

Data sheet: TAPP 2 Biodegradable Faucet Water Filter

Company

Our mission is to empower people to access clean water from the tap and reduce plastic waste. Collectively TAPP users have successfully avoided over 10 million plastic bottles since launch in 2017. Our products are sold across North America, Europe and Asia.

Overview

TAPP 2 is the world's first faucet-mounted water filter with biodegradable* refills. Each refill uses coconut shell carbon block technology with a 1-2 micron rating to remove over 80+ known contaminants. Each refill has a lifetime of up to 3 months. TAPP 2 comes in two versions: TAPP 2 Click with Bluetooth® technology, and TAPP 2 Twist with a manual dial.

Characteristics

- **Affordable:** Filtered tap water is over a hundred times cheaper than bottled water. Average households can save \$300 USD per year using TAPP 2.
- **Sustainable:** TAPP 2 refills use biodegradable¹ materials which can be disposed of with organic waste. The device itself (without the refills) is made out of highly recyclable ABS.
- **Convenient:** Filtered water right out of the tap. Puts an end to carrying heavy water bottles, or having to wait for a pitcher to fill.
- **Connected:** With the free iOS and Android MyTAPP app, you can easily monitor the current state of your filter cartridge and know when to change it.
- **Compatible:** Compatible with 98% of standard faucets (*See specs below*).
- **Easy to use:** Installs in under a minute, without tools or a plumber.

Specifications

Weight (incl refill): 316gr (0.7lbs)

Filter dimensions: 12cm x 7cm x 11cm

Refill dimensions: 7cm x 7cm x 8.5cm

Pressure: ≤ 4 Liter per min at 60 PSI (1 gallon per min)

Refill life-span: 3 month maximum of 1500 litres (300 gallons)

Carbon Block: Coconut Shell Powder Activated Carbon, compressed to 2-microns.

NSF certifications: The carbon block is compliant with with NSF/ANSI 61 and all applicable requirements by NSF International. The factory is certified to produce NSF-42 and NSF-53 compliant carbon blocks. Note: TAPP 2 Click and Twist have not yet gone through NSF certification as this is required for each product even if the carbon block doesn't change. We expect certification to be finalised by mid 2019.

Refill casing material: Food-grade FDA approved: 3001D biopolymer by *NatureWorks® LLC*

Packaging: Recyclable and compostable cardboard packaging *Printed With Soy Ink™*

Adapter material: Lead-free HBI59-1 brass, with chrome plating

Thread for faucet (*without adapters*):

- EU: M22x1 (female)
- USA: 55/64"-27 (female)

¹ TAPP 2 refill cartridges contain a high percentage of biodegradable and compostable material and can be disposed of with organic waste. Please check with your local industrial composting plant. The cartridges are entirely made out of non-toxic materials which remain inert after decomposing. **Biodegradable content: 74%**. Casing (42%) has passed ASTM D-6400 Standard Specification for Compostable Plastics. Coconut Shell (32%) breaks down into: CO₂ and water. **Other product: 26%**. Silicon (6%) breaks down into: amorphous silica, carbon dioxide, and water. UHMW (20%) does not biodegrade, but is inert and stable and doesn't accumulate in marine life.

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Adapters for faucet:

- EU: M24x1 (male) and M20x1 (male)
- USA: 15/16"-27 (male) and 13/16"-27 (male)

Wireless connectivity: Bluetooth® BLE 4.0 - *TAPP 2 Click only*

Battery life: 3 years - *TAPP 2 Click only*

What TAPP 2 removes

The carbon block technology used in TAPP 2 is highly effective at water treatment. It has immense surface area. A single pound of powdered activated carbon has a filtering surface area equivalent to 125 acres. It is the best known treatment for organic chemicals, VOCs, pesticides, herbicides, and chlorine and its by-products. It is also an unchallenged taste-and-odor improver and provides very high quality particulate filtration, down to 2-microns.

TAPP 2 removes chemicals by the process of adsorption (as opposed to absorption). Carbon attracts certain chemicals at the molecular level much in the way that a magnet attracts and holds metal filings. When the surfaces are full, the filter must be discarded.

TAPP 2 removes over 80 possible contaminants based on the performance of activated carbon, carbon blocks, our own testing and independent lab tests and reduces a further 30+ contaminants.

This includes the following main categories:

Organoleptic

- Bad odor
- Bad taste

Removes 80+ contaminants:²

- 95% lead removal (NSF-53)
- 95% of copper
- 95% of free chlorine
- 90% chloride reduction
- 90% PFOA
- 90% PFOS
- 90% PFNA
- 90% of Pharmaceuticals³
- 100% of Microplastics⁴
- Petrochemical products
- Trichloroethylene (TCE)

² Removes is defined as a reduction of 90% or more consistently.

