dependent upon raw material inputs; verify with manufacturer.