



A FREE GUIDE

HOW TO CHOOSE A COLLECTION BROTH/BUFFER

Choosing the right collection broth/buffer for an environmental sampling sponge or swab is critical to ensuring accurate and reliable microbiological testing results. Here are some key factors to consider when selecting a collection broth/buffer:

1 Microorganism Recovery

Will it recover the full range of microorganisms present on the surface being sampled?

2 Neutralization

Can it neutralize any antimicrobial agents or sanitizers that may be present on the surface being sampled?

3 Preservation

Does it preserve the viability and integrity of the microorganisms being collected?

4 Applicability

Is it compatible with the specific testing methods being used?

FREE Guides collect them all

Food Safety Series

HOW TO CHOOSE A:
COLLECTION
BROTH/BUFFER

HOW TO CHOOSE A:
SAMPLING DEVICE
SPONGE VS SWAB

A CRITICAL CHOICE:
SAMPLING MATERIAL
POLYURETHANE VS CELLULOSE

Check List

Ask these questions

-  **How long can samples be held?**

While it's ideal to test samples within 24 hours of collection, there are times when that's not possible. The ability to preserve microbial populations and maintain organism viability for an extended time can counteract any delays in delivering samples to laboratory.
-  **Which sanitizers does it neutralize?**

Make sure the collection solution can neutralize a comprehensive array of different types of sanitizers at low to high concentrations, including: quats, free chlorine, and peroxyacetic acid. It should also sufficiently buffer low pH (high acid) sanitizers.
-  **How well preserved are microorganisms?**

Microorganisms found in environmental samples are often stressed or injured. The collection broth/buffer must provide an environment that allows these organisms to recover to prevent false negative results.
-  **Which tests are compatible?**

Components in some collection solutions may not be compatible with certain rapid pathogen detection systems and/or enumeration methods, causing false positive or failed/inconclusive test results.
-  **Was it made for Food Safety?**

All ingredients in a collection broth/buffer should be safe for use in a food production environment. Special considerations may include allergenic content as well as Kosher and Halal processor requirements.



Compare Collection Broths-Buffers



Consult with a microbiologist or testing professional to determine the most appropriate collection broth/buffer for your specific testing needs. Below are the broths/buffers most commonly used for *Salmonella* and *Listeria* testing.



	HiCap Neutralizing Broth	Neutralizing Buffer	Letheen Broth	D/E Neutralizing Broth
Maintain 72 hours viability of microorganisms	High	Weak	Weak	Weak
Neutralizes Quaternary Ammonium ¹	High	Moderate	Weak	High
Neutralizes Free Chlorine	High	Weak	Moderate	High
Neutralizes Peroxyacetic Acid	High	Weak	Weak	High
Ability to buffer low pH (high acid) sanitizers ²	High	Weak	Moderate	High
All components compatible with 3M Petrifilm™ ³	Yes	No	Yes	No
Compatible with molecular detection assays	Yes	No ⁴	Yes	Yes
All components listed in EAFUS ⁵ as acceptable for use in food	Yes	No	Yes	No
All components are identified as non-allergenic	Yes	Unknown ⁶	Unknown ⁷	No ⁸
No meat peptones or extracts	Yes ⁹	Yes	No	No
Stable storage at ambient temperature 2-30°C	Yes	Yes	Yes ¹⁰	No ¹¹

1) Technical data are available upon request. 2) Technical data are available upon request. 3) 3M and Petrifilm are trademarks of 3M, St. Paul, MN. 3M recommends avoiding solutions that contain bisulfite, citrate and thiosulfate when working with Petrifilm. 4) Possibly due to the presence of aryl sulfonate complex in the neutralizing buffer. 5) EAFUS - Everything Added to Food in the U.S. (U.S.FDA) 6) Contains aryl sulfonate complex of unknown allergenicity. 7) Letheen broth contains lecithin. Lecithin used in microbiological culture media is typically derived from soy or egg. 8) Contains peptone from milk and lecithin, which is typically derived from soy or egg. 9) Includes vegetable peptones (not digested with animal-derived enzymes) and yeast extract. 10) Some suppliers of letheen broth specify refrigerated storage. 11) D/E shows pH instability with ambient storage.

HICAP™

NEUTRALIZING BROTH

The 1st Collection Broth Made for Food Safety



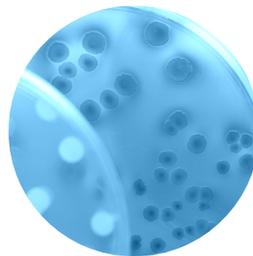
HiCap™ (High Capacity) Neutralizing Broth is the first collection broth developed *specifically* for use in food production facilities. All HiCap ingredients are acceptable for use in food. It is non-allergenic and contains no components of animal origin. HiCap has been proven to help recover and maintain the viability of injured microorganisms for up to 72 hours, providing the time necessary to deliver samples to the lab for testing. It has also demonstrated the ability to effectively neutralize a broad array of different sanitizers across a wide range of concentrations, helping to ensure accurate detection of the microorganisms present in the manufacturing environment.



White Paper

Collection Broths for
Environmental Monitoring

[DOWNLOAD](#)



Comparison Study

Collection broth's/buffer's
ability to recover and
maintain viability of
Salmonella and Listeria

[DOWNLOAD](#)



FDA Study

HiCap Neutralizing Broth:
neutralization of sanitizers
and recovery of Listeria

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