

DrinkSafe™

EASY WATER TESTING



DrinkSafe™ is an easy to use, accurate potable water testing kit designed to last 18 MONTHS and meet all compliance requirements, including compliance with MLC 2006 on-board testing.

Being the easiest to use and most cost-effective kit on the market, there's a good reason that the world's largest shipping companies trust DrinkSafe™ to take care of the well-being of their crew and passengers.

Guaranteed Compliance

Guaranteed to meet MLC 2006. For full compliance of all charters' requirements, you can also upgrade to DrinkSafe MAX™.

More for your Money

We supply more tests as standard than any other kit – offering the lowest average cost per test guaranteed.

Long-lasting

Don't settle for kits with a 3-month shelf-life. Our comprehensive kits are designed to last 18-months.

Safe & Easy

The simplest equipment on the market that anybody can use. Guaranteed or your money back! There are no glass ampoules (which means no breakages), no instruments for calibration, no messy Thio-Bags, and finally no need for sample dilution pots.

Affordable Spares

Incredibly economical – just replace the parts you've used. There's no need to buy a new kit every time.

DrinkSafe™ Includes

- 500 DPD1 free chlorine tests with comparator disc
- 500 DPD3 total chlorine tests with comparator disc
- 500 pH tests with comparator disc
- 250 high range chlorine (super-chlorination) tests with comparator disc
- Colour comparator, test tubes, tablet crusher and brush
- 25 e-coli/coliforms tests with sterile containers
- 40 Bacterial plate tests with syringes
- Incubator and UV lamp
- Goggles and disposable gloves
- Test logbook
- Manual and training DVD – shows you how to take samples and do the tests

DrinkSafe™ Kit Contents



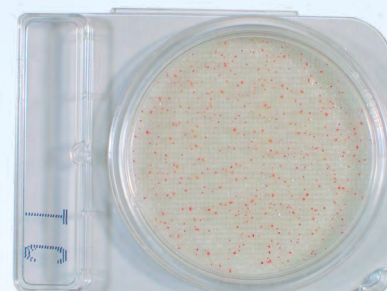
Comparator Test Using Chlorine Wheel

Shelf life: 7 years
Best practice usage: Daily
Shortest re-stock time: 16 months



Coliform / E Coli Test Results

Shelf life: 3 years
Best practice usage: Monthly
Shortest re-stock time: 2 years



Heterotrophic Plate Count

Shelf life: 2 years
Best practice usage: Monthly
Shortest re-stock time: 2 years

Note: The test results will glow in UV light if the result is positive



Turbidity Tube

Shelf life: N/A
Best practice usage: Ad hoc after bunkering
Shortest re-stock time: N/A



Complete Kit

Designed to provide 12-18 months of testing
Replace the individual pieces as you need them

What's Included in the Kit

| Description | DrinkSafe | DrinkSafe MAX |
|--|-----------|---------------|
| Heavy Duty Solid Shipping Case (65L Blue) | 1 EA | 1 EA |
| DPD1 Free Chlorine Tests (Box of 250) | 2 EA | 2 EA |
| Comparator Disc Free and Total Chlorine (0-5mg/l) | 1 EA | 1 EA |
| DPD3 Combined Chlorine Tests (Box of 250) | 2 EA | 2 EA |
| Comparator Disc Free and Total Chlorine (0-1mg/l) | 1 EA | 1 EA |
| pH Tests Phenol Red (Box of 250) | 2 EA | 2 EA |
| Comparator Disc pH | 1 EA | 1 EA |
| High Range Chlorine Tablets (Box of 250) | 1 EA | 1 EA |
| Acidifying GP Tablets (Super-chlorination) (Box 250) | 1 EA | 1 EA |
| High Range Chlorine Disc | 1 EA | 1 EA |
| Comparator | 1 EA | 1 EA |
| 1 pack of 5 cells | 1 EA | 1 EA |
| 1 pack of 10 crushing rods | 1 EA | 1 EA |
| 1 test tube brush | 1 EA | 1 EA |
| E-coli Tests | 25 EA | 25 EA |
| Sterile Containers | 25 EA | 45 EA |
| Bacterial Plate Tests | 10 EA | 10 EA |
| Syringes | 40 EA | 40 EA |
| Portable Mains Incubator (240v) | 1 EA | 1 EA |
| UV Lamp | 1 EA | 1 EA |
| Goggles - DrinkSafe | 1 EA | 1 EA |
| Disposable Gloves | 100 EA | 100 EA |
| DrinkSafe Manual & Test Log Book | 1 EA | 1 EA |
| DrinkSafe Training DVD | 1 EA | 1 EA |
| Turbidity Tester | - | 1 EA |
| Enterococci Tests | - | 20 EA |
| Copper Tests | - | 1 EA |
| Comparator Disc - Copper | - | 1 EA |
| Iron Tests | - | 1 EA |
| Comparator Disc - Iron | - | 1 EA |
| AA Battery | 4 EA | 4 EA |