³ Based on testing by a competing brand using the same carbon block technology, pharmaceuticals were reduced by 95%. TAPP Water has not verified this yet.

⁴ Microplastics count and removal is based on Orb Media's 2017 report concluding that 93% of Tap Water contains microplastics or anthropogenic (man-made substances). We've used the average amount of particles found per gallon. The smallest particles found were 2.7 micron but most considerably larger. Therefore our testing has concluded that all microplastics particles found according to this test will be filtered by TAPP 2. 0 particles remain after filtering. The majority of the particles were fibers (98.3%) between 0.1–5 mm in length. The range in Europe was 0 to 13 particles/liter, with an overall mean of 3.8 particles/l. The report also found that bottled water contained even more microplastics. For more information see Original Orb Media Report and peer reviewed analysis of the study in Plos One.

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- Tetrachloroethene (PCE)
- 32 known chlorine by-products (VOCs) such as THMs identified as potentially cancerous
- 14 listed pesticides including Aldicarb, Chlordane, Heptachlor, and Lindane
- 12 listed herbicides including 2,4-D, Atrazine

Reduces 30+ contaminants:

- 80% or more of Sodium
- 70% of heavy metals such as mercury
- 70% of nitrates
- 30-70% Arsenic and Asbestos
- Calcium⁵ (Limescale)
- Fluoride⁶
- Microbial cyst including giardia and cryptosporidium⁷
- Bacteria & Viruses⁸

Sample reduction lab test

Lab name: itabe; Castelao 96, ent. 2^a. L'Hospitalet del Llobregat. (Barcelona)

Date of collection: 22/01/2018 **Date of results:** 31/01/2018

Parameter	Results Before (Tap Water)	Results After (TAPP 2)	Units	Maximum Recommended Value	Testing Methodology
Chlorides (Cl ⁻)	212.2	38.4	mg/l	250	Ion chromatography
Nitrates (NO ₃)	7.1	1.3	mg/l	50	Ion chromatography
Chromium (Cr)	2	1	µg/l	50	ICP-MS
Nickel (Ni)	8	5	µg/l	20	ICP-MS
Arsenic (As)	<1.0	<1.0	µg/l	10	ICP-MS
Lead (Pb)	<1.0	<1.0	µg/l	10	ICP-MS
Zinc (Zn)	<0.1	<0.1	mg/l	-	ICP-MS
Fluoride (F)	0.15	<0.05	mg/l	-	Ion chromatography
Bromodichloromethane	1.53	<1.0	µg/l	-	HRGC-MS
Bromoform	59.28	<2.0	µg/l	-	HRGC-MS
Dibromochloromethane	8.6	<1.0	µg/l	-	HRGC-MS
Total trihalomethanes (TTHMs)	69.41	<5	µg/l	100	HRGC-MS
Tetrachloroethene (PCE)	<0.5	<0.5	µg/l	-	HRGC-MS

Sample chlorine reduction lab test

Lab name: iwo water; Dongguang, China

⁵ Calcium is considered a healthy mineral. TAPP 2 standard cartridges reduces calcium / limescale by 20-80% depending on water hardness, flow, filter usage and mineral content.

⁶ Reduces by about 30-70% but is not certified for fluoride removal. Note that many filters claim 100% fluoride removal but few are proven to work.

⁷ 1-2 micron filters theoretically removes 95% or more but testing has not been completed.

⁸ TAPP 2 should only be used with microbiologically safe water, and each refill must be changed 3-months after being in contact with water, in order to prevent the growth of bacteria accumulating inside the carbon block.

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Parameter	Results Before	Results After (TAPP 2)	Units	Reduction	Testing Methodology
Total Chlorine (Cl)	2.02	0.04	mg/l	98%	Photometry

Comparison testing

Comparative reference test sampling TCE to show effectiveness versus other filters.

Lab name: Suzhou Kaho Polymer Technology Co., Ltd. **Test Date:** 3/30/2018

Trichloroethylene (TCE) in ppm						
TAPP 2				Culligan FM-15A with FM-15RA refill		
Water volume	IN (ppm)	OUT (ppm)	Reduction	IN (ppm)	OUT (ppm)	Reduction
100 L	1.93	0.01	99.48%	1.92	0.21	89.06%
1500 L	1.93	0.02	98.96%	1.92	0.45	76.56%

Test conditions: Constant pressure flow rate: 2 L/min; Temperature: 25 °C

Testing & Certifications

The TAPP 2 carbon blocks have been independently tested in accordance to NSF-42 and NSF-53. In addition to this we've performed multiple independent lab tests in Europe and North America for the products.

Contact us for more information

Please use our website chat or contact form if you have more questions or feedback. Or e-mail us on support@tappwater.co

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