

Independent Lab Results & Certifications

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|---|----------|
| Independent Lab Results & Certifications | 1 |
| Summary | 2 |
| NSF Standard Testing | 3 |
| Other contaminants confirmed for removal | 5 |
| Bacteria growth | 9 |
| Other certifications | 11 |

Summary

BottlePro by TAPP Water is a filter water bottle available with two filters:

- a) Advanced Microfiltration - tested and certified for great tasting tap water and to filter more than 80 contaminants
- b) Adventure Ahlstrom Disruptor - tested and certified for taste and to filter more than 100 contaminants including 99.9% of bacteria

Advanced Microfiltration is included with all bottles and designed to be used with public tap water generally compliant with WHO standards. Adventure Ahlstrom Disruptor is designed for use outdoors or tap water contaminated with bacteria due to the water source, pipes, or water tanks.

This document summarizes the certifications and lab tests.

Water Filtration Certified by



NSF Standard Testing¹



The product has been tested according to NSF/ANSI Standard 42 (Aesthetic Effects) and Standard 53 (Health Effects).

NSF/ANSI 42 - Aesthetic Effects

BottlePro by TAPP Water including the Advanced Microfiltration Filter and Adventure Ahlstrom Disruptor have been tested according to NSF/ANSI Standard 42 for the reduction of the following substances. The concentration of the indicated substances in water entering the system was reduced to a concentration less than or equal to the permissible limit for water leaving the system.

| Contaminant | Percent reduction** | Influent challenge concentration (mg/L unless specified) | Maximum permissible product water concentration (mg/L unless specified) |
|---------------------|---------------------|--|---|
| Chloramine | > 95% | 3.0 +/- 10% | 0.5 |
| Chlorine | > 95% | 2.0 +/- 10% | > or =50% |
| Particulate Class I | > 99% | At least 10,000 particles/mL | > or =85% |

Source: Test results confirmed by Eurofins with water samples from Barcelona, Spain, January 2022 and Shenzhen, China April 2022.

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¹ Disclaimer: The use of the NSF logo is only to certify that the product has been tested in accordance with NSF standards. The product has not been certified by NSF.

NSF/ANSI 53 - Health Effects

BottlePro by TAPP Water with Advanced Microfiltration and Adventure Ahlstrom Disruptor have been tested according to NSF/ANSI Standard 53 for the reduction of the following substances. The concentration of the indicated substances in water entering the system was reduced to a concentration less than or equal to the permissible limit for water leaving the system.

| Contaminant | Percent reduction** | Influent challenge concentration (mg/L unless specified) | Maximum permissible product water concentration (mg/L unless specified) |
|---|---------------------|---|---|
| Alachlor* | >98% | 0.050 | 0.001 |
| Asbestos | >99% | 107 to 108 fibers/L; fibers greater than 10 micrometers in length | 99% requirement |
| Atrazine* | >97% | 0.100 | 0.003 |
| Benzene* | >99% | 0.081 | 0.001 |
| Chlordane | >99% | 0.04 +/- 10% | 0.002 |
| Chloroform (TTHM) | >99.5% | 0.300 | 0.015 |
| 2, 4-D* | 98% | 0.110 | 0.0017 |
| Lead pH 6.5 | >95% | 0.15 +/- 20% | 0.01 |
| Lead pH 8.5 | >95% | 0.15 +/- 20% | 0.01 |
| Lindane | >99% | 0.055 | 0.00001 |
| Mercury pH 6.5 | >99% | 0.006 +/- 10% | 0.002 |
| Mercur pH 8.5 | >99% | 0.006 +/- 10% | 0.002 |
| TRIHALOMETHANES* (TTHM) (Chloroform; Bromoform; Bromodichloromethane; Dibromochloromethane) | >99% | 0.300 | 0.015 |
| Turbidity | >99% | 10 +/- 10% NTU | 0.5 NTU |

Source: Test results confirmed by Eurofins with water samples from Barcelona, Spain February 2022 and Shenzhen, China April 2022.

NSF/ANSI 244 - Health Effects

The filters covered by this standard are intended for use only on public water supplies that have been treated or that are determined to be microbiologically safe. These filters are only intended for protection against intermittent microbiological contamination of otherwise safe drinking water. For example, prior to the issuance of a boil water advisory, you can be assured that your filtration system is protecting you from intermittent microbiological contamination. Manufacturers can claim bacteria, viruses and cysts reduction for their filtration system.

