

# BALLAST WATER TEST KIT-QC



## DESCRIPTION

Ballast Water Test Kit-QC, PCN 1AB5714 is a ballast water sample monitoring kit. The kit enables shipboard personnel to monitor the overall effectiveness of the vessel's ballast water treatment system by spot checking treated ballast water samples for living bacteria. Using the kit, crew members collect a small volume sample of treated ballast water and analyze the sample for concentrations of certain microbiological indicator organisms.

Ballast Water Test Kit-QC provides shipboard personnel with a cost-effective method to perform onboard analyses of treated ballast water samples. The test methods in Ballast Water Test Kit-QC are simple to use, and results obtained are quantitative. The test results should be used to verify the effectiveness of the ballast water treatment system. After reviewing the results, if any of the biological indicator effluent limits is exceeded, the responsible officer can conclude that the system may not be meeting its discharge limits and that further investigation into the cause is warranted.

Class societies recommend biological efficacy checks be carried out periodically to ensure the system continues to function as designed and as certified. Ballast Water Test Kit-QC enables crew members to carry out periodical biological efficacy checks. Results from regular onboard testing are recommended to be logged by the responsible crew member and shown as evidence during Port State Control or Class Inspections that additional measures are being taken, beyond functional testing and scheduled maintenance, to ensure the treatment system is being monitored by the crew to meet its discharge limits.

Onboard testing is meant to complement required functional testing of the system. Regular onboard testing for biological indicators (using Ballast Water Test Kit-QC), plus functional testing of the system, monitoring of active substances and residuals, if applicable, and any required, or desired, shore side testing, are the best means to ensure the system continues to operate as designed. These complementary best practices safeguard against possible port state intervention due to



malfunctioning equipment or perceived lack of crew familiarity and oversight.

Ballast Water Test Kit-QC contains reagents and apparatus to test for presence of particular indicator organisms, that is, tests for Total Heterotrophic Bacteria, E.coli, and Enterococci. The tests available in Ballast Water Test Kit-QC are suitable and practical for onboard testing, and because the results are quantitative, the responsible crew member will have quick access to data on which to make an informed decision concerning the effectiveness of the ballast water treatment system.

Each test method in Ballast Water Test Kit-QC enables results to be reported in MPN/100 ml. All three of the test methods are US EPA approved using MPN method and where the EPA has specifically approved a test method for ballast water testing (i.e., E.coli and Enterococci) the test methods in Ballast Water Test Kit-QC are also approved. Moreover, the Heterotrophic Bacteria test has a correlation coefficient (r) of 0.97 to an approved Standards Method procedure for ballast water.

In addition to Ballast Water Test Kit-QC, for vessels that use chlorine or ozone to treat ballast water and are required to monitor Total Residual Oxidant (TRO), the portable DREWCHECK CLN Meter Kit Complete, PCN 1AA9702, is recommended. When used as directed, the DREWCHECK CLN Meter Kit complies with the internationally accepted Standard Method 4500-CL G. The method is specified in the US- EPA Final Vessel General Permit 2013 for ballast water.

## FEATURES

- EPA approved tests for monitoring E.coli and Enterococci in ballast water
- Quick quantitative results
- Simple instructions and test methods
- Rugged equipment

## BENEFITS

- Allows crew to determine effectiveness of BWTS• Easy to use
- Appropriate for shipboard use
- Appropriate for ballast water sampling



Contact your Drew Marine representative for more information

## RECOMMENDED TESTING FREQUENCY

### Application and Use

Refer to Ballast Water Test Kit Manual in the kit for use instructions. A copy can be obtained from your Drew Marine Representative.

Drew Marine recommends that ballast water samples be tested for each indicator organism on a quarterly basis. Samples should be taken from the discharge stream and then analyzed. Each test method requires the samples to be incubated. The incubation temperature for HPC and E.coli is the same, and both tests can be run simultaneously. However, the test for Enterococci requires a different incubation temperature. As a result, the tests for all three indicator organisms should be run over the course of a quarter. Should the responsible officer wish to run the tests simultaneously, an additional incubator and an additional thermometer are required.

### TEST KIT CONTENTS AND ORDER INFORMATION

#### Ballast Water Test Kit-QC, (PCN 1AB5714) containing:

- E.coli test reagent (5 tests)
- Enterococci test reagent (5 tests)
- HPC plate with lids (5 plates and lids)
- HPC test reagent- 10 ml tube (5 tests)
- Sterile sample bottles DA, 120 ml with 100ml mark (15 bottles)
- 145 ml polypropylene cup containing 90 ml sterile water (10 cups) for E.coli/Enterococci
- 145 ml polypropylene cup containing 99 ml sterile water (5 cups) for HPC
- 10 X 15ml glass vials with plastic caps- Reusable
- Small rack to hold 15 ml glass vials- Reusable
- Green Pipet Pump, 10 ml- Reusable
- Sterile 10 ml sterile disposable polystyrene pipets, individually wrapped (25 pipets)
- Sterile 1 ml sterile disposable polystyrene pipets, individually wrapped (5 pipets)
- 1 X UV lamp, 365nm, 6 watt, 230V
- 1X UV safety goggles
- Nitrile gloves, 50 each
- Instruction manual
- Carrying case

A thermometer should be used to monitor the incubator's internal temperature. The incubator and thermometer are offered separately. The incubator and thermometer used for Potable Water Test Kit-C, PCN 1AB1973, can be used to incubate the ballast water samples. Refer to order/reorder information for additional details.

### ORDER/REORDER INFORMATION

DESCRIPTION	PCN
INCUBATORPWTk-C – 230 V	1AB2328
INCUBATOR PWTk-C – 110 V	1AB3589
THERMOMETER PWTk-C	1AB2344
UV Lamp, 365nm, 6 watt – 230V	1AB5715
UV Safety Goggles	0394098

#### BWTk-QC Refill Kit, (PCN 1AB5716) containing:

- E.coli test reagent (5 tests)
- Enterococci test reagent (5 tests)
- HPC SimPlate with lids (5 plates and lids)
- HPC test reagent- 10 ml tube (5 tests)
- Plastic caps (10 caps) for the reusable glass vials
- Sterile sample bottles DA, 120 ml with 100ml mark (15 bottles)
- 145 ml polypropylene cup containing 90 ml sterile water (10 cups)
- 145 ml polypropylene cup containing 99 ml sterile water (5 cups)
- Sterile 10 ml sterile disposable polystyrene pipets, individually wrapped (25 pipets)
- Sterile 1 ml sterile disposable polystyrene pipets, individually wrapped (5 pipets)
- Nitrile gloves, 50 each

### IMPORTANT INFORMATION

Drew Marine maintains Safety Data Sheets on all of its products. Safety Data Sheets contain health and safety information for your development of appropriate product handling procedures to protect your employees.

Our Safety Data Sheets should be read and understood by all of your supervisory personnel and employees before using Drew Marine products.



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