MARICHEM WORLDWIDE MARIGASES SERVICES

WT CHLORI TEST KIT ™

DESCRIPTION

The **WT CHLORI TEST KIT** is designed to count the concentration of Chloride ions in water. Specifically, its purpose is to check and control the Chloride ions in high and low pressure water boilers. The test results obtained in coordination with the other water tests (**WT PHOSP**, **WT ALKA**, and **WT SULFI**) provide us with relevant information about the water conditions.

CONTENTS OF THE TEST KIT

Contents of the test kit are sufficient for 300 tests with an average Chloride concentration content of 200mg/lt Cl^-.

ACCESSORIES

- 1 piece of Plastic test tube with a ring mark of 5ml.
- 1 piece of Titration syringe 0–500mg/lt Cl^- (1 graduation mark = 5mg/lt).

REAGENTS

- 1 Bottle of 10ml indicator solution, Indicator CL 500
- 1 Bottle of 30ml reagent solution 4% Nitric Acid
- 1 Bottle of 100ml titration solution Chloride TL CL 500

PACKAGING

Order Number : 700108
Container : Plastic Case

TESTING PROCEDURE

Pre-treatment

Before testing, samples must be cooled to 25°C by passing them through a cooler.

A. Determination of Chloride Ions (Cl–) concentration

1. Rinse the test tube several times with the sample you wish to determine the Chloride ions concentration Cl^- and fill the test tube with the sample, up to the ring mark of 5ml.

2. Add 1 drop of the solution, Indicator CL 500 and dissolve while shaking. The test sample color must turn blue or violet.

3. Add slowly, drop wise, the Solution Nitric Acid 4% until the color turns yellow while continuously shaking. Normally 2–3 drops are sufficient for the change in color.

4. Use the titration syringe and fill it with the solution **Chloride TL CL 500** till the value of 0mg/lt. Add the titration solution drop wise while lightly swirling the test tube until the color turns from yellow to violet.

5. Read off the sample Chloride content in mg/lt Cl^- (lower rim of the black plunger) from the titration syringe in parts per million. That value corresponds to the chloride concentration into the water sample.

B. Evaluation of the Test Results

Using this testing method we can determine the concentration of Chloride ions in ppm without any conversion in the unit.

For the Boiler Water samples (**BOILER WATER TREATMENT**) which contain more than 300ppm of Chloride Cl^- concentration you have to perform blowdown and replenish with distilled or fresh water.

It is worth noting that there does not exist nor has it been suggested of any other way of reducing the Chloride ions concentration, except by blowdown and replenishment of the system with distilled or fresh water. Considering the procedure of water replenishment for Boiler water system you may be advised by the following table.

C. Additional Information

Chlorides have no effect on scale formation, but do contribute to corrosion because of their conductivity and because the small size of the Chloride ion permitting the continuous flow of corrosion current when surface films are porous.

TABLE: Chloride Ions Concentration (Cl^-) in Boiler System

ppm Cl^- ions (Boiler System)	5	10	20	40	75	150	300	Over 300
Procedure	Blowdown not required							Blowdown and system's replenishment required

The amount of Chloride in the water is a useful tool in evaporation systems. Virtually all other constituents in the water increase or decrease when common treatment chemicals are added or because of chemical changes that take place.

With very few exceptions, evaporation only affects Chloride concentration, and so the ratio of Chloride in water sample from an operating system to those of the make–up water provides a measure of how much the water has been concentrated.

Take also into consideration that the Chloride concentration will change if the system is continuously chlorinated.

After the test results are obtained, they must be recorded in the **Marichem Boiler Water Treatment Log Sheets**. At the end of every month, these Log Sheets should be submitted by the engineer responsible to the owner company, who in turn should send them to **MARICHEM MARIGASES Worldwide Services** for further evaluation and technical analysis.

For more information and literature concerning the **WT CHLORI TEST KIT** measurements and the Boiler Water Treatment program, feel free to contact the **MARICHEM MARIGASES Worldwide Services** technical department.

Read the Material Safety Data Sheet before using this product.

For detailed information on safety and health, please refer to Material Safety Data Sheet and/or Product Label.