



TEST KIT FOR THE DETERMINATION OF FREE SULFUR DIOXIDE FOR DISCRETE ANALYSERS

PRODUCT

Product no.4B190, for *in vitro* use only.

CONTENTS

The kit includes the following reagents:

FSO2 R1	Buffer	20.0 mL x	4 bottles
FSO2 R2	Chromogen	11.7 mL x	2 bottles
FSO2 BL	Blank	11.7 mL x	2 bottles

Reagents are stable refrigerated at 4°C until the 'best before' date printed on the batch label.
DO NOT FREEZE. Failure to store reagents at the recommended temperature will reduce their shelf life.

If decanting reagents into instrument-specific bottles regularly rinse the bottles with distilled water and dry before adding fresh reagents. Failure to do this may reduce reagent shelf life due to a build-up of waste product. Due to method and system differences between instruments, some reagents may run out before others. It is important that reagents from different kit batches are not mixed or used together.

SAFETY

- Please read the Safety Data Sheets (SDS) before use.
- Take the necessary precautions for the use of laboratory reagents.

PROCEDURE

The below procedure is based on the **Thermo Arena** and **Thermo Gallery** discrete analysers. **Please note that this procedure uses the 'true sample blank' method.** Please review your unit manual for details regarding this method selection. Procedures for Chemwell instruments are available upon request. Samples should be analysed as quickly as possible to avoid SO₂ loss.

Reagent Definition

Reagent	FSO2 R1	FSO2 R2	FSO2 BL
Stable on board (days)	1	1	1
Alarm limit (mL)	1.0 mL	1.0 mL	1.0 mL
Vial volume	20 mL	20 mL	20 mL
Syringe speed	Normal	Normal	Normal

Test type	Photometric
Full name	Free SO ₂
Result unit	mg/l
Number of decimals	2
Acceptance	Automatic
Dilution 1+	0.0
Initial Abs. Low	0.0
Initial Abs. High	3.5

Test Definition

Sample type	Wine, Must, Juice
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Preparation of Calibrators

Weigh out 0.0445 g sodium metabisulfite (>99%) and add to a 100 mL volumetric flask. Make up to the mark with distilled water, cap and mix until completely dissolved. Immediately use this 300 mg/L stock solution as outlined in the following table to make the calibrators. All tubes should be capped when not in use to avoid SO₂ loss. Stock solution and calibrators should be discarded after use and fresh solutions made as required.

	mL of 300 mg/L stock solution	mL of H2O
20 mg/L	0.67	9.33
40 mg/L	1.33	8.67
50 mg/L	1.67	8.33

Calibration Parameters

For best results daily calibration is recommended

Calibration type	Linear	Calibrator	Conc. (mg/l)	Dil. Ratio 1+
Repeat time (d)	1	FS 0	0	0.0
Points/Calibrator	Duplicate	FS 20	20	0.0
Acceptance	Manual	FS 40	40	0.0
Curve direction	Ascending	FS 50	50	0.0
Type of calibrators	Separate			

Test Flow

Blank: **True Sample**

							
Reagent	Time (sec.)	Volume (µl)	Time (sec.)	Reagent	Reagent	Time (sec.)	Wavelength (nm)
FSO2 R1	60	20	60	FSO2 R2	FSO2 BL	180	340
Volume (µl)		Disp. with		Volume (µl)			Side wavel. (nm)
100		Water		30			NONE
Disp. with		Volume (µl)		Disp. with			Meas. type
Extra		10		Extra			FIXED TIMING
Volume (µl)		Wash reagent		Volume (µl)			
10		NONE		10			
Wash reagent				Wash reagent			
NONE				NONE			

AUSTRALIAN-MADE

This test kit was made with pride in a lab down-under.