Commission Regulation (EC) No 355/2005 of 28 February 2005 amending Regulation (EEC) No 2676/90 determining Community methods for the analysis of wines

COMMISSION REGULATION (EC) No 355/2005

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THE COMMISSION OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Community,

Having regard to Council Regulation (EC) No 1493/1999 of 17 May 1999 on the common organisation of the market in wine[(1)], and in particular Article 46(3) thereof,

Whereas:

(1) The method for measuring the alcoholic strength of wine by electronic densimetry has been validated in accordance with internationally recognised criteria. The International Vine and Wine Office (OIV) adopted the new description of this method at its General Assembly in 2000.

(2) Use of this measurement method can constitute a simpler and more accurate means of checking the alcoholic strength by volume of wines.

(3) There is no longer any need to recognise the equivalence of this method with the methods described in Chapter 3 of the Annex to Commission Regulation (EEC) No 2676/90[(2)], and Article 3(2) of that Regulation should therefore be deleted. The updated description of this method and the experimental values for the validation parameters for the method should also be included in Chapter 3 of the Annex to that Regulation.

(4) Regulation (EEC) No 2676/90 should therefore be amended accordingly.

(5) The measures provided for in this Regulation are in accordance with the opinion of the Management Committee for Wine,

HAS ADOPTED THIS REGULATION:

Article 1

Regulation (EEC) No 2676/90 is hereby amended as follows:

1. Article 3(2) is deleted.

2. The Annex is amended in accordance with the Annex hereto.

Article 2

This Regulation shall enter into force on the seventh day following its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 28 February 2005.

For the Commission

Mariann FISCHER BOEL

Member of the Commission

***Changes to legislation:** There are currently no known outstanding effects for the Commission Regulation (EC) No 355/2005. (See end of Document for details)*

ANNEX

Chapter 3 of the Annex to Regulation (EEC) No 2676/90, 'Alcoholic strength by volume', is hereby amended as follows:

1. point 2.2 is replaced by the following:

2.2. **Reference methods:**

— measurement of the alcoholic strength of the distillate using a pycnometer,

— measurement of the alcoholic strength of wines using a hydrostatic balance,

— measurement of the alcoholic strength of wines by electronic densimetry using a frequency oscillator.;

2. in point 4, the title is replaced by the following title and subtitle:

4. REFERENCE METHODS4–AMeasurement of the alcoholic strength of the distillate using a pycnometer;

3. in paragraph 4a, the title is replaced by the following:

4–B Measurement of the alcoholic strength of wines using a hydrostatic balance;

4. the following paragraph 4–C is inserted after paragraph 4–B:

4–C Measurement of the alcoholic strength of wines by electronic densimetry using a frequency oscillator

1. Method of measurement

1.1. Title and introduction

The alcoholic strength by volume of wines must be measured before marketing, principally to comply with labelling rules.

Alcoholic strength by volume is defined in paragraph 1 of this chapter.

1.2. Purpose and scope

The method of measurement described is electronic densimetry using a frequency oscillator.

For the purposes of the regulatory provisions in force, the trial temperature is set at 20 °C.

1.3. Principle and definitions

The principle of this method is based on distilling wine volume by volume. The distilling method is described in paragraph 3 of this Chapter. Distillation eliminates non-volatile substances. Homologues of ethanol, together with ethanol and ethanol homologues in ethyl esters, are included in the alcoholic strength since they occur in the distillate.

The density of the distillate obtained is then measured. The density of a liquid at a given temperature is equal to the quotient of the mass over its volume:

$\rho = m/V$, for wine, it is expressed in g/ml.

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For a hydroalcoholic solution such as a distillate, where the temperature is known, tables can be used to map density and alcoholic strength. This alcoholic strength corresponds to that of wine (distillation volume by volume).

In this method the density of the distillate is measured by electronic densimetry using a frequency oscillator. The principle consists of measuring the period of oscillation of a tube containing the sample subject to electromagnetic excitation. The density can then be calculated – it is linked to the period of oscillation by the following formula:

$$\rho = T^2 \times \left(\frac{C}{4\pi^2 V}\right) - \left(\frac{M}{V}\right)$$

(1)

ρ	=	density of the sample
T	=	period of vibration induced
M	=	mass of the empty tube
C	=	spring constant
V	=	volume of the sample in vibration

This link takes the form $\rho = A\ T^2 - B$ (2); hence there is a linear relationship between the density and the period squared. The constants A and B are specific to each oscillator and are estimated by measuring the period of fluids of known density.

1.4. Reagents and products

1.4.1. Reference fluids

Two reference fluids are used to adjust the densimeter. The densities of the reference fluids must encompass those of the distillates to be measured. A difference in the density of the reference fluids greater than 0,01000 g/ml is recommended. Their density must be known with a degree of uncertainty below +/- 0,00005 g/ml, at a temperature of 20,00 °C +/- 0,05 °C.

To measure the alcoholic strength by volume using an electronic densimeter, the reference fluids are:

— dry air (unpolluted),
— water of at least grade 3 as defined by ISO 3696:1987 should be used,
— hydroalcoholic solutions of reference density,
— solutions linked to national viscosity standards below 2 mm^2/s.

1.4.2. Cleaning and drying products

— detergents, acids,
— organic solvents: ethanol 96 % vol., pure acetone.

1.5. Apparatus

1.5.1. Electronic densimeter using a frequency oscillator

The electronic densimeter comprises the following:

— a measuring cell with a measuring tube and thermostatic chamber,
— a system for making the tube oscillate and for measuring the period of oscillation,
— a clock,
— a digital display unit, and possibly a calculator.