



Glyscorr G93-94 Test Kit Instruction Manual

Insatech Marine Naestvedvej 73C, 4720, Denmark
Tel: +45 5537 2095 Email: marine@insatech.com

Standard Procedures

It is important to read the following information prior to testing. This section is a practical reference dealing with the use of equipment supplied in test kit cases. Certain phrases are used throughout the instruction booklet and the user should familiarise themselves with this terminology.

Storage and Handling

Test kits should be stored in a cool well and ventilated area. Avoid damp or humid conditions if possible. Avoid exposure to excessive heat as this may affect the integrity of the case and will accelerate any reagent degradation. Test equipment should be returned to the proper location in the case after use. This will help prevent any accidental damage.

Dropper Bottles

Dropper bottles supplied in test kits are designed to deliver a uniform and repeatable 0.04ml per drop provided that they are used correctly. Where these bottles are used to dispense titrants it is essential to follow the instructions below. Failure to do so may result in inaccurate results being obtained.

1. After removing the cap, check that the nozzle tip is not damaged in any way. Remove any chemical (wet or dry) with a tissue and ensure that the tip is clean.
2. To dispense reagent, invert the bottle exactly upside down over the test vessel and allow a drop to form, applying the minimum external pressure to the walls of the bottle as necessary. Keep the bottle exactly vertical throughout.
3. Dispense reagent one drop at a time. Do not use excessive pressure so the reagent streams from the tip.
4. Prior to replacing the cap, wipe both the tip and inner surface of the cap with a tissue to remove any residual chemical.

Powder Containers

Powders are supplied in sealed plastic tubs. To open, remove the tear off strip from the cap, hold upright and tap gently on a hard surface. This will ensure that the chemical inside is properly distributed within. Gently peel off the cap maintaining an upright position. Reagents are often filled close to the top so care at this stage will avoid spillage. Some powder reagents may be affected by light or moisture. It is important to replace the lid immediately after use to keep this effect to a minimum.

Powders are to be dispensed using the plastic scoop/rod supplied. Test instructions will refer to different measures of powder. Use the information below as a guide:

Standard Procedures (cont.)

Powder Containers (continued)

1. **Heaped Scoop** - Immerse the wide end of the scoop into the powder and remove. Allow chemical to fill both the depressed area of the scoop and the surrounding flat section.
2. **Level Scoop** - Immerse the wide end of the scoop into the powder and remove. Allow chemical to fill ONLY the depressed area of the scoop. Tap the scoop gently to remove any excess, down to a level flush with the top surface of the scoop.
3. **Pin Head** - Using the round "rod" end of the scoop, touch gently onto the surface of the chemical in use. A small quantity of reagent will adhere to the rod. Place the rod end into the test vessel and stir to dissolve the powder.

After use, ensure that the scoop/rod is cleaned thoroughly by washing in distilled or deionised water and drying with a clean tissue. Failure to do so may result in cross-contamination of reagents and could lead to inaccurate test results.

Tablet Containers

Tablets are supplied in identical tubs to that of powder reagents, usually 50 or 100 tablets per pot. Some tablets are loose and others are supplied in foil wrapping. Avoid direct handling of tablets. Use the rod end of the plastic scoop to crush tablets once added to the appropriate vessel. Some loose tablets may be affected by light or moisture. It is important to replace the lid immediately after use to keep this effect to a minimum.

Test Instructions

Test kit cases contain standard sampling equipment required to perform titration and colorimetric tests. Larger cases also contain a clip board to hold test instructions.

All individual chemical tests are supplied in packs for inclusion in standard cases. Each pack will contain the reagents required to perform the analysis. For titration tests, the instruction sheet is also included. The instruction sheet for comparator tests is supplied with the comparator disc. A complete method booklet is supplied with any photometer instrument purchased.

Standard Procedures (cont.)

Hardware

All hardware supplied should be cleaned thoroughly after use. Residual chemical present on a crushing rod or container wall may interfere with a subsequent test. Replace all items back in the appropriate foam insert in the carrying case to prevent breakages.

Electronic Test Meters

While being robust, all electronic test equipment is relatively sensitive and should be treated carefully. Avoid excessive exposure to moisture (except waterproof units) and do not expose to excessive shock or vibration.

pH probes are very delicate pieces of equipment as the electrode tip consists of a semi-permeable glass membrane. This should NOT be stored dry. ALWAYS store in pH 4 buffer solution. Try to store pH electrodes vertically and do not expose to any stress. If pH response becomes sluggish, soak probe in dilute hydrochloric acid for 24 hours followed by 24 hours in pH 4 buffer solution. This should improve response times.