Comparator Test Methods

General Information

It is important to wear gloves and safety glasses when carrying out all of the DrinkSafe™ tests. Store all test tablets / powders away from the light. For all tests, please observe 'use by' dates, found on the individual test tablets and powders. For the determination of pH, Free, Total, Combined and High Range Chlorine, Iron and Copper. Always fill two cells with the sample water. To get an accurate reading, the outer cell is used to compare the inner cell against once the test tablet(s) have been added.

2.1 pH

1. Fill both cells with sample water to the 10ml line
2. Place both cells in the comparator
3. Add one Phenol Red tablet to the inner cell
4. Using the tablet crusher, crush the tablet and shake the cell until the tablet is dissolved
5. Insert the pH disc and for accuracy, hold it towards daylight, rotating the disc to match up the disc colour with the colour of the inner cell sample water. When you have matched the colour, read the corresponding number in the comparator circle
6. Log the result = pH
7. Rinse the cells ready for use next time

2.2 Free Chlorine

1. Fill both cells with sample water to the 10ml line
2. Place both cells in the comparator
3. Add one DPD 1 tablet to the inner cell
4. Using the tablet crusher, crush the tablet and shake the cell until the tablet is dissolved
5. Insert one of the Chlorine discs and for accuracy, hold it towards daylight, rotating the disc to match up the disc colour with the colour of the inner cell sample water. When you have matched the colour, read the corresponding number in the comparator circle
6. Log the result = Free Chlorine

2.3 Total Chlorine

1. Add one DPD 3 tablet to the same inner cell as used for Free Chlorine
2. Using the tablet crusher, crush the tablet and shake the cell until the tablet is dissolved
3. Wait for 2 minutes
4. Insert one of the Chlorine discs and for accuracy, hold it towards daylight, rotating the disc to match up the disc colour with the colour of the inner cell sample water. When you have matched the colour, read the corresponding number in the comparator circle
5. Log the result = Total Chlorine
6. Rinse the cells ready for use next time

2.4 Combined Chlorine

1. Total Chlorine - Free Chlorine = Combined Chlorine

2.5 High Range Chlorine

1. Fill both cells with sample water to the 10ml line
2. Place both cells in the comparator
3. Add one Chlorine HR tablet to the inner cell
4. Using the tablet crusher, crush the tablet and shake the cell until the tablet is dissolved
5. To the same inner cell, add one Acidifying GP tablet
6. Using the tablet crusher, crush the tablet and shake the cell until the tablet is dissolved
7. Insert the High Range Chlorine disc and for accuracy, hold it towards daylight, rotating the disc to match up the disc colour with the colour of the inner cell sample water. When you have matched the colour, read the corresponding number in the comparator circle
8. Log the result = High Range Chlorine
9. Rinse the cells ready for use next time

Comparator Test Methods



2.6 Free Copper

1. Fill both cells with sample water to the 10ml line
2. Place both cells in the comparator
3. Add one Coppercol No. 1 tablet to the inner cell
4. Using the tablet crusher, crush the tablet and shake the cell until the tablet is dissolved
5. Insert the Copper disc and for accuracy, hold it towards daylight, rotating the disc to match up the disc colour with the colour of the inner cell sample water. When you have matched the colour, read the corresponding number in the comparator circle
6. Log the result = Free Copper

