



N.I.R LABORATORY Pvt. Ltd



(Formerly Known as Neon Industrial Testing & Research Laboratory)

An ISO 9001 : 2015, ISO 14001 : 2015, ISO 45001 : 2018 Certified

Laboratory : 205 A-B, Rajpura, Mawana Road, Near Subhash Inter College Meerut

Mobile : 8218221131, 8449335841, Website : www.nirlaboratory.in, E-mail : nirlaboratory@gmail.com

TEST CERTIFICATE

Report No.: ATRA20241024-12	 Website	 NABL Certificate TC-9175
Date of Issue: 24.10.2024		
Report Issued to - SAXON FLUID SEALING DEVICES		

SAMPLE PARTICULARS

Name of Samples: Bottle with Filters and without filters	Test Start: 09.10.2024
Sample Marked As: Bottle	Test Completed: 28.10.2024
Brand Name - FLLEXIBOT	Sample Qty: 2 Pack
Sampling done by: Client	Date of sample receipt: 09.10.2024
Description of Sample - Pink color Bottle (with filters)	

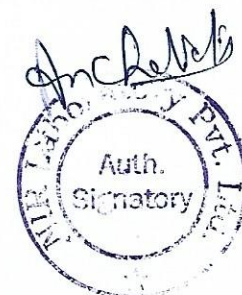
Test Details and Methodology

The product, a water bottle equipped with a specialized filtration mechanism, underwent rigorous testing to evaluate its effectiveness in removing microorganisms during regular use. This evaluation aimed to verify how efficiently the filtration process could reduce harmful microorganisms, making the water safer for consumption. To set up the experiment, standard drinking water that met IS 10500 quality guidelines was used as the base medium. This water was then artificially "spiked" with specific microorganisms to predetermined concentrations to simulate real-world contamination scenarios. This spiked water was subsequently placed in the bottle and passed through its built-in filter system under controlled laboratory conditions.

The water filtered through the bottle was then tested for microbial presence, and results were recorded in terms of log reductions, which is a measure of the decrease in the number of microorganisms after filtration. The significant log reductions observed provided clear evidence of the bottle's microbial reduction capabilities. In contrast, when the same spiked water was tested without passing it through the filter, no log reduction was observed, underscoring the crucial role of the bottle's filtration system in microorganism removal.

The testing was conducted using a qualitative in-house methodology developed to ensure reliable and consistent results. This method focused on assessing the bottle's performance without directly handling reference standards for specific microbial strains, as standard protocols were followed to ensure safety and accuracy. The findings from this controlled test indicate that the bottle's filtration system is highly effective in reducing microbial content, making it a viable and practical option for daily use to enhance water safety and quality.

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Report Summary Data for Sample Bottle (Having filters)

Efficacy Percentage Log Reduction (Overall) With the use of filters in bottle	Organisms	Sample Efficiency (Overall) With the use of filters in bottle	Remarks	Percentage Log Reduction With the use of filters in bottle	Individual Log Reduction (With the use of filters in bottle)
BACTERIA (Removes 99.9999%)	Brucella melitensis	✓	Passes the Test	>6	99.9999%
	Campylobacter jejuni	✓	Passes the Test	>6	99.9999%
	pasteurella tularensis	✓	Passes the Test	>6	99.9999%
	Pseudomonas aeruginosa	✓	Passes the Test	>6	99.9999%
	Shigella	✓	Passes the Test	>6	99.9999%
	Staphylococcus Aureus	✓	Passes the Test	>6	99.9999%
	Vibrio Cholera	✓	Passes the Test	>6	99.9999%
	Vibrio parahaemolyticus	✓	Passes the Test	>6	99.9999%
	Yersinia enterocolitica	✓	Passes the Test	>6	99.9999%
	Yersinia pestis	✓	Passes the Test	>6	99.9999%
	Enteropathogenic E.coli	✓	Passes the Test	>6	99.9999%
	Haemophilus influenzae	✓	Passes the Test	>6	99.9999%
	Klebsiella pneumoniae	✓	Passes the Test	>6	99.9999%
	Legionella pneumophila	✓	Passes the Test	>6	99.9999%
	Mycobacterium Tuberculosis	✓	Passes the Test	>6	99.9999%
	Mycoplasma pneumoniae	✓	Passes the Test	>6	99.9999%
	Pseudomonas pseudomallei	✓	Passes the Test	>6	99.9999%
	Salmonella hirschfeldii	✓	Passes the Test	>6	99.9999%
	Salmonella typhimurium	✓	Passes the Test	>6	99.9999%
	Salmonella typhosa	✓	Passes the Test	>6	99.9999%
Shigella dysenteriae	✓	Passes the Test	>6	99.9999%	
Streptococcus pneumoniae	✓	Passes the Test	>6	99.9999%	
Streptococcus pyogenes	✓	Passes the Test	>6	99.9999%	





