Palintest
Water Analysis Technologies

Photometer Method

CHLORIDE (CHLORIDOL)

AUTOMATIC WAVELENGTH SELECTION

0 – 50 mg/L Cl to 0 – 50,000 mg/L NaCl

TEST FOR CHLORIDE SALT IN WATER

The Palintest Chloridol test provides a simple method for measuring chloride salt levels. There are many applications in water technology that require determination of chlorides. These include the measurement of low levels of chloride to determine the extent of carry-over in boiler condensates; chloride determination to assess salt build-up in swimming pools or boiler waters; and measurement of high chloride levels for testing sea water or determining the saltiness of brackish waters. A further application is for checking swimming pools where salt has been artificially added to simulate sea water bathing, or where this is necessary for the operation of certain types of electrolytic hypochlorite generator.

The test can be used for measuring these widely different chloride concentrations by varying the sample size selected. The test ranges covered are 0 - 50 mg/L Cl, 0 - 500 mg/L Cl, 0 - 10,000 mg/L NaCl and 0 - 50,000 mg/L NaCl.

Method

The Palintest Chloridol test is based on a tablet reagent system containing silver nitrate. Chlorides react with the silver nitrate to produce insoluble silver chloride. At the chloride levels encountered in the test, the insoluble silver chloride is observed as turbidity in the test sample. The degree of turbidity is proportional to the chloride concentration and is measured using a Palintest Photometer.

The test is carried out under acidic and oxidising conditions so as to prevent interference from complexing agents such as EDTA and polyphosphates, and from any reducing substances which may be present in the water. Polyacrylates do however interfere and the test should not be used on industrial waters using polyacrylate-based treatments.

The formation of the precipitate in the Chloridol test may be subject to matrix effects in the presence of high total dissolved solids (TDS). The 0 – 50 mg/L Cl range is calibrated only for use on softened waters and condensates. It should not be used for other samples. The dilution step in the other ranges reduces the TDS to acceptable levels and prevents this effect.

PM 268, AP 268 AUTO

Reagents and Equipment

Palintest Acidifying CD Tablets
Palintest Chloridol Tablets
Palintest Automatic Wavelength Selection Photometer
Round Test Tubes, 10 ml glass (PT 595)
Measuring Syringe, 1 ml (PT 361)
Sample Container, 100/50/10 ml plastic (PT 510)

Test Calibration

Select Program **Phot 46** Range 0 – 50 mg/L Cl
or **Phot 51** Range 0 – 500 mg/L Cl
or **Phot 101** Range 0 – 10,000 mg/L NaCl
or **Phot 102** Range 0 – 50,000 mg/L NaCl

Test Instructions

1 **For Testing Boiler Condensate and Softened Waters ONLY**
Range 0 - 50 mg/L Cl

Fill test tube with sample to the 10 ml mark.

For Testing Natural Waters, Drinking Water, Swimming Pools and Boiler Waters
Range 0 - 500 mg/L Cl

Using the measuring syringe, take 1 ml of sample. Transfer to the test tube and make-up to the 10 ml mark with deionised water.

For Testing Salt Chlorinator Treated Swimming Pools
Range 0 - 10,000 mg/L NaCl

Using the measuring syringe, take 0.5 ml of sample. Transfer to the sample container (PT 510) then make-up to the 100 ml mark with deionised water. Cap tube and mix. Fill test tube to the 10 ml mark with solution from the sample container.

For Testing Sea Water and Brackish Waters
Range 0 - 50,000 mg/L NaCl.

Using the measuring syringe, take 0.1 ml of sample. Transfer to the sample container (PT 510) then make-up to the 100 ml mark with deionised water. Cap tube and mix.

Method

1. Fill test tube to the 10 ml mark with solution from the sample container
2. Add one Acidifying CD tablet, crush and mix to dissolve.
3. Add one Chloridol tablet, allow the tablet to disintegrate for two minutes then crush any remaining particles and mix. A cloudy solution indicates the presence of chloride.
4. Select the appropriate program number on the photometer for the test range required.
5. Take the photometer reading in usual manner (see Photometer instructions). Use the light cap whilst taking readings.

Conversion Factors

In different applications it may be conventional to express the results of chloride tests in different ways. The following conversion factors are provided for the convenience of users :-

TO CONVERT RESULT		MULTIPLY BY
From	To	
mg/L Cl	mg/L NaCl	1.65
mg/L NaCl	mg/L Cl	0.61