



Total Sulphite (TSO₂) (K-TSULPH) Procedure for ChemWell®-T Auto-Analyser

Requirements:

- Total Sulphite Assay Kit (K-TSULPH) (provides ~ 800 assays).
- K-TSULPH ChemWell®-T assay file.
- Use in association with the Total Sulphite Assay Kit (K-TSULPH) product data booklet.

Use:

For the specific measurement of total sulphite (TSO₂) especially in wines, fruit juices, beverages and food products.

For specific sample preparation methods refer to the Total Sulphite Assay Kit (K-TSULPH) data booklet.

Assay Principle:

The Total Sulphite (TSO₂) assay is based on the reaction principle between thiol groups and Ellman's reagent.

Procedure:

Prepare the assay reagents and calibrators and use with the K-TSULPH ChemWell®-T assay file.

Total Sulphite Assay Kit (K-TSULPH) Components:

Bottle 1: (x2) Total Sulphite Reagent 1 (40 mL)

Contains sodium azide (0.05% w/v) as a preservative.
Stable for > 18 months at room temperature.

Bottle 2: (x2) Total Sulphite Reagent 2 (20 mL)

Contains sodium azide (0.05% w/v) as a preservative.
Stable for > 18 months at room temperature.

Bottle 5: Sulphite Standard

Sodium sulphite (5 g).
Stable for > 5 years at room temperature.

Preparation of Assay Reagents:

K-TSULPH R1:

Use bottle 1 (Total Sulphite Reagent 1) as supplied.

K-TSULPH R2:

Use bottle 2 (Total Sulphite Reagent 2) as supplied.

Calibrators:

To prepare the K-TSULPH 4 calibrator (400 mg/L) weigh 1 g of citric acid into a 1 L volumetric flask, make to 1 L with distilled water and dissolve. Accurately add 787 mg of bottle 5 (Sulphite Standard) and dissolve.

Prepare on the day of use. Stable for 1 day at room temperature.

Use serial dilutions of K-TSULPH 4 in 0.1 % (w/v) citric acid to prepare K-TSULPH 2 and K-TSULPH 3.

K-TSULPH 1: 0 g/L (use distilled water)
K-TSULPH 2: 100 mg/L TSO₂
K-TSULPH 3: 200 mg/L TSO₂
K-TSULPH 4: 400 mg/L TSO₂

Assay Parameters:

Assay volumes:	Distilled water:	0.100 mL
	K-TSULPH R1:	0.100 mL
	Sample:	0.005 mL
	K-TSULPH R2:	0.050 mL
Calibrators:	0, 100, 200, 400 mg/L TSO ₂	
Reaction time:	3 min at 37°C	
Wavelength:	405 nm	
Assay type:	endpoint	
Reaction direction:	increase	
Linearity:	up to 400 mg/L of TSO ₂	