2.7 Total Copper

1. Add one Coppercol No. 2 tablet to the same inner cell as used for Free Copper
2. Using the tablet crusher, crush the tablet and shake the cell until the tablet is dissolved
3. Insert the Copper disc and for accuracy, hold it towards daylight, rotating the disc to match up the disc colour with the colour of the inner cell sample water. When you have matched the colour, read the corresponding number in the comparator circle
4. Log the result = Total Copper
5. Rinse the cells ready for use next time

2.8 Iron

1. Fill both cells with sample water to the 10ml line
2. Place both cells in the comparator
3. Add one Iron MR No 1 tablet to the inner cell
4. Using the tablet crusher, crush the tablet and shake the cell until the tablet is dissolved
5. Add one Iron MR No 2 tablet to the inner cell
6. Using the tablet crusher, crush the tablet and shake the cell until the tablet is dissolved
7. Leave for 10 minutes
8. Insert the Iron disc and for accuracy, hold it towards daylight, rotating the disc to match up the disc colour with the colour of the inner cell sample water. When you have matched the colour, read the corresponding number in the comparator circle
9. Log the result = Iron
10. Rinse the cells ready for use next time

Please Note - It is important to renew each disc after 2 years of use in order to maintain accurate readings. Store in a dark place when not in use.

Bacterial Test Methods



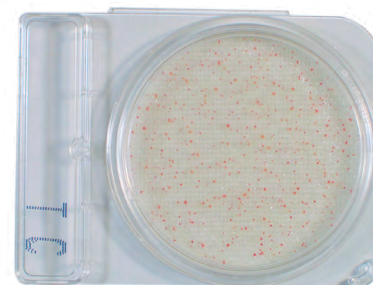
General Information

High counts of Coliforms, E-Coli bacteria and Enterococci can occur in your potable water. The sterile containers contained in DrinkSafe are used to collect a 100ml sample. The containers contain a Sodium Thiosulphate tablet, this neutralizes any Chlorine that may be present in the sample.

Turn on the incubator 30 minutes before you take the samples. Check using the thermometer that the temperature has reached 35 degrees Celcius before placing the samples to incubate. To increase the temperature, turn the dial clockwise and vice versa.

3.1 Bacteria Plate Test

1. Take 1ml of sample water from the container before conducting the other biological tests
2. Take off the lid of the bacteria plate and transfer the 1ml to the centre of the plate
3. Put the lid on the plate and incubate for 48 hours at 35 degrees Celcius
4. Count the number of red spot colonies on the surface of the plate
5. No of red colonies = number CFU/ml



3.2 Coliform / E.Coli

1. Fill the container to the 100ml mark and shake until the Sodium Thiosulphate has dissolved
2. Add the Readycult Coliforms powder, shake until dissolved
3. Incubate for 24 hours at 35 degrees Celcius
Check the sample for colour change. A change to blue/ green indicates presence of Coliforms
4. Check the sample in a darkened room using the UV lamp. If the sample fluoresces, there is presence of E.Coli
5. Log the result = Present / Absent



(Revised instructions issued March 2025)

Bacterial Test Methods

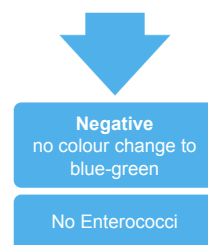
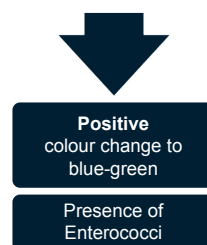
To secure a steady supply of our products, we sometimes use different suppliers for the same item. For Enterococci test kits, we have two versions that we supply, Type A and Type B. Both work in very similar ways, but please use the relevant instructions and results information for the test kit you have been supplied.

3.3 Enterococci

Type A



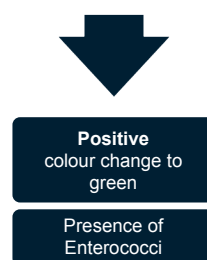
1. Fill the container to the 100ml mark with your sample and shake until the Sodium Thiosulphate has dissolved.
2. Take one snap pack, tap to ensure the granules are at the bottom. Bend the upper part of the snap pack until it breaks open.
3. Note: Do not touch the opening to avoid contamination risk.
4. Add the contents to the water sample. Seal the vessel and shake to dissolve the granules completely.
5. Incubation: 18-24 hours at 35 to 37 degrees.
6. Check the sample for colour change. A change to blue/green indicates the presence of Enterococci.
7. Log the result either: 'Present' or 'Absent'



