

Cleanliness is next to godliness

1.1. Infections

The bane of the brewer is infection, of a whole batch or just a bottle or two. They will happen to every brewer, but can definitely be minimised by cleaning and sanitising.

1.2. Cleaning agents and equipment

Bottle brush. The nylon bristles degrade with immersion in hot water, so wash your bottles in cold water.

Bottle Draining Tree. Holding up to 60 bottles and stubbies it saves space and allows bottles to drain. Recommended.

Bottle Wash Powder (BWP) an alkaline salt of sodium that dissolves organic matter like the outer wall of bacterial cells, thus killing the cells. It will also remove the outer layer of skin from your hands during a bottle washing session!

Pink Stain. A versatile cleaning agent that contains a chlorine bleach. Great for cleaning fermenters and shifting difficult to move residues in the bottom of bottles, but gear must be rinsed at least three times, including one hot water rinse, after use. Very alkaline.

Turbomatic Bottle & Carboy Washer. Of solid brass construction this item fits on a tap and sends a strong squirt of water into the bottle or carboy, dislodging residues that a bottle brush can't shift. It really speeds up the tedious chore of bottling

1.3. Cleaning procedures

To clean a fermenter after racking or bottling a batch of beer from it, squirt the yeast cake a bit with the hose, then empty it onto compost heap or garden. Fill the fermenter to nearly to the top with water and add a tablespoon of Pink Stain. Let stand a day or two, then pour the water not over the garden but down a sink where it acts a little bit like Drano. Rinse the fermenter three times, including one rinse with hot water.

To clean the fermenter, use a soft cloth *not* a brush: any scratches will provide hiding places for bacteria! A new "Chux" is ideal. Pay especial attention to the seam, bung hole and under the indentations from the handles. A litre of water and a teaspoon of BWP are all that is needed. Rinse after cleaning. I give my fermenters a quick clean after use and a more thorough clean when I wish to use it again. At this stage I remove the grommet from the fermenter lid and carefully prise up the rubber 'O' ring. I then rinse and clean the grommet and seal, then give the lid a good cleaning. I don't reassemble the lid until all these items have been sanitised.

To clean a fermenter tap, unscrew it from the fermenter. Hold the barrel of the tap in one hand, grasp the tap handle firmly with a pair of pliers and pull. The tap will come apart and you can now clean the two parts with BWP and water. The thread by which the tap is attached to the fermenter should also be given careful attention and a thorough clean; an old soft toothbrush is ideal for this.

Never use bleach or Pink Stain on racking hoses or any stainless steel surface: bleach will pit the stainless steel with just a few minutes contact!

To clean bottles use a teaspoon of BWP in a litre of cold water, pour a little into the bottle and use the bottlebrush to thoroughly clean the bottle. Where a deposit on the bottom of the

bottle has crusted on and won't shift, pour a little pink Stain solution into that bottle and let it stand overnight, or use the Bottle and Carboy Washer. Again, rinse several times including one hot-water rinse whenever you use the Pink Stain. All used bottles should be cleaned in this way: no matter how clean a bottle looks there could still be flecks of dirt that may harbor bacteria and protect them from the sanitiser.

To clean the bottling tube remove the valve from the tube, then separate the valve from the spring and the tiny washer from the valve. Be careful cleaning these, the tiny parts are easy to lose!

To clean an airlock use cold water: hot water will make the airlock unuseable!

Dishwashing detergent should not be used on brewing gear—it contains wetting agents that will destroy the head of your beer.

*So, separate items into their component bits and clean,
the first step on the way to ensuring sound, infection-free beer.*

*Pink Stain can help to clean stubborn stains
but must not be used on racking hoses or stainless steel and must be rinsed off well.*

The job of washing bottles can be made a lot easier with the right gear.

1.4. Sanitising

Sanitising? Isn't that done by the E & WS? Sanitising means treating your brewing equipment to kill the bacteria that would cause your beer to become infected and undrinkable. It is called sanitising and not sterilising because we can never kill every single lurking bacteria. You cannot sanitise dirty equipment! Clean thoroughly first.

Be guided in your choice of sanitiser that if you need to rinse the sanitiser off your gear, the tap water used in the rinsing contains bacteria!

1.5. Sanitising Agents and equipment

Sodium Metabisulphite. This stops bacteria and yeasts from reproducing but does not actually kill them. It smells, tends to cause asthma and must be rinsed off.

Bleach. Chlorine kills most bacteria but must be rinsed and rinsed very thoroughly.

Iodoform. Iodine based sanitiser. It is non-rinse but it must be left to drip dry.

Peroxide. There are various peroxide based sanitisers available. However, the peroxide gradually breaks down to oxygen and water rendering the sanitiser useless

Terminator. A phosphoric acid based sanitiser used in commercial applications.

Bottle Rinser. A device that sends a stream of sanitising solution into your bottles. Can be used in conjunction with the bottle draining tree to speed up this part of the tedious bottling process.

1.6. Sanitising Procedures

At the Jovial Monk we recommend Terminator. Unlike the others it is a *non-rinse* sanitiser. The problem with rinsing is that you will re-introduce bacteria unless you use boiled water. Terminator is used by commercial dairies to clean their milk lines, is used at such minute quantities that there is no need to rinse, and it can be saved and reused. I have used it myself for several years. It is excellent. To re-use, add 8ml of Terminator to 1L of water. Do not add Terminator to water over 70°C or heat a Terminator solution to over 70°C.

To sanitise a fermenter put 2/3 a capful of Terminator in the cleaned, rinsed fermenter and fill the fermenter with cold tap water to the top. Leave for 15 minutes. Bottling tubes, brew paddles etc can be sanitised by wiping with a clean Chux soaked with Terminator solution. Submerge the bottling tube in sanitiser to ensure the inside of the tube is also sanitised.

After the fermenter, tap, brewing paddle, airlock, fermenter lid etc have been cleaned and sanitised you can place paddle and airlock in the fermenter, fit the lid and tap, place a clean teatowel over and leave for a day or two before brewing, if needed.

To sanitise bottles add 4ml (8 drops) of Terminator to a litre of water, pour some of the solution into each bottle, swirl all around the bottle then pour back into your litre of Terminator solution.

An easier way to do this is to use the Bottle Rinser. Fill the bowl with a litre of the Terminator solution, place a bottle on the spout then push it down quickly a couple of

times, sending a spout of sanitiser up to the bottom of the bottle. The Rinser can be used with the Bottle Draining Tree to speed up sanitising and draining of the bottles. The bottles should be used the same day they are sanitised.

Use the same solution you used to sanitise your bottles to sanitise your caps and bottling tube just before bottling.

Dirty equipment cannot be sanitised, obviously. Bacteria might be hiding in a piece of crud and so not be reached by your sanitiser.

*You cannot sanitise dirty equipment.
Clean, then sanitise, for brewing sound, clean beers free from infection.*

Terminator is the most effective and economic sanitiser available to the hobby.