RESOLUTION OIV/OENO 377/2009

UPDATE OF THE OIV COMPENDIUM OF METHODS OF ANALYSIS OF WINE AND MUSTS – CLASSIFICATION OF METHODS

THE GENERAL ASSEMBLY,

IN VIEW OF article 2, paragraph 2 ii of the Agreement of 3 April 2001 establishing the International Organisation of Vine and Wine,

IN VIEW OF the actions of the OIV strategic plan 2009-2012

CONSIDERING the work carried out by the "Methods of analysis" sub-commission,

CONSIDERING resolution 9/2000 adopted by the OIV, defining the internationally recognised classification of analytical methods of the OIV,

CONSIDERING that this resolution mentions the four following classification categories:

- Category I (Criterion reference method): A method which determines a value that can be reached only by implementing the method per se and which serves, by definition, as the only method for establishing the accepted value of the parameter measured (e.g., alcoholometric content, total acidity, volatile acidity).
- Category II (Reference method): A category II method is designated as the Reference Method in cases where category I methods cannot be used. It should be selected from category III methods (as defined below). Such methods should be recommended for use in cases of disputes and for calibration purposes (e.g., potassium, citric acid).
- Category III (Approved alternative methods): A category III Method meets all of the criteria specified by the Sub-Committee on Methods of Analysis and is used for monitoring, inspection and regulatory purposes (e.g., enzymatic determinations of glucose and fructose).
- Category IV (Auxiliary method): A category IV Method is a conventional or recently-implemented technique, with respect to which the Sub-Committee on Methods of Analysis has not as yet specified the requisite criteria (e.g., synthesized colouring agents, measurement of oxidation-reduction potential).

CONSIDERING that some analytical methods adopted by the OIV do not comply with this new classification but follow the former classification, adopted in 1990, which

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classifies methods either as reference methods or as usual methods,

CONSIDERING the necessity to classify old methods based on the new classification criteria mentioned in resolution 9/2000,

CONSIDERING that some analytical methods are no longer used and should be removed from the International Compendium of Musts and Wines,

DECIDES, following a proposal made by Commission II "Oenology", to adopt the new classification of the following analytical methods currently included in the International Compendium of Musts and Wines,

DECIDES that the methods included in the Compendium of International Methods of Analysis of Wine and Musts will be subsequently modified, as needed.

Part 1: Methods already adopted in Category I, II, III or IV by the OIV – For information only

These methods have already been adopted according to the new definitions of analytical methods of the OIV. This classification is provided for reference only and shall not be modified.

1. A: Methods already adopted in Category I by the OIV – For information only

TITLE	REFERENCE	PRINCIPLE	TYPE METHOD	ADOPTION YEAR
Chromatic characteristics	AS2-11-CARCHR	Spectrophotometry	I	2006
Overpressure measurement	AS314-02-SURPRES	Aphrometry	I	2003

1. B: Methods already adopted in Category II by the OIV – For information only

TITLE	REFERENCE	PRINCIPLE	TYPE METHOD	ADOPTION YEAR
Shikimic acid	AS313-17-ACSHIK	HPLC	II	2004

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Carbon dioxide proportioning	AS314-01-DIOCAR	Reference method: Titrimetry	II	2006
Determination of the carbon isotope ratio $^{13}C/^{12}C$ of CO_2	AS314-03-CO2MOU	MS-IR	II	2005
Carbon dioxide	AS314-04-CO2MAN	Manometry	II	2006
Determination of nine major Anthocyanins	AS315-11-ANCYAN	HPLC	II	2003/2007
Fluorides	AS321-03-FLUORU	Specific electrode	II	2004
Determination of 3-Methoxypropane-1,2-diol and cyclic diglycerols	AS315-15-GLYCCYC	Gas chromatography/mass spectrometry	II	2007
Sugars	AS311-03-SUCRES	HPLC	II	2003
Lead (Criteria)	AS322-12-CHIPLO	Atomic absorption spectrometry	II	2006

1. C: Methods already adopted in Category II by the OIV – For information only

None

1. D: Methods already adopted in Category IV by the OIV – For information only

TITLE	REFERENCE	PRINCIPLE	TYPE METHOD	ADOPTION YEAR
Plant proteins	AS315-12-PROVEG	Electrophoresis	IV	2004
Proportioning of Organic Acids and Mineral Anions	AS313-16-ORGION	Ionic Chromatography	IV	2004

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Sorbic acid	AS313-18-SORCAP	Capillary electrophoresis	IV	2006
Proportioning of Sorbic, Benzoic, Salicylic acids	AS313-20-SOBESA	HPLC	IV	2006
Determination of the presence of metatartaric acid	AS313-21-METTAR	Spectrometry	IV	2007
Polychlorophenols, polychloroanisols	AS315-13-PCAPCP	Gas Chromatography	IV	2006
Lysozyme	AS315-14-LYSOZY	HPLC	IV	2007
Polyols derived from sugars	AS311-06-POLYOL	Gas Chromatography	IV	2006

Part 2: Methods for which a new classification is proposed

These methods are adopted and published in accordance with the old characterisation of analytical methods. In some cases, for a single compound, two or more principles may appear (depending on the reference method or the usual method) under the same reference. It is thus proposed to classify these methods under category I, II, III or IV, bearing in mind that for category II methods, intra-laboratory validation parameters apply.