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PARASITES (Removes 99.9%)	Ascario lumbricoides	✓	Passes the Test	3	99.9%
	Cryptosporidium	✓	Passes the Test	3	99.9%
	Entamoeba	✓	Passes the Test	3	99.9%
	Giardia Lamblia	✓	Passes the Test	3	99.9%
	naegleria gruberi	✓	Passes the Test	3	99.9%
	schistosoma mansoni	✓	Passes the Test	3	99.9%
	taenis saginata	✓	Passes the Test	3	99.9%
VIRUS (Removes 99.999%)	Adenoviridae virus	✓	Passes the Test	5	99.999%
	Astrovirus	✓	Passes the Test	5	99.999%
	Calicivirus virus	✓	Passes the Test	5	99.999%
	Enterovirus	✓	Passes the Test	5	99.999%
	Hepatitis A virus	✓	Passes the Test	5	99.999%
	Hepatovirus	✓	Passes the Test	5	99.999%
	Influenza	✓	Passes the Test	5	99.999%
	Norovirus	✓	Passes the Test	5	99.999%
	Parainfluenza	✓	Passes the Test	5	99.999%
	Paramyxovirus	✓	Passes the Test	5	99.999%
	Parvovirus B19	✓	Passes the Test	5	99.999%
	Rhinovirus	✓	Passes the Test	5	99.999%
	Rotavirus	✓	Passes the Test	5	99.999%
	Togavirus	✓	Passes the Test	5	99.999%





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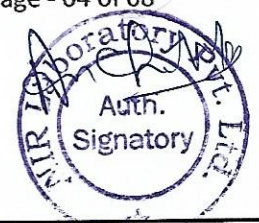
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Efficacy Percentage Log Reduction (Overall) With the use of without filters in bottle	Organisms	Sample Efficiency (Overall) With the use of without filters in bottle	Remarks	Percentage Log Reduction With the use of without filters in bottle	Individual Log Reduction (With the use of without filters in bottle)
BACTERIA (Removes Zero Percent)	Brucella melitensis	X	Fail	0	0%
	Campylobacter jejuni	X	Fail	0	0%
	pasteurella tularensis	X	Fail	0	0%
	Pseudomonas aeruginosa	X	Fail	0	0%
	Shigella	X	Fail	0	0%
	Staphylococcus Aureus	X	Fail	0	0%
	Vibrio Cholera	X	Fail	0	0%
	Vibrio parahaemolyticus	X	Fail	0	0%
	Yersinia enterocolitica	X	Fail	0	0%
	Yersinia pestis	X	Fail	0	0%
	Enteropathogenic E.coli	X	Fail	0	0%
	Haemophilus influenzae	X	Fail	0	0%
	Klebsiella pneumoniae	X	Fail	0	0%
	Legionella pneumophila	X	Fail	0	0%
	Mycobacterium Tuberculosis	X	Fail	0	0%
	Mycoplasma pneumoniae	X	Fail	0	0%
	Pseudomonas pseudomallei	X	Fail	0	0%
	Salmonella hirschfeldii	X	Fail	0	0%
	Salmonella typhimurium	X	Fail	0	0%
	Salmonella typhosa	X	Fail	0	0%
Shigella dysenteriae	X	Fail	0	0%	
Streptococcus pneumoniae	X	Fail	0	0%	
Streptococcus pyogenes	X	Fail	0	0%	





