

# Easy Task Shelf Life Stability

The EasyTask® line of wipers offers consumers the flexibility to prepare a custom, pre-moistened wipe containing a liquid that best fits their application whether cleaning or disinfecting. As with any nonwoven application, there are variables which affect the shelf life of the product; this includes such factors as:

- Saturation level of the substrate
- Storage conditions
- Wipe substrate
- Chemical basis of the saturation liquid

In an effort to provide our customers with the most accurate information to guide best performance, the EasyTask® Spunlace Wipers N-ETA100CZGW and the EasyTask® Deluxe Wipers N-ETF310QZGW were tested for liquid interaction and shelf life using liquids representing a water-based cleaning solution, quaternary based disinfectant, as well as a 5000ppm peroxide based solution.



**N-ETA100CZGW**

50/50 Polyester, Rayon Fiber



**N-ETF310QZGW**

54/46 Woodpulp, Polyester Fiber

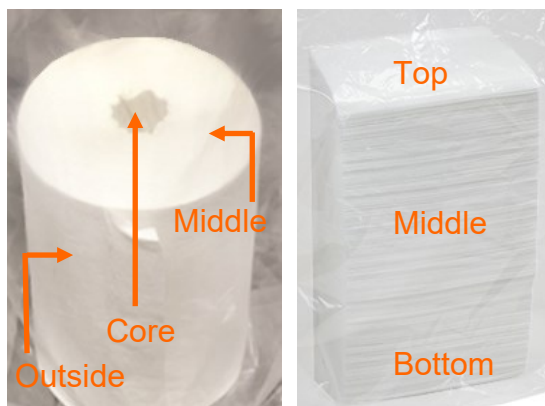
# Water-Based Cleaning Solution

A trend throughout the household and institutional cleaning market is alternative

preservation or preservative-free technologies. In order to represent this liquid category, tap water was used to saturate the EasyTask® wipes.

## Method

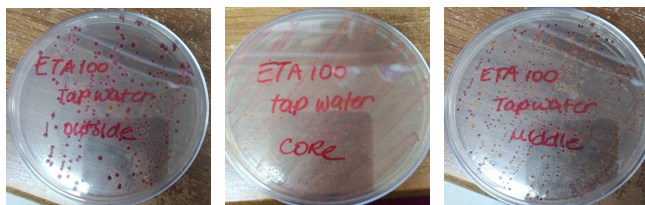
- 1) 64 fluid ounces of tap water were used to saturate the wipes in accordance with the recommended fill of 1/2 gallon.
- 2) Wipes were sealed in the supplied bag and placed in an incubator under 35 C conditions for 24 hours.
- 3) After initial incubation, the wipes were swabbed in 3 primary locations:
- 4) The swabs were plated on nutrient agar supplemented with triphenyl tetrazolium chloride (TTC).
- 5) Following incubation, the plates were analyzed and colonies were quantified, where applicable.
- 6) The swab cycle was repeated for 6 cycles or until contamination was present in all 3 locations.



## Results

**N-ETA100CZGW:** Exactly 7 days after saturation, all swab points were positive for microbial growth. Swab points were consistently positive, with no one point indicating positive growth before the other. There was a variance, however in the degree of microbial growth at certain swab points

### ETA Microbial Results



Microbial Count (cfu/mL)			
	Outside	Middle	Core
ETA	~158	~416	~247
<b>Recommended shelf life of 7 days</b>			

### ETF Microbial Results



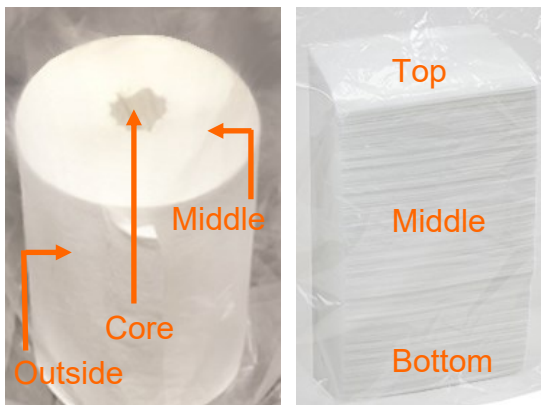
**N-ETF310QZGW:** Exactly 14 days after saturation, all swab points were positive for microbial growth. Swab points were consistently positive, with no one point indicating positive growth before the other. There was a variance however, in the degree of microbial growth at certain swab points.

