

Photometer Method

SULFIDE

AUTOMATIC WAVELENGTH SELECTION

TEST FOR SULFIDE IN NATURAL AND WASTE WATERS

0 – 0.5 mg/l

Natural waters containing dissolved hydrogen sulfide and other sulfides are found in certain parts of the world, particularly in areas having hot springs. Sulfides are constituents of many industrial wastes such as those from tanneries, gas plants and chemical works. Sulfides can be toxic to fish and aquatic life; and their presence in water supplies gives rise to undesirable tastes and odours.

The Palintest Sulfide Test provides a simple method of measuring total available sulfide over the range 0 - 0.5 mg/l and is particularly applicable to natural and drinking waters. Higher levels, such as those found in effluents and waste waters, can be determined by diluting the sample.

Method

This simplified method for the determination of sulfide is based on a reagent containing diethyl-p-phenylene diamine (DPD) and potassium dichromate. Sulfide reacts with this reagent in acid solution to produce a blue coloured complex. In the absence of sulfide the reagent produces a pink colour. Chlorine, and other oxidizing agents which normally react with DPD, do not interfere with the test. The reagents are provided in the form of two tablets and the test is simply carried out by adding one of each tablet to a sample of the water.

The colour produced is indicative of the sulfide concentration and is measured using a Palintest Photometer.

Reagents and Equipment

- Palintest Sulfide No 1 Tablets
- Palintest Sulfide No 2 Tablets
- Palintest Automatic Wavelength Selection Photometer
- Round Test Tubes, 10 ml glass (PT 595)

Sample Collection

To prevent loss of sulfide collect the sample carefully with a minimum of agitation or aeration. Test the sample as soon as possible after collection.

Test Procedure

- 1 Fill test tube with sample to the 10 ml mark.
- 2 Add one Sulfide No 1 tablet and one Sulfide No 2 tablet. Crush and mix gently to dissolve the tablets. Gentle mixing is essential to avoid loss of sulfide.
- 3 Stand for 10 minutes to allow full colour development.
- 4 Select Phot 33 on Photometer.
- 5 Take Photometer reading in usual manner (see Photometer instructions).
- 6 The result is displayed as mg/l S.

To convert from mg/l S to mg/l H₂S - multiply result by 1.06