Type B



1. Fill the container to the 100ml mark with your sample and shake until the Sodium Thiosulphate has dissolved.
2. Take one snap pack, tap to ensure the granules are at the bottom. Bend the upper part of the snap pack until it breaks open.
3. Note: Do not touch the opening to avoid contamination risk.
4. Add the contents to the water sample. Seal the vessel and shake to dissolve the granules completely. The sample will go blue.
5. Incubate the sample for 24 - 28 hours at 41 degrees C.
6. Check the sample for colour change. Any change to green indicates the presence of Enterococci.
7. Log the result either: 'Present' or 'Absent'



(Revised instructions issued March 2025)

Turbidity Test

Turbidity Test

1. Assemble the two parts of the tube and fill with sample water to the top
2. Hold the tube vertically, look down the tube through the water at the black cross on the base
3. If you can see the black cross, the reading is <5 N.T.U. If you cannot see the black cross, empty the water from the tube until the black cross is visible.
4. Read the number from the side of the tube corresponding with the water level remaining.
Log the result = i.e <5 N.T.U



Legionella Test

Legionella Test

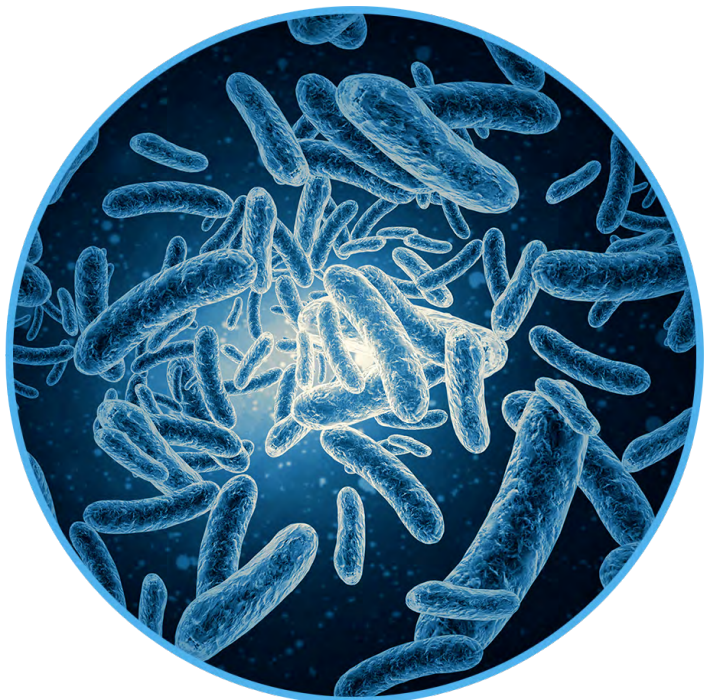
1. Take 0.1ml of sample water from the container
2. Transfer the 0.1ml onto the circle on the test strip
3. Wait 25 minutes
4. Check the test strip
5. Log the result = Positive / Negative



Negative Result



Positive Result



Potable Water Regulations and Guidance

World Health Organization

Guide to Ship Sanitation

“It is the responsibility of each ship operator to establish all practicable measures to ensure that no sources of infection or contamination are present on board, including in the water system.”

[Guide to Ship Sanitation 2.1.2 \(page 15\)](#)

“A potable water source at the port is not a guarantee of safe water on board, because water may become contaminated during transfer to the ship or during storage or distribution onboard”

[Guide to Ship Sanitation 2.1.6 \(page 19\)](#)

“Recommended parameters to be monitored include E. coli or thermotolerant coliforms, disinfectant residual, corrosion-related contaminants, turbidity, heterotrophic plate count (HPC) and aesthetic parameters.”

[Guide to Ship Sanitation 2.2.1 \(page 24\)](#)

“Test kits to check pH before any disinfection and the level of free and total chlorine during disinfection should be available onboard and used as per the manufacturer’s specifications.”

[Guide to Ship Sanitation 2.2.3 \(page 37\)](#)

“Process control parameters, such as disinfectant residuals at water disinfection plants and at the farthest tap (e.g. bridge deck), should be monitored at a sufficient frequency to detect deviations in control processes early enough to prevent contaminated water from reaching users, which ideally means continuous automated monitoring.”