Microbial Count (cfu/mL)			
	Top	Middle	Bottom
ETF	~154	~400	~258
<b>Recommended shelf life of 14 days</b>			

**Quaternary Based Disinfectant** The importance of sanitation and disinfection is at the forefront around the world. One of the common classes of active ingredients used in antimicrobial formulations is quaternary ammonium compounds, commonly known as “quats”. The solution used, relied on a blend of quat based compounds known as ADBAC/ADEBAC which are considered the “workhorses” of quat technology.

## Method

- 1) 64 fluid ounces of solution were used to saturate the wipes in accordance with the recommended fill of 1/2 gallon.
- 2) Wipes were sealed in the supplied bag and placed in an incubator under 35 C conditions for 24 hours.
- 3) After initial incubation, the wipes were swabbed in 3 primary locations:
- 4) The swabs were plated on nutrient agar supplemented with triphenyl tetrazolium chloride (TTC).
- 5) Following incubation, the plates were analyzed and colonies were quantified, where applicable.
- 6) The swab cycle was repeated for 6 cycles or until contamination was present in all 3 locations.



## Results

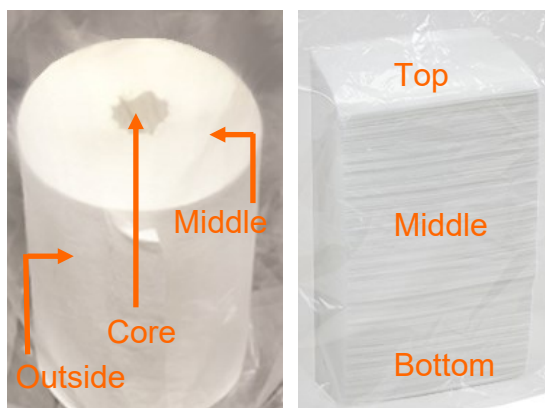
After 14 days of incubation, there was no microbial growth present at any swab point on either wipe.

**The recommended shelf life for quaternary based solutions would be 3-4 weeks total.**

**Peroxide Based Solution** Hydrogen peroxide is a wonderful multi-purpose active ingredient that exhibits oxidizing stain removal while also having antimicrobial abilities. Hydrogen peroxide, which is composed of 2 parts hydrogen and 2 parts oxygen, has the potential to react with certain substrates. This reaction breaks down the peroxide molecule into water and oxygen, leading to decreased performance and potential packaging instability including bag/canister expansion. One of the most common peroxide concentrations available in a ready-to-use product is 5000ppm which is the concentration used in this study.

## Method

- 1) 64 fluid ounces of solution were used to saturate the wipes in accordance with the recommended fill of 1/2 gallon.
- 2) Wipes were sealed in the supplied bag and placed in an incubator under 35 C conditions for 24 hours.
- 3) After initial incubation, the wipes were swabbed in 3 primary locations:
  - 4) The swabs were plated on nutrient agar supplemented with triphenyl tetrazolium chloride (TTC).
  - 5) Following incubation, the plates were analyzed and colonies were quantified, where applicable.
  - 6) The swab cycle was repeated for 6 cycles or until contamination was present in all 3 locations.
  - 7) Following each swab cycle, liquid was aseptically extracted from each swab point for peroxide ppm testing in accordance with the instructions using Bartovation Peroxide Testing Strips.



## Results

### ETA

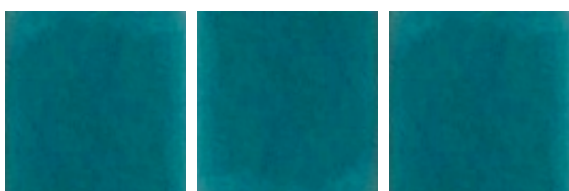


Day 7

Day 9

Day 11

### ETF



Day 13

Day 15

Day 17

**N-ETA100CZGW:** None of the 3 swab points showed microbial growth after 17 days in testing. On day 11, the peroxide ppm dropped from 5,000ppm to 2,000ppm.

**Recommended shelf life of 10 days.**

**N-ETF310QZGW:** None of the 3 swab points showed microbial growth after 17 days in testing. At the 17 day point, the ppm of the extracted liquid at all 3 points remained at 5,000ppm.

**Recommended shelf life of 3-4 weeks total.**

### Bartovation Peroxide PPM Reference Standard

