

# Guide to sample preparation for Sentia analysis

Some sample preparations are required for some Sentia methods to achieve an accurate result.

This guide will detail:

1. The recommended procedure to dilute samples using either a unique Sentia buffer solution (for malic acid and fructose methods) or deionized water (for acetic acid), prior to testing on the Sentia analyzer.
2. The recommended procedure to degas samples for titratable acidity methods, in addition to samples for other methods that also may have excessive carbon dioxide, prior to analysis on the Sentia analyzer.

## Measuring ranges

Product code	Product name	Measuring ranges
30730	<b>Acetic acid</b>	0.1 to 1.5 g/L
30230	<b>Free SO<sub>2</sub></b>	3 to 50 mg/L
30530, 91004	<b>Fructose</b>	0.1 to 10 g/L
30330	<b>Glucose</b>	0.1 to 10 g/L
30430, 91002	<b>Malic acid</b>	0.05 to 5 g/L
30630	<b>Titratable acidity pH 7.0 and 8.2</b>	3 to 10 g/L

## Materials and equipment required to analyze samples with Sentia

- Sentia analyzer
- Sentia test strips (specific to the analyte being tested)

For methods that require a dilution or a degassing step, the additional materials and equipment are required:

- Test tube with cap (plastic, size 5 mL or less recommended)
- Diluent solution
- Micropipette and micropipette tips (100 – 1000 µL recommended)

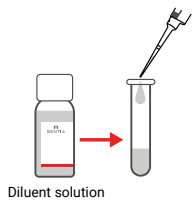
## Sample preparations

### Dilution instructions

Certain Sentia tests require sample dilution prior to analysis. This will be prompted by your Sentia analyzer as you move through the analysis test flow. It is recommended that you perform the dilution just before you perform the test. Refer to the below table to find information on tests that require a dilution and the dilution ratio to be used.

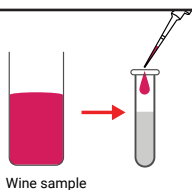
Test	Dilution solution required	Dilution explained	Recommended sample volume	Recommended diluent volume	Dilution expiry time
<b>Free SO<sub>2</sub></b>	No dilution step required. Add the sample directly onto the porch of the strip as directed				
<b>Malic acid</b>	Sentia malic acid buffer	1 part wine : 4 parts malic acid buffer	100 µL	400 µL	Samples can be diluted up to 30 minutes before testing
<b>Glucose</b>	No dilution step required. Add the sample directly onto the porch of the strip as directed				
<b>Fructose</b>	Sentia fructose buffer	1 part wine : 4 parts fructose buffer	100 µL	400 µL	Samples can be diluted up to 30 minutes before testing
<b>Acetic acid</b>	Deionized (DI) or distilled water	1 part wine : 3 parts DI water	100 µL	300 µL	Samples can be diluted up to 30 minutes before testing
<b>Titratable acidity</b>	No dilution step required. Add the sample directly onto the porch of the strip as directed, after degassing (see page 2).				

Note: Alternative dilution solutions should not be used. Refrain from combining buffer solutions from different bottles to avoid changes to the buffer concentration. Please check the buffer solution bottle for date of manufacture or best before date prior to use.



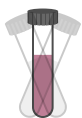
### Step one:

Using a micropipette, accurately pipette the recommended volume of diluent solution into a clean test tube. Dispose of the used pipette tip and replace with another clean tip.



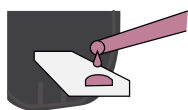
### Step two:

Accurately pipette the recommended wine sample volume into the test tube. Dispose of the micropipette tip.



### Step three:

Cap the test tube, and gently shake to mix.



### Step four:

You now have a diluted wine sample ready to apply to the test strip.



### Step five:

Dispose of buffer solutions down the sink with running water.

To see a video guide to sample dilutions, visit

<https://www.universalbiosensors.com/products/sentia/resources/videos/>

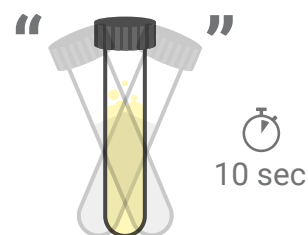
## Degassing instructions

For **titratable acidity** measurements on wine, it is recommended to degas the wine before analysis.

For **glucose, fructose, malic acid** and **acetic acid**, wine samples which show visible effervescence are recommended to be degassed before testing to avoid reporting of any erroneous results.

To **degas your sample**, we recommend sonicating or shaking the wine in a vessel for at least 10 seconds and allowing to vent.

Note: It is NOT recommended to degas samples prior to Free SO<sub>2</sub> analysis.



Jan 2024