

Water taste treatments

Which makes the best tea?



Potable water is a valuable resource on a boat – but how do you keep tank water fresh? Ben Meakins and the PBO team test water treatments and filters to find out

The 'tank taste' you get from a boat's fresh water tank can be pretty unpalatable, especially if you're feeling seasick. Mostly this taste is disguised when used for cooking, but it makes your plain drinking water unpleasant and can produce a thick scum on top of your tea – not to mention making said tea taste terrible.

To overcome the drinking water problem many sailors drink only bottled mineral water and use the boat's tank water just for cooking. But the plastic bottles take up a lot of space, they're not exactly environmentally-friendly and it's a shame not to be able to use tank water for its intended purpose.

But how do you keep tank water

tasting fresh? We tested seven methods of making your drinking water more palatable, ranging in price from 54p to £355. These could be divided into the following groups:

■ ACTIVATED CARBON FILTERS

These work by passing the water through a carbon filter to remove the taste and smell. It won't remove bacteria from the water, even though some filters have silver to inhibit the growth of bacteria in the filter. On first use, they must be flushed to remove black carbon particles.

■ SUB-MICRON FILTERS

If you want to remove bacteria and other nasty stuff from the water,

you'll need a sub-micron filter. These can remove impurities down to 0.1 micron. Some of the filters on test have additional filters which use surface absorption and a polarised casing to remove chemicals and heavy metals. Many of these filters require a significantly higher pressure to work. Some solely sub-micron filters won't do anything about taste and smell, however – you'll need a charcoal filter for that, too.

■ ADDITIVES

We tried a couple of proprietary tank treatments, Aqua Clean, a chlorine-based product, and Aqua Sol. These can be added to the tank water to sterilise it, and are recommended for sterilising and flushing out a tank. They might

make the water safe to drink, but they do often result in an unpleasant taste. Following a tip on the PBO forum we also tried using lemon juice as a water treatment.

How we tested them

We needed water with a suitably unpleasant taste and odour, so took a sample from a flexible fresh water tank on a small yacht and then passed some through each filter after following the manufacturer's instructions to flush and prime each unit.

We used a sample of each water to make a cup of tea, each brewed for 10 seconds, before adding 10ml of milk by syringe. We then conducted a blind taste test, with testers scoring each sample for flavour, aftertaste and odour.

Control samples

Plain tap water

WATER ★★★★★ TEA ★★★★★

Straight from the tap at the PBO office in Poole, Dorset, this got a surprisingly low score in our blind taste test for the water, with a slight chlorine aftertaste, but was otherwise perfectly drinkable. For the tea it scored well.

■ Available from drinking taps throughout the land

Plain tank water

WATER ★★★★★ TEA ★★★★★

Unsurprisingly this got the lowest score of all. It had a stale flavour, a plasticky odour and a lingering aftertaste that one tester described as 'old socks' that got worse with time. Tea made with this water had the most scum on top and a plasticky taste, with a hint of the chlorine (Milton) used to sterilise the tank in the winter.

■ Available on most cruising yachts

Water treatments

Aqua Sol

PRICE: £6.95 for 300ml

WATER ★★★★★ TEA ★★★★★

This is claimed to be a tasteless and odourless water treatment, and can be used to deodorise new tanks and containers – and to treat stored water by adding 10ml to every 25lt of water. The active ingredient is chlorine dioxide. The water's taste improved slightly, but was still unappetising both on its own and in tea.

■ www.cleantabs.co.uk



Lemon juice

PRICE: 54p For a 250ml bottle

WATER ★★★★★ TEA ★★★★★

We tried this following a tip from the PBO forum, adding a few droplets to the tank sample to try improving the taste. It had a not unpleasant odour, but the flavour was not improved. In tea it was equally unpleasant, failing to mask the tank's flavour.

■ Supermarkets everywhere



Aqua Clean

PRICE £5.95 for pack of 32 tablets

WATER ★★★★★ TEA ★★★★★

These are chlorine tablets, with the active ingredient being sodium dichloroisocyanurate. You are directed to add one tablet to every 25lt of water when filling the tank. This is a good measure against contaminated water, but when added to our tank water in the correct ratio it was extremely unappetising, giving the water a strong odour and aftertaste and making the water unappealing to drink. The tea was likewise unpleasant.

■ www.cleantabs.co.uk



Tank cleaning tip

Flexible tanks seem to be more susceptible to the 'tank taste' than fixed ones, perhaps due to the seams harbouring bacteria. Clean annually with Milton or similar, and use a long bottlebrush to remove all traces of slime. Flush thoroughly.