[Guide to Ship Sanitation 2.2.3 \(page 38\)](#)

“Regular monitoring of each parameter is necessary to ensure that safe water quality is maintained, as each step in the water transfer chain provides an opportunity for contamination. Monitoring needs to be specific in terms of what, how, when, and who.”

[Guide to Ship Sanitation 2.2.3 \(page 42\)](#)

“While simple on-site tests (e.g. regular verification and operational monitoring of pH and chlorination) can be performed by appropriately trained and competent ship staff, sampling for complex chemical and/ or microbiological analysis should always be performed by well-trained professional persons who are authorized by a certified laboratory.”

[Guide to Ship Sanitation 2.2.3 \(page 44\)](#)

“Whenever water samples are taken on board or ashore, some on-site parameters should be measured, as these can change while samples are transported to the laboratory. These parameters are pH, level of free chlorine, level of total chlorine, conductivity, temperature, and turbidity. These values should always be documented, together with detailed information about how and where the samples have been taken.”

[Guide to Ship Sanitation 2.2.3 \(page 54\)](#)

Potable Water Regulations and Guidance

World Health Organization

Handbook for Inspection of Ships and issuance of Ship Sanitation Certificates

The terms “drinking-water” or “potable water” are used to define any water for human consumption. This includes not only water for drinking or cooking, but also water for brushing teeth, showers, washing hands, washing clothes and so on. Even on large, modern merchant vessels, showers and washbasins that have so-called fresh water are actually drawing it directly from desalination plants; therefore, it does not meet drinking-water quality criteria. Untreated “fresh water” may also harbour many health risks for the consumer and public health.”

[Handbook for Inspection of Ships and issuance of Ship Sanitation Certificates Part B Area 9 \(page 88\).](#)

“Sample testing needs to be done using suitable methods by accredited laboratories. An internationally accepted laboratory quality standard is defined in ISO 17025. This document provides examples for parameters that are useful in certain circumstances.”

[Handbook for Inspection of Ships and issuance of Ship Sanitation Certificates Part B Area 9 \(page 92\)](#)

Maritime and Coastguard Agency

MSN

“The shipowner and the master of a ship must ensure that food and drinking water are provided on board the ship which - do not contain anything which is likely to cause sickness or injury to health or which renders any food or drinking water unpalatable”.

[MSN 1848 \(M\) Maritime labour convention survey and certification of UK ships. The merchant shipping \(maritime labour convention\) \(minimum requirements for seafarers etc.\) regulations 2014. Food and Catering \(Part 8\): Provision of food and drinking water – 34.1.b](#)

MGN

“A commercial test kit should be used to check the free chlorine or chloramine levels”

[MCA MGN 595 \(F\) ILO Work in Fishing Convention, 2007 Provision of Food and Water – 3.1, Page 14](#)

International Chamber of Shipping

Guidance for shipping operations on port state control

“Shipping companies therefore must get to grips with the certification process in order to avoid port state control problems, and take appropriate measures in the event that flag states have not issued required documentation or guidance.”

[Guidance for shipping operators on port state control as from 20 August 2013 – ICS \(page 2\)](#)

International Labour Organization

ILO Maritime Labour Convention 2006

The shipowner and master of a ship must ensure that food and drinking water of appropriate quality, nutritional value and quantity is provided free of charge to meet the needs of those on board.

[ILO Maritime Labour Convention 2006. Food and Catering: Provision of Food and Fresh Water \(page 1\)](#)

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Martek Sustainability Statement

We are dedicated to building a sustainable and profitable business while continuing to operate responsibly with honesty, integrity and fairness.

At Martek Marine, we are committed to establishing high ethical standards of behaviour and effective corporate governance. This defines our strategic and financial objectives. Corporate responsibility remains central to delivering our strategy and achieving our success.

We are committed to conducting business in an environmentally responsible manner. We are putting in place processes to understand and address our responsibilities in respect of our operational impacts on the environment.

We aim to reduce the use of replacement parts and calibration to help overcome waste and excessive carbon emission.

Pioneering sustainable and innovative solutions for ship safety, performance and crew welfare.

www.martek-marine.com