

1.10013.0001

MQuant™ Sulfite Test



1. Method

Sulfite ions react with a mixture of potassium hexacyanoferrate(II), zinc sulfate, and sodium nitroprusside to form a red compound. The sulfite concentration is measured **semiquantitatively** by visual comparison of the reaction zone of the test strip with the fields of a color scale.

2. Measuring range and number of determinations

Measuring range / color-scale graduation	Number of determinations
10 - 40 - 80 - 180 - 400 mg/l SO ₃ ²⁻	100

3. Applications

Sample material:

Wastewater
Boiler water and boiler feed water
Developers, fixing and stop baths
Beverages and food after appropriate sample pre-treatment

4. Influence of foreign substances

This was checked in solutions with 250 and 0 mg/l SO₃²⁻. The determination is not yet interfered with up to the concentrations of foreign substances given in the table.

Concentrations of foreign substances in mg/l			
Ag ⁺	25	Cu ²⁺	10
Al ³⁺	1000	Fe ²⁺	1000
Ascorbate	100	Fe ³⁺	10
Ba ²⁺	25	[Fe(CN) ₆] ⁴⁻	1000
Ca ²⁺	1000	[Fe(CN) ₆] ³⁻	50
Cd ²⁺	1000	Mg ²⁺	1000
Cl ⁻	1000	Mn ²⁺	1000
CN ⁻	1000	MnO ₄ ⁻	10
Co ²⁺	1000	Na ⁺	1000
CrO ₄ ²⁻	10	NH ₄ ⁺	1000
		Ni ²⁺	1000
		NO ₂ ⁻	1000
		NO ₃ ⁻	1000
		Pb ²⁺	25
		PO ₄ ³⁻	1000
		S ²⁻	50
		SO ₃ ²⁻	1000
		S ₂ O ₃ ²⁻	1000
		Zn ²⁺	1000

5. Reagents and auxiliaries

The test strips are stable up to the date stated on the pack when stored closed at +2 to +8 °C.

Package contents:

Tube containing 100 test strips

Other reagents:

MColorpHast™ Universal indicator strips pH 0 - 14, Cat. No. 109535

Sodium hydroxide solution 1 mol/l TitriPUR®, Cat. No. 109137

Hydrochloric acid 1 mol/l TitriPUR®, Cat. No. 109057

Sodium sulfite anhydrous GR for analysis, Cat. No. 106657

Titriplex® III GR for analysis, Cat. No. 108418

Buffer solution pH 9.00 CertiPUR®, Cat. No. 109461

6. Preparation

- Samples containing more than 400 mg/l SO₃²⁻ must be diluted with distilled water.
- **The pH must be within the range 8 - 10.** Adjust, if necessary, with sodium hydroxide solution or hydrochloric acid.

7. Procedure

Immerse the reaction zone of the test strip in the pre-treated sample (15 - 25 °C) for 1 sec.

Shake off excess liquid from the strip and **after 30 sec** determine with which color field on the label the color of the reaction zone coincides most exactly.

Read off the corresponding result in mg/l SO₃²⁻.

Notes on the measurement:

- The color of the reaction zone may continue to change after the specified reaction time has elapsed. This must not be considered in the measurement.
- If the color of the reaction zone is equal to or more intense than the darkest color on the scale, repeat the measurement using **fresh**, diluted samples until a value of less than 400 mg/l SO₃²⁻ is obtained.

Concerning the result of the analysis, the dilution (see also section 6) must be taken into account:

Result of analysis = measurement value x dilution factor

8. Method control

To check test strips and handling:

Dissolve 0.157 g of anhydrous sodium sulfite and 0.040 g of Titriplex® III in distilled water, make up to 100 ml with distilled water, and mix. SO₃²⁻ content: 1000 mg/l.

Take 8.0 ml of this solution, add 10 ml of buffer solution pH 9.00, make up to 100 ml with distilled water, and mix. Subsequently analyze as described in section 7. The content of SO₃²⁻ determined should be 80 mg/l.

Additional notes see under www.qa-test-kits.com.

9. Note

Reclose the tube containing the test strips immediately after use.

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