



DEPARTMENT OF THE ARMY
US ARMY PUBLIC HEALTH CENTER
BUILDING 5158
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ABERDEEN PROVING GROUND MARYLAND 21010-5403

Field Water Branch

December 21, 2018

Mr. Joe Lovegrove
Icon LifeSaver® Ltd.
Hall Chase, London Road
Marks Tey, Colchester
Co6 1EH, UK

Dear Mr. Lovegrove:

The U.S. Army Public Health Center (APHC) is designated as the Government Review Agency (GRA) for NSF International Protocol P248 *Military Operations Microbiological Water Purifiers* (2012, Protocol P248). As such, my staff reviewed the results of testing for the LifeSaver® Jerrycan 20,000 L, reported by Biological Consulting Services (BCS) of North Florida, Inc. in "NSF P248 Efficacy Test Study of the Provided ICON LifeSaver Jerrycan Filter Type 20K", dated 28 August 2018.

The results from testing, summarized in the Table, demonstrated that the LifeSaver® Jerrycan 20,000 L was capable of reducing waterborne microbial pathogens in accordance with the requirements of Protocol P248 for the approved Purifier Specific Test Plan-specified capacity of 5000 liters (L) [1326 gallons (gal)], plus a clogging sample point, for a total of 5300 L (1400 gal) tested. No filter replacements were required.

Table. LifeSaver Jerrycan Average Log₁₀ Reduction of Waterborne Pathogens.

Pathogen	Required Log ₁₀ Reduction	Average Log ₁₀ Reduction	Range Log ₁₀ Reduction
<i>Escherichia coli</i>	6	> 6.68	>6.59 to >6.77
MS2 Coliphage	4	5.19	4.69 to 5.71
fr Coliphage	4	4.74	4.29 to >5.00
<i>Cryptosporidium parvum</i> ⁺	3	3.84	>3.78 to >3.87

⁺ Tested as 3.0 µm microspheres

Use of trademarked names does not imply endorsement by the U.S. Army but is intended only to assist in identification of a specific product.

The three test units were operated for about 1.5 to 4 hours per day [~560 L (~150 gal) per day] over a period of nine flowing and two stagnation days at flow rates ranging from 0.7 to 1.7 gal per minute. The system design flowrate is 1.1 gal per minute. In addition to the microbial reduction performance summarized above, the test units consistently reduced turbidity to below one nephelometric turbidity unit.

To simplify testing, the system was pressurized externally using compressed air to force water through the filter. The pressure tested was consistent with that created when manually pressurizing the system using the device pump and therefore created an appropriate challenge to demonstrate filter microbiological reduction efficacy. Testing did not evaluate the manual pump for reliability.

The APHC reviewed all materials that contact water and identified no health risks from chemical leaching. A Toxicity Clearance was granted on November 27, 2018.

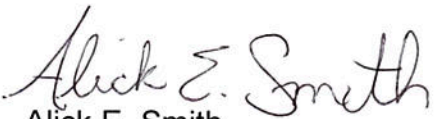
In accordance with Protocol P248, compliance may be granted for identical products that are scaled one third to three times the product tested. The LifeSaver Jerrycan 10,000 L and 15,000 L were confirmed by the manufacturer to be identical in all ways to the Jerrycan 20,000 L except for membrane surface area, and therefore are included as compliant with Protocol P248 under this Letter of Compliance. Based on membrane surface area, the expected Protocol P248 capacity for the LifeSaver Jerrycan 10,000 L is 3400 L (900 gal) and for the LifeSaver Jerrycan 15,000 L is 4200 L (1100 gal).

This letter serves as congratulations and notification that the LifeSaver Jerrycan 10,000 L, 15,000 L, and 20,000 L are GRA-compliant for microbial pathogen reduction [*Escherichia coli*, MS2, fr, and *Cryptosporidium parvum* (tested as 3.0µm microspheres)] and material safety in accordance with the requirements of NSF Protocol P248 Appendix B. This letter does not grant NSF International Protocol P248 certification or permission to use the NSF Mark.

Please note that changes made to the device materials or treatment process must be submitted to the GRA for review and approval prior to being considered included under this Letter of Compliance.

Please direct questions to the APHC Field Water Branch at 410-436-3919 or usarmy.apg.medcom-aphc.mbx.dehe-water-supply@mail.mil.

Sincerely,

A handwritten signature in black ink that reads "Alick E. Smith". The signature is written in a cursive style with a large, prominent "A" and "S".

Alick E. Smith

Lieutenant Colonel, U.S. Army
Director, Environmental Health Sciences
and Engineering