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Product Testing: LifeStraw and LifeStraw Go

LifeStraw S.A. recognizes the importance of research and providing evidence for claims regarding the performance and durability of all our products.

Packaging materials and claims are validated and verified using standard testing protocols set by the United States Environmental Protection Agency (“US EPA”), NSF Laboratories and ASTM International Water Testing Standards for water filters.

LifeStraw S.A. also performs regular testing on all products through its own ISO 17025 certified laboratory in Hanoi, Vietnam¹ and independent laboratories for additional testing. Lab results can be shared upon request.

LifeStraw and LifeStraw Go

LifeStraw and LifeStraw Go use hollow fiber membrane technology with a pore size of 0.2 microns. This technology removes water pathogens, including bacteria and protozoa and reduces water turbidity, by size exclusion.

In accordance with US EPA and NSF protocols, LifeStraw filters are tested against high levels of microbial contaminants (enteric bacteria and protozoan parasites) which represent the “worst case” water quality scenario. Test results that are used to validate product claims are therefore presented in a conservative manner.

¹ Water Laboratory, accredited No. VILAS 751, accredited by Board of accreditation of Vietnam – a member of APLAC/ILAC MRA


Summary of results

Product	Claim	Testing entity	Testing protocol	Results
LifeStraw	1000 liters	(1) Water lab	US EPA 1987/NSF P231	Lifetime achieved - 1500L. Quality of the filtered water exceeded requirements of US EPA/NSF P231 standards: + E.coli bacteria removal > Log 8.5 + protozoan cyst removal: > Log 4.1 + average turbidity of filtered water: 0.2 NTU
	Meets US EPA/NSF P231 standards along its lifetime: Removes 99.9999% bacteria (Log 6 reduction) Removes 99.9% protozoa (Log 3 reduction) Turbidity removal to <0.5 NTU	(2) University of Arizona		Lifetime achieved- 1625 L. Quality of the filtered water exceeded requirements of US EPA/NSF P231 standards: + average E.coli bacteria removal > log 7.3 + protozoan cyst removal: > log 3.9 + average turbidity of filtered water: 0.4 NTU
	Meets US EPA/NSF standards: Removes 99.9999% (log 6) bacteria Removes 99.9% (log 3) protozoa Turbidity removal to <0.5 NTU	Aquadiagnostics laboratory, India	NSF P248	LifeStraw met USEPA/NSF standards: + E.coli bacteria removal > log 6 + protozoan cyst removal: > log 4 + turbidity of filtered water: <0.5 NTU
	0.2 micron pore size	(1) Para membranes	SEM analysis	Absolute membrane pore size – 0.2micron
		2) The Korea institute of industrial technology	ASTM F316/automated pemporometer	Mean flow pore diameter of the membrane - 0.14 micron
	Durable plastic materials	Water lab/HQTS QAI china/ATLAS lab USA	Internal protocol based on ASTM standard methods	LifeStraw withstood extreme transportation conditions (vibrations, drops) and worked well under extreme weather conditions (hot and humid) without impacts on functionality

LifeStraw Go	1000 liters			LifeStraw Go lifetime -1000L:
	Meets US EPA/NSF P231 standards along its lifetime: Removes 99.9999% bacteria Removes 99.9% protozoa Turbidity removal to <0.5 NTU	Water lab	US EPA 1987/NSF P231	Quality of the filtered water exceeded requirements of US EPA/NSF: + <i>E.coli</i> bacteria removal: >log 7.6 + protozoan cyst removal: > log 4.2 + average turbidity of filtered water was 0.2 NTU
	Meets US EPA standards: Removes 99.9999% bacteria Removes 99.9% protozoa Turbidity removal to <0.5 NTU	Aquadiagnostics laboratory, India	NSF P248	Tested unit of LifeStraw Go met US EPA/NSF standards: + <i>E.coli</i> bacteria removal > log 6 + protozoan cyst removal: > log 4 + turbidity of filtered water: <0.5 NTU
	Durable plastic materials	Water lab	Internal protocol based on ASTM standard methods	LifeStraw Go withstood extreme durability tests conditions (repeated opening and closing between cap and cartridge, cap and bottle a, drops) and worked well under extreme weather conditions (hot and humid) without any impacts on functionality.
	BPA free (1) Sensorial and taste	SGS HongKong	LFGB standard of Germany	LifeStraw Go passed sensorial examination odor and taste test - LFGB standard of Germany.
	BPA free: (2) BPA content of plastic materials	SGS Korea/SGS India	Inhouse/solvent extraction	Presence of BPA content was NOT detected in all the components of LifeStraw Go (membrane, pipe, bottle, mouthpiece, valves, adaptors, caps, O-rings, connectors, net).
0.2 micron pore size			Results are the same as the above reported LifeStraw pore size as both are using the same membrane.	

Sincerely,

LifeStraw S.A.



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