

Description

Advantages

- Easy and rapid determination of important analytical parameters for process control and quality assurance in fruit juice and fruit wine making.
- An easy-to-handle rapid method to partly replace conventional analytical chemistry using expensive instruments.



Easy-to-handle rapid test to determine analytical parameters in juice and fruit wine:

- alcohol
- malic acid
- total acidity (as tartaric acid)
- lactic acid
- acetic acid
- ascorbic acid
- pH-value
- total sugars
- hydroxymethylfurfural

The Erbslöh EasyLab – the tool for an efficient and reliable process control

The available tests provide the user with a broad spectrum of analytical means for the rapid characterization of fruit juices and the rapid determination of critical constituents.

Included in the test kit is an instruction manual, practice-orientated and specially conceived for the application in juice. The proceeding of the performance of tests is explained step by step and is also demonstrated by graphic representation.

The EasyLab Application Kit offers supplementary aids and devices for an optimal performance of the EasyLab tests. It contains the necessary equipment for carrying out correct dilutions (measuring flasks and pipettes) as well as for decolorization (activated carbon, filter, funnel). Furthermore it contains the EasyLab application guide with applications, practical information and instructions for the use of the EasyLab.

The tests in detail

EasyLab Alcohol-Test (alcohol):

This test selectively determines the ethanol formed in the course of alcoholic fermentation and is thus very well suited for checking a preliminary fermentation of fruit juices. Also fruit wines and alcoholic mixed drinks can be checked for their alcohol content, provided they are accordingly diluted in advance.

EasyLab-Tests Essigsäure / Milchsäure (acetic acid and lactic acid):

The employment of these tests allows to be able to control contaminations in fruit and vegetable juices caused by lactic acid and acetic acid bacteria by the determination of secondary products formed. Moreover with the acetic acid test, the formation of volatile acid in the course of false fermentation of fruit wines can be analysed.

EasyLab-Tests Gesamtsäure (als Weinsäure) / Äpfelsäure (total acidity as tartaric acid and malic acid):

By means of these tests the acid spectrum of juices can be controlled. Particularly for apple juices, a respective malic acid content is an important quality parameter. In apple juice, total acid is principally formed by malic acid. Strongly differing malic acid and total acid contents indicate increased galacturonic acid values.

fruit wine:

- free sulphurous acid/SO₂
- total sulphurous acid/SO₂
- tartaric acid

Accessories:

EasyLab Application Kit
(WEEE-Reg. No. DE 70432862)

EasyLab Calibration-Set

EasyLab pH-Test / Gesamtzucker-Test (pH-value and total sugars):

The measurement of pH-value and total sugars (glucose and fructose) is a very fundamental parameter in analytical raw material and process control.

EasyLab HMF-Test (hydroxymethylfurfural):

Hydroxymethylfurfural is an important indicator for the thermal loading of fruit juices and concentrates and thus an important quality parameter (limiting value according to Code of Practice 20 mg/L.)

EasyLab Ascorbinsäure-Test (ascorbic acid):

With this test the vitamin C content can be reliably determined. Special applications are available for red juices, vegetable, carrot and tomato juice.

For fruit wine

Sulphuring: EasyLab-Tests freie / gesamte schweflige Säure (free and total sulphurous acid):

The determination of free sulphurous acid (free SO₂) is an indispensable instrument of the vinification process control. The EasyLab-Test is the only measurement technique applicable in practice by which free SO₂ is directly determined without labour-intensive difference analysis of ascorbic acid or reductones. The observance of legally allowed limiting values can be controlled by measurement of total SO₂ (at the moment application is possible only in white wines).

Acid spectrum: EasyLab-Test Weinsäure (tartaric acid):

By means of this test (probably supplemented by the malic acid test), the necessary deacidification measures are determined and controlled. By a differentiated analysis of the acidic spectrum, the choice of the appropriate process (MLF, fine, standard or double-salt deacidification) is facilitated.

Table of individual EasyLab tests:

EasyLab Test	Application	Measurement range (corresponding dilution!)	Dilution range	Code of Practice limiting values	Particularities / comments
Fruit juice					
Alkohol (alcohol)	Check of preliminary fermentation, fermentation control	0.15 – 15 g/L	1:10 – 1:100	max. 3.0 g/L	none
Äpfelsäure (malic acid)	Acid spectrum	0.05 – 30.0 g/L	1:10 – 1:500	minimally 3.0 g/L (apple juice)	dilute strongly coloured juices, at least 1:50
Essigsäure (acetic acid, volatile acid)	Control of bacterial contamination	0.04 – 40 g/L	undiluted – 1:100	max. 0.4 g/L	none
HMF (hydroxymethylfurfural)	Indicator of thermal loading	0 - 60 mg/L	undiluted	max. 20 mg/L	none
Gesamtsäure (total acidity)	General process control	2.0 – 28.0 g/L	undiluted – 1:2		dilute strongly coloured juices
Gesamtzucker (total sugars)	General process control	0.65 – 650 g/L	1:10 – 1:1000		none
Milchsäure (lactic acid)	Control of bacterial contamination	0.15 – 6.0 g/L	1:50 – 1:100	max. 0.5 g/L	observe dilution ratio: otherwise possible disturbance by foreign matter
pH-Wert (pH-value)	General process control	1.0 – 5.0	undiluted – 1:20		dilute strongly coloured juices
Ascorbic acid	Vitamin C content	45 – 900 mg/L	undiluted – 1:2		none

EasyLab Test	Application	Measurement range (corresponding dilution!)	Dilution range	Particularities / comments
Fruit wine				
Freie schweflige Säure (free SO ₂)	Check of sulphuring	1.0 – 80 mg/L	maximally 1:2	SO ₂ determination without ascorbic acid, reductones
Gesamte schweflige Säure (total SO ₂)	Check of sulphuring	10 – 320 mg/L	maximally 1:2	application only in white wine (colour)
Weinsäure-Test (tartaric acid)	Deacidification, acid spectrum	0.5 – 5.0 g/L	undiluted	strongly coloured red wines: decolourisation necessary

The indicated ranges of measurement follow practice-related values, dilution factors are adapted accordingly. For some individual tests (e.g. lactic acid) a basic dilution is necessary to eliminate interfering factors, for others (malic acid, total sugars), the necessary dilution results from the sensitivity of the tests. The exact observance of the given dilution factors and other indications is crucial for the accuracy of the measured values. For making dilutions, the use of deionized water is recommendable to achieve optimal precision but also tap water of controlled standard can be used.