BottlePro Adventure Ahstrom Disruptor has been tested with the following contaminants at the maximum allowed limit unless otherwise specified.

| Contaminant | Percent reduction** | Influent challenge concentration (mg/L unless specified) | Maximum Allowed Limit concentration (mg/L unless specified) |
|------------------|---------------------|--|---|
| Pathogens | | | |
| Clostridium | 99.94% | 100 UFC / 100ml | 0 |
| eColi | 99.9999% | 100 NMP / 100ml | 0 |
| Enterococcus | 99.9999% | 100 UFC / 100ml | 0 |
| Microbial Cysts | 99.9999% | 100 UFC / 100ml | 0 |
| Legionella | 99.9999% | 100 UFC / 100ml | 0 |
| Pseudomonas | 99.9999% | 100 UFC / 100ml | 0 |
| MS2 Virus | 99.99% | 100 UFC / 100ml | 0 |

Source: <https://www.water-technology.net/contractors/filters/ahlstrom-tampere/>

Other contaminants confirmed for removal

BottlePro has been tested with the following contaminants at the maximum allowed limit unless otherwise specified.

| Contaminant | Percent reduction** | Influent challenge concentration (mg/L unless specified) | Maximum Allowed Limit concentration (mg/L unless specified) |
|----------------------------|---------------------|--|---|
| Chemical parameters | | | |
| Cyanide total | 95% | 50 µg +/- 20% | 50 µg |

| | | | |
|--|-----|---------------|---------|
| Fluoride | 70% | 1.5 +/- 20% | 1.5 |
| Mercury | 90% | 1 µg +/- 20% | 1 µg |
| Nitrites | 72% | 0.1 +/- 10% | 0.1 |
| Nitrates | 69% | 50 +/- 10% | 50 |
| | | | |
| Metals | | | |
| Aluminium | 95% | 200 µg | 200 µg |
| Antimony | 95% | 5 µg | 5 µg |
| Arsenic | 90% | 10 µg | 10 µg |
| Barium | 90% | 1000 µg | 1000 µg |
| Cadmium | 90% | 5 µg | 5 µg |
| Copper | 80% | 2000 µg | 2000 µg |
| Iron | 90% | 200 µg | 200 µg |
| Lead | 95% | 10 µg | 10 µg |
| Manganese | 90% | 50 µg | 50 µg |
| Nickel | 90% | 20 µg | 20 µg |
| Selenium | 90% | 10 µg | 10 µg |
| Sodium | 10% | 200 µg | 200 µg |
| Zinc | 80% | 5000 µg | 5000 µg |
| | | | |
| Chlorine bi-products | | | |
| 1,2 Dichloromethane | 95% | 3 µg +/- 10% | 3 µg |
| Total Trichloroethylene and Tetrachloroethylene | 95% | 10 µg +/- 10% | 10 µg |
| Trichloroethylene* | 95% | - | - |
| Tetrachloroethylene* | 95% | - | - |

| | | | |
|---------------------------------|------|----------------|--------|
| | | | |
| Chlorine bi-products | | | |
| Total Trihalomethanes | 95% | 100 µg +/- 10% | 100 µg |
| 4 individual* | 95% | - | - |
| | | | |
| HAAs | | | |
| Total haloacetic acids | 95% | 60 µg +/- 10% | 60 µg |
| | | | |
| Pesticides | | | |
| Chlordane | 95% | 2 µg +/-10% | 2 µg |
| Heptachlor | 95% | 0.4 µg +/-10% | 0.4 µg |
| Lindane | 95% | 0.2 µg +/-10% | 0.2 µg |
| Additional 11 confirmed by EPA* | 95% | - | - |
| | | | |
| Herbicides | | | |
| 2,4 -D | >95% | 70 µg +/-10% | 70 µg |
| Atrazine | >95% | 3 µg +/-10% | 3 µg |
| Additional 9 confirmed by EPA* | 95% | - | - |
| Total Herbicides | >95% | 0.5 µg +/-10% | 0.5 µg |
| | | | |
| Pharmaceuticals* | | | |
| Atenolol | >95% | - | - |
| Carbamazepine | >95% | - | - |
| Estrone | >95% | - | - |
| Meprobamat | >95% | - | - |

| | | | |
|---|------|---|------|
| Trimethoprim | >95% | - | - |
| | | | |
| Perfluorinated chemicals (PFAS)* | | | |
| PFOA | >95% | - | - |
| PFOS | >95% | - | - |
| PFNA | >95% | - | - |
| | | | |
| Microplastics | >99% | 100 pieces / L with each piece larger than 2 µg | <= 1 |

* Not tested by TAPP Water due to lack of labs that can perform testing. Reduction in accordance with NIH, EPA and CDC testing of activated carbon and BottlePro filters with a 0.01-0.1 micron rating. See [what activated carbon filters remove and reduce](#).

