

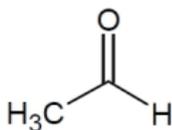
## CDR WineLab

# Acetaldehyde Analysis

A new analysis method has been added to the WineLab to determine the levels of acetaldehyde in wine. The new method requires no preparation of the sample and has a test time of 6 minutes, providing the possibility of 50 tests per hour.

### Acetaldehyde

The chemical structure of acetaldehyde or acetic aldehyde at room temperature is a colourless volatile and flammable liquid with an irritating and pungent odour. It belongs to the compounds of aldehydes, whose molecules contains a group -CHO each and in which the atoms (carbon, hydrogen and oxygen) are coplanar, that is the atoms lay on the same plan. It is produced during the process of fermentation of sugars and, like all the aldehydes, it is easily oxidizable to acid, in this case acetic acid.



### Why Acetaldehyde Is Measured in Wine and Must

Sulfur dioxide is primarily bound by acetaldehyde in wine, though other compounds do play a lesser role, so it can be useful to determine its level during the winemaking process.

Acetaldehyde forms during alcohol fermentation and starts to accumulate in wine with a consequent increase in the need for sulfur dioxide. Sulfur dioxide is “consumed” at different speeds, depending on the conditions of the fermentation. If the fermentation conditions are optimal the amount of acetaldehyde produced is low, but if fermentation is slow higher levels may be present that can influence subsequent treatment of the wine, in particular the sulphite content.

Other binding agents of sulfur dioxide in wine include pyruvate,  $\alpha$ -ketoglutaric acid, galacturonic acid, glucose and acetoin. Although some of these compounds can be present at levels higher than the acetaldehyde it remains as the main binding agent of sulfur dioxide.

### Application of the Test

The acetaldehyde test can be performed directly in the winery with the WineLab, allowing optimal management of the process of the micro oxygenation in steel adjusting the flow of the oxygen in the plant. On the basis of the results obtained with the WineLab the level of the acetaldehyde in wine during the fermentation process can be monitored, which is not possible using traditional laboratory analysis systems.

Correlation tests and checks with the reference methods assure the accuracy and repeatability of results using the acetaldehyde analysis method on the WineLab.

## FOR MORE INFORMATION CONTACT:

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