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Efficacy Percentage Log Reduction (Overall) With the use of without filters in bottle	Organisms	Sample Efficiency	Remarks	Percentage Log Reduction	Individual Log Reduction
		(Overall) With the use of without filters in bottle		With the use of without filters in bottle	(With the use of without filters in bottle)
PARASITES (Removes Zero Percent)	Ascario lumbricoides	X	Fail	0	0%
	Cryptosporidium	X	Fail	0	0%
	Entamoeba	X	Fail	0	0%
	Giardia Lamblia	X	Fail	0	0%
	naegleria gruberi	X	Fail	0	0%
	schistosoma mansoni	X	Fail	0	0%
	taenis saginata	X	Fail	0	0%
VIRUS (Removes Zero Percent)	Adenoviridac virus	X	Fail	0	0%
	Astrovirus	X	Fail	0	0%
	Calicivirus virus	X	Fail	0	0%
	Enterovirus	X	Fail	0	0%
	Hepatitis A virus	X	Fail	0	0%
	Hepatovirus	X	Fail	0	0%
	Influenza	X	Fail	0	0%
	Norovirus	X	Fail	0	0%
	Parainfluenza	X	Fail	0	0%
	Paramyxovirus	X	Fail	0	0%
	Parvovirus B19	X	Fail	0	0%
	Rhinovirus	X	Fail	0	0%
	Rotavirus	X	Fail	0	0%
	Togavirus	X	Fail	0	0%

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Water Test Report (used to test the product test) -





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Physical Description : Water is clear without any sediments, suspended particles & extraneous matter, odor and taste characteristic

