VINTESSENTIAL® TEST KITS
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Winechek
PRECISION BASED EXPERTISE

FACTSHEET: PREPARATION OF SO_2 CALIBRATORS

When preparing calibrators for use with Vintessential SO_2 Discrete Analyser Kits, the purity of the sodium metabisulfite used must be taken into account. This purity will depend on the grade of reagent that has been purchased in your laboratory. This value will be present on the reagent bottle, or on the manufacturers' Certificate of Analysis.

We recommend using analytical grade reagents (≥ 99%), however the following calculation will allow users to determine the amount of sodium metabisulfite required to prepare a stock solution by simply substituting the **purity** of sodium metabisulfite below.

Amount of SMS required (g/L) for a 100 ml solution =

stock solution concentration desired (g/L) x (190.107/128.132) x (100/purity of SMS)

Example Calculation:

To prepare a **0.3 g/L** stock solution of sodium metabisulfite using **98%** purity reagent:

- The molecular weight of sodium metabisulfite is 190.107 g/mol, of which 67.4% is SO_2 (128.132 g/mol)

- Therefore : 300 mg/L (0.3 g/L) SO_2 = **0.3** g/L x (190.107/128.132)
  = 0.445 g/L

- For 98% purity : 100/**98** * 0.445 g/L = 0.454 g/L
  = 0.0454 g/100mL

For 98% purity sodium metabisulfite, weigh out 0.0454 g and add to a 100 mL volumetric flask. Make up to the mark with distilled water. This stock solution is 300 mg/L. Individual calibrators can then be prepared as outlined on the SO_2 DA Kit Inserts.