



## Icon Lifesaver Ltd

Icon Technology Systems Ltd purchased the assets of Lifesaver Systems Ltd (Stock, Manufacturing tools, Intellectual property and other physical assets) from the administrators of Lifesaver Systems Ltd and is registered as: Icon Lifesaver Ltd.

Icon Lifesaver's focus is to ensure LIFESAVER products deliver clean drinking water as specified by the microbiological requirements of NSF / EPA guidelines. Products are verified by an Independent test house.

Icon Lifesaver Ltd did not purchase the contracts of the business and therefore it is not responsible for any previous contracts held with Lifesaver Systems Ltd.

## Microbiological Testing

Testing conducted by Icon Lifesaver Ltd concludes that all Icon Lifesaver products meet an adaption of NSF Protocol 231 based on recommendations of the U.S. Environmental Protection Agency (EPA). This states that Icon Lifesaver bottles filter out Bacteria to a minimum of Log 6 (99.9999%), Viruses to a minimum of Log 4 (99.99%) and Cysts to a minimum of Log 3 (99.9%) from water. Icon Lifesaver Ltd is in the process of finalising test reports for the jerrycan, cube and C2, these reports will become available in 2016.

## NSF Requirements

The National Sanitation Foundation (NSF) is an independent, accredited organisation that test and certify products and systems based on recommendations of the U.S. Environmental Protection Agency (EPA). Recommendations of the 1987 EPA Guide Standard and Protocol for Testing Microbiological Water Purifiers state units must be tested and demonstrated to meet the microbiological reduction requirements of:

- Bacteria – Log 6 (99.9999% removal)
- Virus – Log 4 (99.99% removal)
- Cysts – Log 3 (99.9% removal)

Icon Lifesaver's experimental set up and challenge of the Lifesaver product is designed to evaluate the filters microbiological contaminant removal efficacy. The contaminant species and water parameters were based on an adaption of NSF/ANSI P231. This involves putting raoultella terrigena (bacteria), MS2 bacteriophage (virus), and 3.0 micron fluorescent microspheres (cysts) in specifically measured quantities through the filter. Results are gathered by measuring the microbiological contents of the effluent from the filter throughout two separate tests with the following water characteristics.

Standard Test: Microbiologically spiked tap water

Stressed Test: Low temperature, high PH, high TOC, high TDS, high turbidity, microbiologically spiked water (imitating sewage-contaminated river water)

## Why is this type of testing important?

Passing the test only using standard spiked tap water may mean manufacturers can claim their filter 'meets' the microbiological reduction requirements of NSF/ANSI P231. However this water does not stress the filter like a user may do when taking water from a remote environment with un-developed sewage and waste infrastructure for example.

The Stressed Test should be carried out in addition to the Standard Test, and is designed by experts to mimic the unsavory water users may have to drink in such an environment. Users need to know if their water filter still performs using high PH, low temperature turbid water.

## What do Icon Lifesaver products do?

Icon Lifesaver products are microbiological water filters which use ultra filtration technology to filter out viruses, bacteria and cysts. Icon Lifesaver technology filters out bacteria to a minimum of Log 6 (99.9999%), Viruses to a minimum of Log 4 (99.99%) and Cysts to a minimum of Log 3 (99.9%). \*

\* Based on Biological Consulting Services (BCS) test issued January 5<sup>th</sup> 2016.

*Information contained within this document is provided as advisory based on testing and the best knowledge of Icon Lifesaver Ltd at the time of publication.*

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