S. No.	Parameters	Unit	Test Results	Specifications as per IS-10500:2012	Test Method
Chemical Analysis					
1	Ammonia	mg/L	ND, (LOQ-0.01)	0.5 Max.	APHA 23 rd Ed.
2	Anionic Detergents (as MBAS)	mg/L	ND, (LOQ-0.01)	0.2 Max.	APHA 23 rd Ed.
3	Calcium (as Ca)	mg/L	11.20	75 Max.	IS 3025 (P-40)
4	Chloramines (as Cl ₂)	mg/L	ND, (LOQ-0.05)	4 Max.	APHA 23 rd Ed.
5	Chloride (as Cl)	mg/L	37.92	250 Max.	IS 3025 (P-32)
6	Colour	Hazen	2	5 Max.	IS 3025 (P-4)
7	Cyanide (as CN)	mg/L	ND, (LOQ-0.03)	0.05 Max.	APHA 23 rd Ed.
8	Fluoride (as F)	mg/L	0.03	1.0 Max.	APHA 23 rd Ed.
9	Magnesium (as Mg)	mg/L	1.13	30 Max.	APHA 23 rd Ed.
10	Mineral oil	mg/L	ND, (LOQ-0.01)	1.0 Max.	IS 3025 (P-39)
11	Nitrate (as NO ₃)	mg/L	8.90	45 Max.	APHA 23 rd Ed.
12	Odour	--	Agreeable	Agreeable	IS 3025 (P-5)
13	Phenolic substances (as C ₆ H ₅ OH)	mg/L	ND, (LOQ-0.0005)	0.001 Max.	APHA 23 rd Ed.
14	Polychlorinated biphenyls	mg/L	ND, (LOQ-0.00001)	0.0005 Max.	FL/SOP/GCMS/P-01
15	Polynuclear aromatic hydrocarbons (as PAHs)	mg/L	ND, (LOQ-0.00001)	0.0001 Max.	FL/SOP/HPLC-75
16	Residual Free Chlorine	mg/L	ND, (LOQ-0.1)	0.2 Min.	APHA 23 rd Ed.
17	Sulphate (as SO ₄)	mg/L	67	200 Max.	APHA 23 rd Ed.
18	Sulphide (as H ₂ S)	mg/L	ND, (LOQ-0.005)	0.05 Max.	APHA 23 rd Ed.
19	Taste	--	Agreeable	Agreeable	IS 3025 (P-7&8)
20	Total Alkalinity (as CaCO ₃)	mg/L	101.5	200 Max.	IS:3025 (P-23)
Chemical Analysis					
21	Total Hardness (as CaCO ₃)	mg/L	12.8	200 Max.	IS 3025 (P-21)
22	Total Dissolved Solids	mg/L	30.3	500 Max.	IS 3025 (P-16)
23	Turbidity	NTU	0.02	1.0 Max.	IS 3025 (P-10)
24	pH value	--	6.80	6.5-8.5 Max.	IS 3025 (P-11)
Metal Analysis					
25	Aluminium (as Al)	mg/L	ND, (LOQ-0.01)	0.03 Max.	FL/SOP/ICPMS-01
26	Arsenic (as As)	mg/L	ND, (LOQ-0.002)	0.01 Max.	FL/SOP/ICPMS-01
27	Barium (as Ba)	mg/L	ND, (LOQ-0.01)	0.7 Max.	FL/SOP/ICPMS-01
28	Boron (as B)	mg/L	ND, (LOQ-0.01)	0.5 Max.	FL/SOP/ICPMS-01
29	Cadmium (as Cd)	mg/L	ND, (LOQ-0.001)	0.003 Max.	FL/SOP/ICPMS-01
30	Chromium (as Cr)	mg/L	ND, (LOQ-0.005)	0.05 Max.	FL/SOP/ICPMS-01
31	Copper (as Cu)	mg/L	ND, (LOQ-0.01)	0.05 Max.	FL/SOP/ICPMS-01
32	Iron (as Fe)	mg/L	0.03	1.0 Max.	FL/SOP/ICPMS-01
33	Lead (as Pb)	mg/L	ND, (LOQ-0.002)	0.01 Max.	FL/SOP/ICPMS-01
34	Manganese (as Mn)	mg/L	ND, (LOQ-0.005)	0.1 Max.	FL/SOP/ICPMS-01





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35	Mercury (as Hg)	mg/L	ND, (LOQ-0.0005)	0.001 Max.	FL/SOP/ICPMS-01
36	Molybdenum (as MO)	mg/L	ND, (LOQ-0.002)	0.07 Max.	FL/SOP/ICPMS-01
37	Nickel (as Ni)	mg/L	ND, (LOQ-0.002)	0.02 Max.	FL/SOP/ICPMS-01
38	Selenium (as Se)	mg/L	ND, (LOQ-0.005)	0.01 Max.	FL/SOP/ICPMS-01
39	Silver (as Ag)	mg/L	ND, (LOQ-0.05)	0.1 Max.	FL/SOP/ICPMS-01
40	Zinc (as Zn)	mg/L	ND, (LOQ-0.01)	5.0 Max.	FL/SOP/ICPMS-01

Trihalomethanes (THM)

41	Bromodichloromethane	mg/L	ND, (LOQ-0.005)	0.06 Max.	FL/SOP/GC-26
42	Bromoform	mg/L	ND, (LOQ-0.005)	0.1 Max.	FL/SOP/GC-26
43	Chloroform	mg/L	ND, (LOQ-0.005)	0.2 Max.	FL/SOP/GC-26
44	Dibromochloromethane	mg/L	ND, (LOQ-0.005)	0.1 Max.	FL/SOP/GC-26