Water filters

Penguin Hydropure

PRICE: £59.51,
Replacement carbon filter (25µm): £24.17,
sub-micron filter (0.45µm): £55.32

Carbon: WATER ★★★★★ TEA ★★★★★

Sub-Micron: WATER ★★★★★ TEA ★★★★★

Penguin offer two filter media for their high-capacity Atlas Filtri housing. The sub-micron filter achieved a lower score in our taste test, removing some of the tank taste but leaving behind an aftertaste – but it will filter out bacteria and micro-organisms.

The carbon filter performed better in the taste test, on a par with the other activated carbon filters, leaving behind only a mild aftertaste. Size: 133x350mm.

■ www.penguineng.com



Jabsco Aqua Filta

PRICE: £41.24, replacement cartridge: £27.46

WATER ★★★★★ TEA ★★★★★

The Jabsco Aqua Filta is a silver-impregnated activated carbon filter with a replaceable filter cartridge. It scored well in our taste test, all but removing the tank's flavour, with a very minimal aftertaste. It removed all traces of chlorine. Tea made using the filter also performed well in the taste test. Like the other carbon filters it did taste somewhat 'flat' compared to the best filters, but was quite drinkable. Size: 230x140mm.

■ www.jabscoshop.com



Whale Aqua Source Clear

PRICE: £21.95, replacement: whole unit after one season or 4,500lit throughput.

WATER ★★★★★ TEA ★★★★★

This is a simple, in-line silverised carbon filter, among the smallest on test.

It improved the flavour of the tank water, with only a slight tang remaining and a tiny amount of aftertaste.

It removed all traces of chlorine. For tea, it scored reasonably well. It mounts on two clips. Size: 308x54mm.

■ www.whalepumps.com



Nature Pure QCII

PRICE: From £225, canister £96

WATER ★★★★★ TEA ★★★★★

Along with the Seagull, this filter scored highest in our tests, above the tap water. It scored top marks on the flavour, odour and aftertaste tests, coming out with a better score than the Poole tap water. It avoided the 'flat' taste given by the activated carbon filters, and was on a par with the mineral water from our office water cooler. It uses a 'structured matrix' filter, claimed to stop bacteria and viruses through ultrafine microstraining, broad spectrum molecular capture and electrostatic removal. This system is an excellent one and quite feasible to fit on most small boats with pressurised water systems. Size: 228x76mm.

■ www.purewateronline.co.uk



Seagull IV X-1

PRICE: From £306, canister: £72

WATER ★★★★★ TEA ★★★★★

The Seagull IV has a large stainless-steel pressure vessel, and is recommended for liveaboards and high-volume users – it comes in a variety of sizes. It had a high flow rate and, along with its sister product the Nature Pure QC, scored top marks for taste and aftertaste, beating the tap water in our blind taste test. It avoided the 'flat' taste imparted by the charcoal filters, and the tap provided seemed to aerate the water to some extent, improving the taste. The Seagull uses the 'structured matrix' filter as on the Nature Pure model, and installation is recommended with a separate tap so that you can use straight tank water for cooking and cleaning purposes and thus prolong the life of the filter. Size: from 137x105cm.

■ www.purewateronline.co.uk



Aquatiere Super Water Filter

PRICE: £39.99, replacement: whole unit, after 12 months.

WATER ★★★★★ TEA ★★★★★

This filter has an activated carbon filter and a ceramic filter and is also said to remove bacteria. It fits in-line via push-fit plumbing connectors, and is primarily designed for domestic use. In our taste tests it performed adequately, with an acceptable flavour and a mild aftertaste. It removed all traces of chlorine. Size: 220x55mm.

■ www.aquatiere.co.uk



PBO verdict

The tank water was unpleasant to drink – and adding any of the treatments to it served only to alter the taste rather than improve it. All of the filters tested improved the flavour and aftertaste, however.

The Seagull IV and Nature Pure QC filters gave by far the best taste improvement, and also remove bacteria and other substances, making even contaminated water safe to drink.

The charcoal filters all made the water more palatable, with the Jabsco Aqua Filta coming out

best of these in our tests. You will need to ensure the water is safe to drink, ideally with the addition of a treatment before it is filtered.

We found that the filters removed the taste of chlorine when Aqua Sol was added in a mild dose – and this combination of a subtle water treatment to kill bacteria and a charcoal filter to remove any bad taste would seem to be the way forward if you want safe drinking water on a budget.

The Nature Pure system, while not cheap, does all this while delivering a taste close to that of mineral water.



The PBO test team found untreated tank water most unpleasant...