TITLE	REFERENCE	PRINCIPLE	Proposed TYPE
Acetaldehyde (ethanal)	AS315-01-ETHANA	Colorimetry	IV
Total acidity	AS313-01-ACITOT	Titrimetry	II
Fix acidity		Calculation	II
Volatile acidity	AS313-02-ACIVOL	Titrimetry after distillation	II

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Alcoholic strength by volume	AS312-01-TALVOL	Reference method: pycnometry	I
Alcoholic strength by volume	AS312-01-TALVOL	Reference method: electronic densimetry	I
Alcoholic strength by volume	AS312-01-TALVOL	Reference method: hydrostatic balance	I
Alkalinity of ash	AS2-05-ALCCEN	Titrimetry	IV
Ammonium	AS322-01-AMMONI	Titrimetry	IV
Arsenic	AS323-01-ARSENI	Reference method: Atomic absorption spectrometry	IV
Arsenic	AS323-01-ASSAA	Atomic absorption spectrometry	IV
Arsenic	AS323-01-ARSENI	Usual method: Colorimetry	Remove
Artificial colorants	AS315-08-COLSYN	TLC	IV
Artificial sweeteners	AS315-07-EDUSYN	Reference TLC	IV
Artificial sweeteners	AS315-07-EDUSYN	Usual TLC	IV
L- ascorbic acid	AS313-13-ALASCO	Reference method: Spectrofluorimetry	IV
L- ascorbic acid	AS313-13-ALASCO	Usual method: TLC + Spectrophotometry	Remove
Ash	AS2-04-CENDRE	Gravimetry	I
Boron	AS323-03-BORE	Spectrophotometry	IV
Total Bromide	AS321-01-BROTOT	Colorimetry	IV
Cadmium	AS322-10-CADMIU	Atomic absorption spectrometry	IV

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Calcium	AS322-04-CALCIU	Atomic absorption spectrometry	II
Chlorides	SA321-02-CHLORU	Specific Electrode	II
Chromatic Characteristics	AS2-07-CACHR2	Usual method	IV
Citric acid	AS313-08-ACICHI	Oxidation, iodometry	IV
Citric acid	AS313-09-ACIENZ	Enzymatic	II
Copper	AS322-06-CUIVRE	Atomic absorption spectrometry	IV
Cyanide derivatives	AS315-06-DERCYA	Colorimetry	II
Density at 20°C	AS2-01-MASVOL	Reference method: pycnometry	I
Density at 20°C	AS2-01-MASVOL	Usual method: aerometry	IV
Density at 20°C	AS2-01-MASVOL	Usual method: densimetry (hydrostatic balance)	I

Detecting enrichment of musts, concentrated grape musts, rectified concentrated grape musts and wine by ^{2}H-RMN	AS311-05-ENRRMN	SNIF NMR	I
Detection of preservatives and fermentation inhibitors	AS4-02-RECANT	HPLC	IV

Detection of preservatives and fermentation inhibitors	AS4-02-RECANT	sorbic, benzoic, p-chlorobenzoic acids	IV

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Detection of preservatives and fermentation inhibitors	AS4-02-RECANT	p-hydroxybenzoic acid, sodium azide	IV
Detection of preservatives and fermentation inhibitors	AS4-02-RECANT	GC ethyl pyrocarbonate	IV
Determination of isotopic ratio of ethanol	AS312-06-ETHANO	Reference method SNIF NMR	II
Diethylene glycol	AS315-09-DIEGLY	Gas chromatography	IV
Differentiation of fortified musts and sweet fortified wines	AS5-01-DIFMIS		IV
Total dry matter	AS2-03-EXTSEC	Reference method: gravimetry	I
Total dry matter	AS2-03-EXTSEC	Usual method: densimetry	IV
Ethyl acetate	AS315-02-ACEETH	Reference method: Gas chromatography	IV
Ethyl acetate	AS315-02-ACEETH	Usual method: Titrimetry	IV
Ethyl carbamate	AS315-04-CARETH	Chromatography gas-MS	II
Evaluation by refractometry of the sugar concentration in grape musts, concentrated grape musts and rectified concentrated grape musts	AS2-02-SUCREF	Refractometry	I
Folin-Ciocalteu Index	AS2-10-INDFOL	Colorimetry	IV
Glycerol	AS312-05-GLYENZ	Enzymatic	IV

