Sentia Wine Analyzer (a hand-held device for rapid on the spot results for free SO_2 from a single drop of wine and comparable to established laboratory and winery methods)

Summary of white paper written (December 2020) by Luke Cossins BSc, MBiomedSci.
(entire white paper may be obtained directly through Enartis USA)

WINERY UTILITY

The Sentia free SO_2 Analyzer is intended for in-winery testing of free SO_2 in wine samples, without requirement for specialist skills or need for sample collect and return. It is a reliable, convenient, easy-to-use hand-held instrument with enhanced features designed to assist operators during the testing process.

- Fast results (less than a minute) across the 3 - 50 mg/L reporting range
- Small, 8 µL sample size
- Push-button ejection of used test strips to minimize user interaction
- No need for any reagent pre-mixing; just apply the wine sample and go
- Easy-to-use color touchscreen interface and clear display of results as mg/L or ppm units
- Strip lot identification and auto-calibration
- Seamless, secure data download via WiFi connection

TECHNOLOGY

The Sentia System which includes the Analyzer and the consumable test strip has been designed and developed in Australia using Universal Biosensors' pedigree of medical device expertise. The Analyzer uses the same platform as Universal Biosensors' other medical devices and the test strip is manufactured on the same equipment used to manufacture other medical device consumable products.

STUDY COMPARISON

This external validation study(1), conducted as per CLSI EP09-A3 guidelines(2), assessed the Sentia free SO_2 Analyzer against an established laboratory method (Aeration Oxidation or A/O Method).

Method comparison between the Sentia free SO_2 Analyzer and the A/O method demonstrated good correlation (r^2=0.91). Standard error was 4.3 mg/L.

Repeatability for red wine was 2.0% (CV) and for white wine it was 1.8% (CV) and was found to be well within laboratory industry standard acceptance precision.

The data and subsequent analysis validate the intended use of the Sentia free SO_2 Analyzer for on-the-spot testing and monitoring of red and white wine samples.

References

(1) AWRI - The Australian Wine Research Institute, Waite Precinct, Hartley Grove cnr Paratoo Road, Urrbrae (Adelaide) SA 5064

(2) CLSI EP09-A3 Measurement Procedure Comparison and Bias Estimation Using Patient Samples, 3rd Edition (Clinical and Laboratory Standards Institute)