

**TEST INSTRUCTIONS**

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## SULPHITE

**Tablet Count Method****TEST FOR SULPHITE  
IN BOILER WATER****0 – 50 mg/l Na<sub>2</sub>SO<sub>3</sub>  
0 – 500 mg/l Na<sub>2</sub>SO<sub>3</sub>**

Oxygen is a major cause of corrosion in boilers and steam raising plant. Sodium sulphite and catalysed sulphite formulations are extensively used as oxygen scavengers in boiler water treatment.

The Palintest Sulphite tests provide a simple means of measuring sulphite levels for the control of such treatments in boiler plant. The test is available in low range and high range forms covering sulphite levels 0 - 50 mg/l and 0 - 500 mg/l Na<sub>2</sub>SO<sub>3</sub>.

**Method**

Sulphites react with iodine under acidic conditions. Iodine can be readily detected by a blue coloration formed with starch indicator. The Palintest Sulphite test is based on two tablet reagents - an acidifying tablet and a tablet containing a standardised amount of an iodine release mixture and a starch indicator system. The test is carried out by acidifying the sample with the first tablets and then adding the second tablets one at a time until a blue coloration appears. The result is calculated from the number of the second tablets used in the test.

**Reagents and Equipment**

Palintest Sulphite No 1 Tablets

Palintest Sulphite No 2 LR or Sulphite No 2 HR Tablets (see below)

Palintest Sample Container, 50/10 ml plastic (PT 506, PT 519) or

Palintest Sample Container, 100/50/10 ml plastic (PT 510)

Sulphite No 2 LR tablets cover the range 0 - 50 mg/l Na<sub>2</sub>SO<sub>3</sub>

Sulphite No 2 HR tablets cover the range 0 - 500 mg/l Na<sub>2</sub>SO<sub>3</sub>

## Test Procedure

- 1 Filter sample if necessary to obtain a clear solution.
- 2 Fill the Palintest sample container to the 50 ml mark.
- 3 Add two Sulphite No 1 tablets, cap the container and swirl gently until the tablets disintegrate.
- 4 Add one Sulphite No 2 LR tablet or one Sulphite No 2 HR tablet as appropriate for the range under test. Cap the container and swirl gently until the tablet disintegrates.
- 5 Continue adding Sulphite No 2 LR or Sulphite No 2 HR tablets one at a time in this manner until a blue coloration appears.
- 6 Note the number of Sulphite No 2 LR or Sulphite No 2 HR tablets used and calculate the results from the appropriate formula below :-

*For Sulphite LR :-*

$$\text{Sulphite (Mg/l Na}_2\text{SO}_3) = (\text{No of tablets} \times 4) - 2$$

*For Sulphite HR :-*

$$\text{Sulphite (Mg/l Na}_2\text{SO}_3) = (\text{No of tablets} \times 40) - 20$$

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## **SULPHITE HR**

**SULPHITE SULFITE  
SULFIT SULFITOS**

### **Reagents/Réactifs/Reagenzien/Reactivos:**

Palintest Sulphite No 1  
Palintest Sulphite No 2 HR

### **ENGLISH - TABLET COUNT METHOD**

Sample Container 50 ml – PT 505/506/510/519

- 1 Fill sample container to 50 ml mark.
- 2 Add two Sulphite No 1 tablets, cap the container and swirl gently until the tablets disintegrate.
- 3 Add one Sulphite No 2 HR tablet, cap the container and swirl gently until the tablet disintegrates.
- 4 Continue adding Sulphite No 2 HR tablets in this manner until a blue coloration appears.
- 5 Note the number of Sulphite No 2 HR tablets used (N) and calculate result from the formula below :-

$$\text{Sulphite (mg/l Na}_2\text{SO}_3) = (N \times 40) - 20$$

For full test instructions - see Palintest Instruction Manual.