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Glycerol and 2,3-butanediol	AS312-04-GLYBUT	Reference method: Colorimetry	IV
Hydroxymethylfurfural	AS315-05-HYDMFF	Colorimetry	IV
Hydroxymethylfurfural	AS315-05-HYDMFF	High performance liquid chromatography	IV
Iron	AS322-05-FER	Reference method: Atomic absorption spectrometry	IV
Iron	AS322-05-FER	Usual method: Colorimetry	IV
Lactic acid	AS313-06-ALACHI	Colorimetry	Remove
Lactic acid	AS313-07-ALAENZ	Enzymatic	II
Magnesium	AS322-07-MAGNES	Atomic absorption spectrometry	II
D-malic acid: enzymatic method	AS313-12-ADMENZ	Enzymatic	II
D-malic acid: low concentrations	AS313-12-ADMEZ2	Enzymatic	IV
L-malic acid: enzymatic method	AS313-11-ALMENZ	Enzymatic	II
Total malic acid: usual method	AS313-10-AMALTO	Colorimetry	IV
Malvidin diglucoside	AS315-03-DIGMAL	Colorimetry	IV
Mercury	AS323-06-MERCUR	Atomic absorption spectrometry	IV
Methanol	AS312-03-METHAN	Reference: Gas chromatography	IV
Methanol	AS312-03-METHAN	Usual method	IV

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Method for isotopic ratio 18O/16O	AS2-09-MOUO18	Mass spectrometry (isotopic ratio)	II

Total nitrogen	AS323-02-AZOTOT	Kjeldhahl method	IV
Total nitrogen – Dumas method	AS323-02-AZOTDU	Dumas method	II
Ochratoxin A	AS315-10-OCHRAT	HPLC	II
Organic acids	AS313-04-ACIORG	HPLC	IV
Organic acids	AS313-19-ACORG2	Capillary electrophoresis	II
Oxidation-reduction potential	AS2-06-POTOXY	Potentiometry	IV
pH	AS313-15-PH	Potentiometry	I
Total phosphorus	AS321-04-PHOTOT	Colorimetry	IV
Potassium	AS322-02-POTASS	Reference method: Atomic absorption spectrometry	II
Potassium	AS322-02-POTASS	Usual method: flame photometry	III
Potassium	AS322-02-POTASS	Gravimetry	Remove
Silver	AS322-09-ARGENT	Atomic absorption spectrometry	IV
Sodium	AS322-03-SODIUM	Reference method: Atomic absorption spectrometry	II
Sodium	AS322-03-SODIUM	Usual method: flame photometry	III

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Sorbic acid	AS313-14-ACISOR	Spectrophotometry	IV
Sorbic acid	AS313-14-ACISOR	Gas chromatography	IV
Sorbic acid	AS313-14-ACISOR	TLC	IV
Glucose and fructose	AS311-02-GLUFRU	Enzymatic	II
Glucose and fructose	AS311-07-GLCFR2	pH-metry	III
Glucose, fructose et saccharose	AS311-08-SACCHA	pH-metry	IV
Sulfates	AS321-05-SULFAT	Reference method: gravimetry	II
Sulfates	AS321-05-SULFAT	Usual method: Titrimetry	Remove
Sugars: reducing sugars	AS311-01-SUCRED	Clarification reference method: Titrimetry (clarification)	Remove
Sugars: reducing sugars	AS311-01-SUCRED	Clarification usual method: Titrimetry (clarification)	IV including replacement of the term "reducing sugars" with "reductive substances"
Sugars: reducing sugars	AS311-01-SUCRED	Reference method	Remove
Sulfur dioxide – wine	AS323-04-DIOSOU	Titrimetry (reference)	II
Sulfur dioxide – wine	AS323-04-DIOSOU	Iodometry (fast)	IV
Sulfur dioxide – wine	AS323-04-DIOSOU	Molecular method	IV
Sulfur dioxide – grape juice	AS323-05-SO2JUS	Titrimetry	IV

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Tartaric acid	AS313-05-ACITAR	Reference method: gravimetry	IV
Tartaric acid	AS313-05-ACITAR	Usual method: Spectrophotometry	Remove
Turbidity measurement	AS2-08-TURBID	Nephelometry	IV
Zinc	AS322-08-ZINC	Atomic absorption spectrometry	IV

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