Conductivity meter sensors consist of two metal pins 1cm apart. These should be kept free of dirt/grease. Clean periodically in propan-2-ol (Isopropyl alcohol).

pH and Conductivity meters should be calibrated at least once per week with standard buffer solutions. This should be carried out more frequently if solutions being tested are particularly aggressive.

When measuring the conductivity or TDS of samples that have a pH greater than 8.3 (eg boiler water), it is important to neutralise the sample prior to testing. Add drops of Reagent KS24 (Alkalinity Neutralising Solution) until the sample turns clear colourless or use the sample following a P Alkalinity test. Failure to do this will lead to inaccurate results.

Health and Safety Information

A large proportion of chemical reagents supplied for water testing are of minimal hazard to health, however some reagents are hazardous and have the appropriate hazard symbol and risk phrases printed on the container label. It is important to read this information fully and understand the nature of the hazard for each chemical. Material Safety Data Sheets are available for all test chemicals and are readily available. More detailed health and safety information is contained within these documents. Standard personal protection, consisting of gloves, safety glasses/goggles and suitable protective clothing should be used when performing any test.

Follow the guidelines below:

Place testing equipment up and out of reach of children, preferably in a locked cupboard. Test equipment should only be available to persons with an appreciation of the hazards associated with the chemical reagents.

Avoid contact of any chemical with skin and eyes. Do not ingest and avoid inhalation of powder reagents.

Keep the work area clean and tidy during testing. Replace used reagent containers back in the case immediately after use. Wipe up any spillages immediately and dispose of any soiled tissue/cloth. Wash the site of a spillage with plenty of water.

Some chemicals give off vapour or pungent smells. When using such chemicals, ensure that testing is carried out in a well ventilated area.

Should any accidental chemical contact occur, follow the basic first aid measures detailed below. Refer also to the Material Safety Data Sheet for more specific information regarding the chemical in question.

Skin Contact

In the event of accidental skin contact wash the affected area immediately with plenty of running water. If irritation persists obtain medical attention.

Eye Contact

In the event of accidental eye contact flush with plenty of running water for at least 10 minutes. If irritation persists obtain medical attention.

Ingestion

If ingested, wash out mouth with plenty of water, then give plenty of water to drink. Obtain medical attention.

Health and Safety Information (cont.)

Inhalation

Remove casualty from source of exposure. Rest and keep warm. If casualty appears distressed in any way, obtain medical attention.

Procedure

This allows to measure chloride ions in Glysacorr G93-94 in treated cooling water.

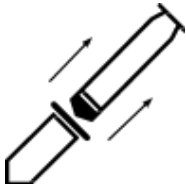
1. Take a sample of cooling water and let it cool down to room temperature.



2. Open a filter holder.



3. Use tweezers to place a GF/C filter in the filter holder. Re-seal the filter holder.



4. Fill the 2ml syringe to the 1.5ml mark with the sample. Connect the syringe to the filter holder assembly and discharge the sample to waste, down to the 1ml mark. Discard the 25mm filter circle after use.

Note: If the filter holder is not correctly assembled using the O ring, leaks may occur during filtration which will affect the efficiency of the filtration. If this occurs re-filter the sample using a new filter paper.



5. Filtrate the remaining sample into the test tube and add 4.5ml of **deionised water**. Make up to the 10ml mark with **IPA Reagent**. Cap and invert tube several times to mix.





6. Add 15 drops of **Chloride Reagent B** to the test tube. Cap and invert several times to mix.

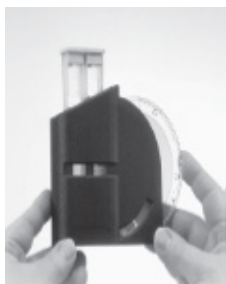
7. Pour this sample into two comparator cells. Split into two equal portions. Approximately 5ml into each.

8. Place one cell into the left hand side of the comparator. This is the **BLANK CELL**.



9. To the other cell, add 7 drops of **Chloride Reagent A**. Cap the cell and invert to mix. Place this cell into the right hand side of the comparator. This is the **TEST CELL**.

10. WAIT 5 MINTUES FOR THE COLOUR TO DEVELOP.



11. Place the Glyscorr disc into the comparator. Hold the comparator towards a source of natural daylight and rotate the disc until a colour match is obtained. Read the corresponding value on the right aperture of the comparator.

12. The result is shown as ppm (mg/l) Cl - (Chloride).

Note: Comparator discs will deteriorate when exposed to sunlight. Store the disc in the dark and renew after 2 years to maintain accurate readings.