Research by NIH, EPA and CDC of the activated carbon block filtration used in BottlePro Advanced Microfiltration shows that this filter will also reduce the following contaminants by 95% or more (note that some are duplicates):

| Solvent/ Organic contaminant/ Alcohol | VOC | Pesticides & Insecticides | Herbicides | Other (Inorganic compounds) |
|--|----------------------|------------------------------|---------------------|--------------------------------|
| n-butylphthalate | Bromodichloromethane | Malathion | 2,4-D | Calcium Hypochlorite |
| 1,2-Dichlorobenzene | Tetrachloroethylene | Aldrin | Deisopropylatrazine | Ozone |
| 1,3-Dichlorobenzene | Dibromochloromethane | Demeton-O | Linuron | Chlorine dioxide |
| 2-Methyl benzenamine | | MCPA | Alachlor | |
| 1,4-Dichlorobenzene | | Anthracene | Desethylatrazine | |
| Methyl naphthalene | | Azinphos-ethyl | Mecoprop | |
| Biphenyl | | Dieldrin | Atrazine | |

| | | | | |
|----------------------------|--|---------------------|---------------------|--|
| p-chlorocresol | | Carbofuran | Metazachlor | |
| 2-Methylbutane | | Parathion | Bentazone | |
| 2,2-Bipyridine | | Pentachlorophenol | Monuron | |
| 2,5-Dichlorophenol | | Endosulfan | Bromacil | |
| Bis(2-Ethylhexyl)Phthalate | | Endrin | 2,4-Dichlorophenoxy | |
| 3,6-Dichlorophenol | | Hexachlorobenzene | Diuron | |
| Naphthalene | | Hexachlorobutadiene | Propazine | |
| Nitrobenzene | | Isodrin | Simazine | |
| m-Nitrophenol | | DDT | Terbutryn | |
| p-Bromophenol | | | Triclopyr | |
| Diethyl Phthalate | | | Cyanazine | |
| o-Nitrophenol | | | Isoproturon | |
| Butylbenzene | | | | |
| 2,4-Dinitrocresol | | | | |
| p-Nitrophenol | | | | |
| 2,4-Dinitrotoluene | | | | |
| 2,6-Dinitrotoluene | | | | |
| Chlorobenzene | | | | |
| 4-Chloro-2-nitrotoluene | | | | |
| Ethylbenzene | | | | |
| 2-Chlorophenol | | | | |
| Chlorotoluene | | | | |
| Chrysene | | | | |
| Hexane | | | | |
| 1,3,5-Trimethylbenzene | | | | |
| m-Cresol | | | | |

| | | | | |
|-------------|--|--|--|--|
| m-Xylene | | | | |
| Isooctane | | | | |
| o-Xylene | | | | |
| Cyclohexane | | | | |
| p-Xylene | | | | |
| 2,4-Xylenol | | | | |

* Not tested by TAPP Water due to lack of labs that can perform testing. Reduction in accordance with NIH, EPA and CDC testing of activated carbon block filters with a 1-2 micron rating. See [what activated carbon filters remove and reduce](#).

Bacteria growth

These tests were carried out by Eurofins in Shenzhen China in April 2022.

| Sample | Bacteria count | Comment |
|---|----------------|---------------------------------|
| New cartridge | <1 | |
| Cartridge after 1 week with daily usage (about 50 liters) | 5 | Below requirement of 100 cfu /L |
| Cartridge after 2 weeks with daily usage (about 150 liters) | 9 | Below requirement of 100 cfu /L |
| Cartridge after no use for 3 days | 71 | Above requirement of 100 cfu /L |
| Cartridge after flushing the unused filter for 30 seconds | 4 | Below requirement of 100 cfu /L |

The bacteria growing in the filter are generally harmless but based on testing we recommend the following.

For optimum performance, it is essential that the filter cartridge be replaced on a regularly scheduled basis as follows:

- (a) every 2 months; *
- (b) when the unit's rated capacity has been reached (max 2 months);**
- (c) the flow rate diminishes; or
- (d) the filter becomes saturated with bad tastes and odors.***

Failure to replace the filters in accordance with the recommendations may result in contaminated poorly tasting water.

* Time estimates for BottlePro filters are based on 2-3 liters per day for an average user.

** 2 month maximum is based build up of contaminants in the filter and bacteria growth

*** For very hard water or highly chlorinated water the cartridges may need to be replaced more frequently

Do not allow water to sit in the filter for extended periods of time (3 or more days) without being used. In the event water does sit in the unit for 3 or more days, the filter should be rinsed for about 15-20 seconds with tap water; then continue use as normal

Other certifications



US Food Grade FDA and European Legislation on Food Contact Materials - Product does not apply any danger to health or environment according to article 3 in Framework Regulation 1935/2004/EC.

Manufactured according to Regulation 2023/2006/EC on good manufacturing practice.

European Standard EN 1208:2005 Compliant - European Standard EN 1208:2005 for chemicals used for treatment of water intended for human consumption.

RoHS2 Compliant (EU) - Does not contain prohibited substances above the maximum concentration values (MCV) listed in Article 4 and Annex II of the European Union directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (recast), also known as RoHS2.

REACH Compliance (EU) - Ensure the product does not contain any chemicals on the REACH SVHC List

BPA Free - Ensure that the product has been verified to not contain any BPA

Solar Impulse - Certified to reduce CO2 in accordance with claims

For more information contact us on support@tappwater.co