Pesticide Residues

45	2,4- Dichlorophenoxyacetic acid	µg/L	ND, (LOQ-0.01)	30 Max.	FL/SOP/LCMS/P-01
46	Alachlor	µg/L	ND, (LOQ-0.01)	20 Max.	FL/SOP/GCMS/P-01
47	Aldrin	µg/L	ND, (LOQ-0.01)	0.03 Max.	FL/SOP/GCMS/P-01
48	Alpha HCH	µg/L	ND, (LOQ-0.01)	0.01 Max.	FL/SOP/GCMS/P-01
49	Atrazine	µg/L	ND, (LOQ-0.01)	2 Max.	FL/SOP/LCMS/P-01
50	Beta HCH	µg/L	ND, (LOQ-0.01)	0.04 Max.	FL/SOP/GCMS/P-01
51	Butachlor	µg/L	ND, (LOQ-0.01)	125 Max.	FL/SOP/GCMS/P-01
52	Chlorpyrifos	µg/L	ND, (LOQ-0.01)	30 Max.	FL/SOP/GCMS/P-01
53	Delta HCH	µg/L	ND, (LOQ-0.01)	0.04 Max.	FL/SOP/GCMS/P-01
54	Dieldrin	µg/L	ND, (LOQ-0.01)	0.03 Max.	FL/SOP/GCMS/P-01
55	Endosulfan-alpha	µg/L	ND, (LOQ-0.01)	0.4 Max.	FL/SOP/GCMS/P-01
56	Endosulfan-beta	µg/L	ND, (LOQ-0.01)	0.4 Max.	FL/SOP/GCMS/P-01
57	Endosulfan-sulphate)	µg/L	ND, (LOQ-0.01)	0.4 Max.	FL/SOP/GCMS/P-01
58	Ethion	µg/L	ND, (LOQ-0.01)	3 Max.	FL/SOP/GCMS/P-01
59	Gamma - HCH (Lindane)	µg/L	ND, (LOQ-0.01)	2 Max.	FL/SOP/GCMS/P-01
60	Isoproturon	µg/L	ND, (LOQ-0.01)	9 Max.	FL/SOP/LCMS/P-01

Pesticide Residues

61	Malathion	µg/L	ND, (LOQ-0.01)	190 Max.	FL/SOP/GCMS/P-01
62	Methyl parathion	µg/L	ND, (LOQ-0.01)	0.3 Max.	FL/SOP/GCMS/P-01
63	Monocrotophos	µg/L	ND, (LOQ-0.01)	1 Max.	FL/SOP/LCMS/P-01
64	Phorate	µg/L	ND, (LOQ-0.01)	2 Max.	FL/SOP/GCMS/P-01
65	o,p- DDD	µg/L	ND, (LOQ-0.01)	1 Max.	FL/SOP/GCMS/P-01
66	o,p-DDE	µg/L	ND, (LOQ-0.01)	1 Max.	FL/SOP/GCMS/P-01
67	o,p-DDT	µg/L	ND, (LOQ-0.01)	1 Max.	FL/SOP/GCMS/P-01
68	p,p- DDD	µg/L	ND, (LOQ-0.01)	1 Max.	FL/SOP/GCMS/P-01
69	p,p-DDE	µg/L	ND, (LOQ-0.01)	1 Max.	FL/SOP/GCMS/P-01
70	p,p-DDT	µg/L	ND, (LOQ-0.01)	1 Max.	FL/SOP/GCMS/P-01

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Auth. Signatory



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Microbiological Analysis					
71	E. Coli	per 100ml	Absent	Shall not be detectable in any 100ml sample	IS 15185
72	Total Coliform	per 100ml	Absent	Shall not be detectable in any 100ml sample	IS 15185

Sample Image (Identification)



Sample (Bottle Filters)



Note – Odour and Taste are found to be characteristic and good after use of the above product during sensory analysis.

End Of Report



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